

NEW EARLY CHILDHOOD BUILDING

Technology Request for Bid



KENTWOOD
PUBLIC SCHOOLS

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NOTE:

Other coordination drawings may be obtained from the Owner's Construction Manager or may be reviewed on site at the field office at the worksite. Such drawings may include electrical plans, reflected ceiling plans or other plans as may be updated due to issuance of bulletins or field changes.

END OF SECTION

SECTION 00 11 16
INVITATION TO BID

PART 1 - GENERAL

1.01 WORK INCLUDED: DISTRICT TECHNOLOGY RENOVATIONS

- A. Kentwood Public Schools (Owner) is seeking bids for purchase and installation of low voltage cabling and classroom multimedia and associated equipment and installation. Proposed systems shall be configured and installed as described herein.
- B. Project: NEW EARLY CHILDHOOD BUILDING
- C. Owner: Kentwood Public Schools
5820 Eastern SE
Kentwood, MI 49508
- D. Designer: Communications by Design, Inc.
- E. Sites of Work:
 - 1. Early Childhood Center
100 60th Street SE
Kentwood, Michigan 49508

1.02 GENERAL DESCRIPTION OF PROJECT SEQUENCE

- A. Sequences and dates specified herein are for information only and indicate the plan and intent of the Owner. Actual dates shall be established based on final award of project.
- B. Sequence of operations shall be established by the Contractor within the guidelines established by the Owner as required to meet schedules.
- C. Schedule:
 - 1. Request for Bid Distributed: January 27, 2023
 - 2. Pre-Bid Meeting: February 6, 2023 at 10:00am
 - 3. Intent to Bids Due: February 9, 2023 at 5:00 PM
 - 4. Question and Clarification Deadline: February 10, 2023 at 5:00 PM
 - 5. Public Bids Due: February 17, 2023 at 10:00am

1.03 TYPES OF BIDS

- A. Bids shall be submitted in total and with required detail for each item bid and as is required herein and include all portions of the work identified for the individual bid package as specified herein. Bids shall be made on unaltered bid forms as included herein. Bidder shall fill in all blank spaces and the bid shall be signed by a legal officer or agent authorized to bind the bidder to a contract.

1.04 PRE-BID CONFERENCE

- A. A pre-bid conference will be held. A discussion of the project and review of bid documents will be followed by a site review and an opportunity to ask questions. Attendance is highly encouraged for all contractors interested in bidding on any components or portions of this project. Attendance at the pre-bid conference will be a factor considered during evaluation of bids.
- B. Time: February 6, 2023 at 10:00am
- C. Location: Kentwood Public Schools
Administration Building – Collaboration Rooms
5820 Eastern SE
Kentwood, MI 49508
- D. Any drawings identified in the table of contents herein will be distributed and reviewed at this conference.
- E. Physical building inspections of sites of work will be provided for at this time.

1.05 TIME AND PLACE OF BID RECEPTION

- A. Physically sealed bids for the base bid work will be received at the district office and read aloud at a public opening. Bids arriving after the appointed time as determined by the Owner's representative conducting the public opening, shall be returned unopened. Bids will be accepted beginning forty-eight (48) hours prior to the appointed opening time provided they are in sealed packages and addressed as specified herein.
- B. Bid Receipt Deadline: February 17, 2023 at 10:00am
- C. Bid Opening Location: Kentwood Public Schools
Administration Building – Collaboration Rooms
5820 Eastern SE
Kentwood, MI 49508
- D. Faxed or electronically delivered bids will not be accepted.

1.06 EXAMINATION AND PROCUREMENT OF DOCUMENTS

- A. Specifications and any relevant Drawings may be obtained from the Technology Designer. Contractors may obtain copies by documented request to Communications by Design, Attn: Rebecca Szilagy. Requests may be made by:

- 1. Writing – 4101 Sparks Drive Grand Rapids, Michigan 49546
- 2. Email – rszilagy@cbdconsulting.com

1.07 BID SECURITY

- A. Bid security equal to five percent (5%) of the total bid amount, must accompany each base bid in accordance with the Instruction to Bidders.
- B. Bid security shall be either a Bid Bond issued by a company licensed in the State of Michigan to furnish bid security or Certified Check made payable to the Owner.

1.08 OWNER’S RIGHT TO REJECT BIDS

- A. The Owner reserves the right to reject any and/or all bids. The Owner reserves the right to accept a bid, or portion thereof by issuance of a valid purchase order within ninety (90) calendar days following the bid opening. No bids may be withdrawn during this time without the specific approval of the Owner.
- B. Withdrawal of any Bids after the opening time without specific approval by Owner may result in forfeiture of required bid security by Bidder.

1.09 DEFINITIONS

- A. “Owner” is intended to mean Kentwood Public Schools, a general powers school district.
- B. For purposes of this project, the terms “Architect”, “Engineer” and “Designer” are used synonymously to refer to Communications by Design, Inc., a Michigan Corporation.
- C. The term “Bidder” refers to any organization properly and accurately submitting a complete “Intent to Bid Form” prior to the required time specified herein and subsequently properly submitting completed set of bid documents as specified herein.
- D. The term “Contractor” herein is a reference to the firm(s) eventually selected by the Owner to provide the intended system(s), or any portion thereof, and fulfill the terms of the contract.

- E. The term Contract is a reference to the collective set of documents, drawings, diagrams, Owner's Purchase Order, Addenda, and all other materials as provided for herein defining arrangement between Owner and Contractor.
- F. The term Addenda (or Addendum) are that portion of the Contract consisting of modifications, amendments, deletions, or substitutions to the contract documents issued prior to the execution of the Contract.

END OF SECTION

SECTION 00 40 00
BID FORMS

Intent to Bid Form

Complete and submit the following form if you have interest or intend to submit a Bid for this project. Unaltered and completed forms must be received on or before 5:00 PM on February 9, 2023. Only bidders returning a completed "Intent to Bid Form" will be notified of required addenda.

Company Information

Name: _____

Address Line1: _____

Address Line2: _____

City, State and Zip Code _____

Primary Contact Information

Name: _____

Phone No.: _____

Fax. No.: _____

E-Mail Address: _____

Portions of the bid for which you will be responding:

- ☐ Section 27 51 16 - Public Address System
- ☐ Section 27 53 13 - Clock System
- ☐ Section 28 13 00 - Building Access System
- ☐ Section 28 23 00 - Video Monitoring System

Submit unaltered and completed form to:

Rebecca Szilagy

Communications by Design, Inc.

rszilagy@cbdconsulting.com

SEALED BID LABEL

Separate, or fold over, the label on the line below, and affix to the exterior of sealed container so information is clearly visible for Bid Submission. Ensure label is attached in a manner to prevent accidental removal or defacement. Label shall serve as sole identification for sealed bid at submission.

BID TO: Kentwood Public Schools
Attention: Mr. Todd Bell
5820 Eastern Avenue SE
Kentwood, Michigan 49508

BID FROM: _____

PROJECT: NEW EARLY CHILDHOOD BUILDING BID #2998

INCLUDING Addendum No. _____ Dated _____
ADDENDA: Addendum No. _____ Dated _____

DUE: February 17, 2023 at 10:00am

BID FORM

BID TO: Kentwood Public Schools
Attention: Mr. Todd Bell
5820 Eastern Avenue SE
Kentwood, Michigan 49508

BID FROM: _____

PROJECT: NEW EARLY CHILDHOOD BUILDING BID #2998

The undersigned, having familiarized themselves with all local conditions affecting the cost of work, and having examined the site and all applicable Bidding Documents herein, and herein referenced, including, but not limited to, all addenda issued thereto, hereby propose to furnish all labor, material, equipment, applicable taxes and services required for proper completion of each of the following categories of this project for the sum of:

Bid Category _____ Title _____
_____ Dollars (\$ _____).

Said amount written above constituting the Base Bid

Bid Category _____ Title _____
_____ Dollars (\$ _____).

Said amount written above constituting the Base Bid

Bid Category _____ Title _____
_____ Dollars (\$ _____).

Said amount written above constituting the Base Bid

Bid Category _____ Title _____
_____ Dollars (\$ _____).

Said amount written above constituting the Base Bid

TAXES:

Bid sum includes all applicable taxes.

ALLOWANCES:

Base bid includes all applicable allowance cost(s) as set forth herein.

COST OF BONDS:

Bid sum includes cost of furnishing a Performance Bond and Labor and Material Payment Bond, each in the amount of one hundred percent (100%) of the bid.

ACKNOWLEDGEMENT OF ADDENDA:

The following addenda have been received, are hereby acknowledged, and their execution is included in both base bid and alternate bids herein.

Addendum No. _____ Dated _____ Addendum No. _____ Dated _____

Addendum No. _____ Dated _____ Addendum No. _____ Dated _____

ALTERNATES:

Based bid amount may be increased or decreased in accordance with each of the following alternate bids as may be selected, following procedures stated herein. Voluntary Alternates shown below are identified and described in detail on appropriate attachment(s) as referenced herein.

Alternate A _____

Alternate B _____

Alternate C _____

Alternate D _____

PRINCIPAL SUBCONTRACTORS

As required herein, the following Subcontractors are proposed to be used for this project:

Legal Name: _____ Work Proposed _____

Legal Name: _____ Work Proposed _____

Legal Name: _____ Work Proposed _____

BID SECURITY:

Accompanying this Bid, as required herein, is a bid security in the form of Certified Check/Cashier's Check/Bidder's Bond in the amount of:

_____ Dollars (\$ _____), payable to the Owner, which it is agreed, shall be retained as liquidated damages, not as a penalty, by the Owner, if the undersigned fails to execute the Contract in conformity with the form of Contract incorporated and referenced herein and fails to furnish specified bonds within ten (10) days after date of issuance of a Letter of Intent to the undersigned.

If awarded the Contract, the undersigned agrees to commence work within ten (10) calendar days after date of issuance of a Purchase Order, which shall be considered as the notice to proceed, and agrees to complete the work in accordance with the schedule herein.

FAMILIAL DISCLOSURE:

Accompanying this Bid, as required herein, is a legally executed and notarized Michigan Familial Disclosure Statement.

EXCEPTIONS:

Bidder takes no exception to terms, conditions, specifications and/or any other requirements herein unless expressly noted, and specifically identified as provided for herein on unaltered Contract Exception form accompanying this Bid.

SIGNATORY AUTHORITY:

The undersigned certifies they are an authorized agent of the bidding entity, and legally able to bind the bidding entity to the terms, conditions and responsibilities of this, and all referenced bid documents. Furthermore, the undersigned acknowledges an understanding that non-compliance of this authority or any other bidding requirements may result in forfeiture of bid security, dismissal of consideration of bid submitted, and/or personal liability against the signatory.

AGREEMENT:

The undersigned agree(s) to provide the post-bid information required within ten (10) days after notification of a Letter of Intent and to execute an agreement for work covered by this Bid on the Owner's standard Purchase Order for which terms and conditions are expanded to include all Bidding Documents and subsequent addenda issued thereto.

In submitting this bid, it is understood that the Owner reserves the right to reject any or all bids. It is further agreed that this bid is binding for a period of Ninety (90) days from the opening thereof.

Respectfully submitted,

Date: _____

Firm Name: _____

By: _____

Signed: _____

Title: _____

Official Address: _____

Telephone Number: _____

Fax Number: _____

Primary Contact Email Address: _____

(If Corporation, affix Seal)

Michigan Familial Relationship Disclosure Statement

In accordance with Section 1267 of Michigan Revised School Code this sworn and notarized statement of an authorized representative, discloses any familial relationship between the owner and/or any employee of the Bidder, and any member of the project Owner's governing Board(s) or Superintendent(s).

If any conflict of interest is discovered subsequent to submission of bid, written disclosure shall be submitted to the project Owner within seven (7) days of discovery. The project Owner reserves the right to immediately terminate any contract with Bidder upon notification of a conflict of interest. Upon such termination, the project Owner shall compensate Bidder only for the value of any goods or services provided to the Owner prior to such termination as determined by Designer.

(Check only one Box Below)

☐ It is hereby acknowledged and certified by Bidder that no familial relationship exists between the owner or any employee of the Bidder and any member of the project Owner's governing Board(s) or Superintendent(s).

☐ A familial relationship exists between the owner or an employee of the Bidder and a member of the project Owner's governing Board(s) or Superintendent(s). The person(s) and the relationship(s) are as follows:

Bidder

Board or Superintendent

_____	_____
_____	_____
_____	_____
_____	_____

Bidder Authorized Representative:

Bidder: _____

Representative's Signature: _____

Print or Type Name: _____

Representative's Title: _____

Subscribed and sworn this _____ day of _____, 2022.

In the County of _____ State of _____

By _____
Notary Public Signature

Seal or Stamp:

My commission expires on: _____

IRAN LINKED BUSINESS AFFIDAVIT

All Bids shall be accompanied by a sworn statement disclosing any Iran Linked Business relationship that exists within the owners, including its officers, directors, and employees.

The undersigned, owner or authorized officer of

_____ (bidder), pursuant to Michigan Public Act No. 517 of 2012, the "Iran Linked Business" requirement provided in the Kentwood Public Schools Proposals hereby represents and warrants that the bidder, including its officers, directors and employees, is not an "Iran Linked Business" within the meaning of the applicable Public Act, and that in the event bidder is awarded a contract as a result of this RFB, the bidder will not become an "Iran Linked Business" at any time during the course of performing under the contract. The bidder further acknowledges that any person who is found to have submitted a false certification is responsible for a civil penalty of not more than \$250,000.00 or 2 times the amount of the contract or proposed contract for which the false certification was made, whichever is greater, the cost of the District investigation, and reasonable attorney fees, in addition to the fine. Moreover, any person who submitted a false certification shall be ineligible to bid on future Requests for Bids for three (3) years from the date that it is determined that the person has submitted the false certification.

There is not an "Iran Linked Business" that exists within the bidder and/or owner, officers, directors and employees.

Bidder:

[Company Name]

[Signature]

[Title]

Notary:

This instrument was acknowledged before me, a Notary Public in and for

_____ County, on this

_____ day of _____, 20____.

[Notary Public Signature]

My Commission expires: _____

Acting in the County of: _____

REFERENCES

Customer name: _____
Address: _____
City/State/Zip: _____
Contact name: _____
Contact title: _____
Phone: _____
E-mail: _____
Scope of project: _____

Date of completion: _____

Customer name: _____
Address: _____
City/State/Zip: _____
Contact name: _____
Contact title: _____
Phone: _____
E-mail: _____
Scope of project: _____

Date of completion: _____

Customer name: _____
Address: _____
City/State/Zip: _____
Contact name: _____
Contact title: _____
Phone: _____
E-mail: _____
Scope of project: _____

Date of completion: _____

CONTRACT EXCEPTIONS

Check one Box

☐ Bidder takes no exception to, and agrees to comply with all sections, terms, conditions and/or requirements of the Contract Documents.

☐ Bidder proposes the following exceptions to the Contract Documents:

<i>Paragraph Number</i>	<i>Explanation</i>
<hr/>	<hr/>
<hr/>	<hr/>
<hr/>	<hr/>
<hr/>	<hr/>
<hr/>	<hr/>
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<hr/>	<hr/>
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NOTE:

Exception(s) to any bid sections, terms, conditions and/or requirements deemed excessive for any reason by the Owner and/or Designer may result in disqualification of Bid.

SCHEDULE OF VALUES/BID FORM

(Bidder may submit version of only this form with slight variation. All information in this form is required for each division/category of work being bid. Submit a completed separate form for each division/category of work clearly delineating on the form the division/category of work for that form. Form submitted must materially match below both in content and format. Electronic version of this form for each project section/division/category being bid is required with bid package as Microsoft Excel compatible spreadsheet on a USB drive. Failure to provide appropriate and complete SCHEDULE OF VALUES for each division/category of work, as determined by the Owner and/or Designer, may result in disqualification of Bid.)

Bidder: _____

Bid Division:27 53 13

[illegible]

SCHEDULE OF VALUES/BID FORM

(Bidder may submit version of only this form with slight variation. All information in this form is required for each division/category of work being bid. Submit a completed separate form for each division/category of work clearly delineating on the form the division/category of work for that form. Form submitted must materially match below both in content and format. Electronic version of this form for each project section/division/category being bid is required with bid package as Microsoft Excel compatible spreadsheet on a USB drive. Failure to provide appropriate and complete SCHEDULE OF VALUES for each division/category of work, as determined by the Owner and/or Designer, may result in disqualification of Bid.)

Bidder: _____

Bid Division:27 53 13

[illegible]

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Bidder: _____

Bid Division:28 13 00

[illegible]

SCHEDULE OF VALUES/BID FORM

(Bidder may submit version of or this form with slight variation. All information in this form is required for each division/category of work being bid. Submit a completed separate form for each division/category of work clearly delineating on the form the division/category of work for that form. Form submitted must materially match below both in content and format. Electronic version of this form for each project section/division/category being bid is required with bid package as Microsoft Excel compatible spreadsheet on a USB drive. Failure to provide appropriate and complete SCHEDULE OF VALUES for each division/category of work, as determined by the Owner and/or Designer, may result in disqualification of Bid.)

Bidder: _____

Bid Division:28 23 00

[illegible]

END OF SECTION

SECTION 00 21 13
INSTRUCTIONS TO BIDDERS

PART 1 - GENERAL

1.01 OWNERSHIP

- A. Bidders prepare and provide bids without any cost to the Owner and/or Designer. Once opened, bids become the sole property of the Owner. Bidders have no claim to, or ownership of bids opened. Bids become subject to all legal statutes including, if applicable, United States and Michigan Freedom of Information Acts and related laws.

1.02 COMPLIANCE

- A. This document establishes the primary system(s) design configuration. The Bidder's bid response shall include all services, supplies, components, and equipment required to provide a complete turnkey system(s) which meets or exceeds all specifications for each given bid item being proposed.
- B. Owner prefers to enter into a contract with a single bidder for all materials for completion of this project but shall consider combinations of portions of bids from various bidders. The Owner reserves the right to award portions of the project to multiple bidders who will be required to cooperate with one another in order to complete the work.
- C. By their response, Bidders agree to comply with all sections, terms, conditions and/or requirements of the contract documents except as expressly noted, and specifically identified by paragraph number on the unaltered Contract Exceptions Bid Form. Exceptions to any bid sections, terms, conditions and/or requirements deemed excessive by the Owner and/or Bid Coordinator may disqualify Bid.
- D. In compliance with the Freedom of Information Act (FOIA), the Owner shall make bid documents available for public review after issuance of purchase order to the successful bidder/s.
- E. In connection with the execution of this Contract, Contractor and any Subcontractors shall not discriminate against any employee or applicant for employment because of race, religion, color, sex, age, or national origin.
- F. Negligence in preparation, improper preparation, errors in, or omissions from Bids shall not relieve Bidder from fulfillment of any and all obligations and requirements of the Contract Documents.

- G. All Bid documents and worksheets must be completed in detail and submitted together on time.
- H. All documents constituting the entire present agreement shall be construed in accordance with and governed by the laws of the State of Michigan.
- I. Designer shall have authority for interpretation of Contract Documents. In the event terms, provisions or any other portion of the Contract Documents is/are in dispute, Designer shall have full and final authority to interpret the Contract Documents, and such interpretation shall be final and binding.
- J. In the event of a conflict between any terms or conditions in any of the documents comprising the entire present Agreement, the terms and conditions set forth in this document shall take precedence.

1.03 NOTICE AND RESPONSE

- A. Upon notification of Bidder being considered as a finalist, the Bidder shall provide to the Owner and Designer, within 48 hours, a current “Dunn and Bradstreet Supplier Evaluation Report” and other documentation as may be required of finalists herein and as requested by Owner and/or Bid Coordinator.
- B. Bidder shall provide timely response to all requests from Designer and/or Owner regarding clarification and/or elaboration concerning, but not limited to its Bid as may be deemed relevant by the Owner and/or Designer.

1.04 PROTECTION AND SAFETY

- A. Contractor shall continuously maintain adequate protection of all Work from damage and shall protect the Owner’s property from injury or loss arising in connection with the execution of the Contract. Contractor shall make good any such damage, injury or loss, except such as may be directly caused by agents or employees of the Owner. The Contractor shall adequately protect adjacent property as required by law, by the Contract Documents, or as otherwise required, to cause no damage to them during the execution of the Contract. This requirement shall also apply to structures above and below ground as conditions of the site require.
- B. Contractor shall be solely responsible for, and have control over means, methods, techniques, sequences, and procedures for initiating, maintaining, and supervising all safety precautions and programs in connection with the performance of the contract. Contractor shall take all necessary precautions for the safety of employees and visitors on the site of the Project and shall comply with applicable provisions of federal, state, and municipal safety laws and building codes to prevent accidents or injury to persons on, about, or adjacent to the premises where the Work is being performed. Contractor shall erect and properly maintain at all times, as required by the conditions and

progress of the Work, all necessary safeguards for the protection of workers and the community.

- C. Contractor shall vigorously defend any and all suits that may be brought against the Owner by any person and/or entity, whether in the employ of the Contractor or not, for damage to property, and/or injury or death to persons alleged or claimed to have been caused by or through the performance of work.

1.05 DRAWINGS DIAGRAMS AND ILLUSTRATIONS

- A. Drawings, Diagrams, and Illustrations are diagrammatic in nature and indicate general arrangement and nature of systems and work included.
- B. Floor plan drawings are provided to assist the contractor in preparing documentation and reports as required herein.

PART 2 - MATERIALS

2.01 VOLUNTARY ALTERNATES AND SUBSTITUTION OF SPECIFIED PRODUCTS

- A. This Request for Bid describes a particular implementation. All Bids must provide pricing on the “base bid” as described herein. Voluntary alternatives providing comparable functionality with significant cost reduction and/or performance enhancement may be proposed. Voluntary alternatives are encouraged but must be identified as “Voluntary Alternates” and detailed on unaltered Bid Forms contained herein. Voluntary Alternates may be further detailed and/or explained in attachments to the unaltered Bid Forms contained herein. Exceptions to the Request for Bid specifications must be clearly noted and explained for each Voluntary Alternate proposed.
- B. No substitutions of specified products may be made without specific prior authorization by Designer and Owner. Individual bid divisions herein contain particular information related to acceptable manufacturer and product requirements.
- C. Trade-in, equipment/license exchanges or other return allowances may be provided as a voluntary alternate. Trade-in, exchange, or other return equipment allowances shall not be included in base bid amount.

PART 3 - EXECUTION

3.01 EXAMINATION OF DOCUMENTS AND SITE

- A. Bidders shall carefully examine the Contract Documents and the construction site to obtain first-hand knowledge of existing conditions and requirements. No plea of ignorance of conditions that exist, or any other relevant matter

concerning work to be performed in the execution of work will be accepted as justification for failure to fulfill every detail of all requirements as described herein.

3.02 QUESTIONS, INTERPRETATIONS, AND ADDENDA

- A. Any bidder finding discrepancies between Drawings, Specifications, and/or Bid Documents, or be in doubt as to the exact meaning of any provision or detail shall notify the Designer at once, and before the deadline for Questions and Clarifications. The Designer may then, at their option, issue Addenda clarifying same. The Designer is not responsible for oral instructions, or Bidder's/Contractor's misinterpretations of Drawings, Specifications, and/or Bid Documents.
- B. The Designer reserves the right to issue Addenda at any time up to thirty-six (36) hours prior to the scheduled bid opening. All such addenda shall become, upon issuance, an inseparable part of the Specification/Contract Documents. Each bidder shall incorporate within their bid all costs for items listed in any/all Addenda and shall acknowledge receipt and identifying number of each Addendum on the Bid Form and on the outside of the sealed bid container.
- C. Addenda will be forwarded to each bidder who has received a copy of the Bidding Documents and has submitted "Intent to Bid Form".

3.03 BID SECURITY, BONDS, AND INSURANCE

- A. Bid Security, Performance and Payment Bonds are required on this project.
 - 1. Bid security equal to five percent (5%) of the bid amount must accompany each bid in accordance with the Instruction to Bidders.
 - a. Bid security shall be either a Bid Bond issued by a company licensed in the State of Michigan to furnish bid security or Certified Check made payable to the Owner.
- B. The selected Contractor will be required to provide a performance bond and a payment bond each in an amount equal to one hundred percent (100%) of the bid amount including any accepted alternates at the Owner's discretion.
 - 1. The surety of the performance bond shall remain in effect until all acceptances and final contract close-out requirements herein have been executed by the Owner.
- C. Contractor shall provide, prior to beginning any work at the sites, certificate of insurance for delivery to Owner indicating all required insurance coverage is in force.

1. Workers' Compensation and Employer's Liability Insurance
 - a. Coverage A – Statutory
 - b. Coverage B - \$1,000,000 Per Accident
 2. Broad Form Comprehensive General Liability Insurance (including – Premises, Elevators, Contractor's Protective Liability, Contractual, Products & Completed Operations – including Broad Form Extensions).
 - a. Each Occurrence - \$1,000,000
 - b. General Aggregate - \$2,000,000
 - c. Products & Completed Operation Aggregate - \$2,000,000
 - d. Personal Injury & Advertising Injury - \$1,000,000
 - e. Fire Legal - \$100,000
 3. Sub-contractors Operations, Products – Completed Operations and Contractual Liabilities, plus such excess coverage as may be appropriate for the limits listed.
 4. Comprehensive Automobile Liability Insurance (owned, hired, and non-owned automobiles).
 - a. Bodily - \$1,000,000 each Person and \$1,000,000 each Occurrence
 - b. Property Damage - \$1,000,000
 5. Furnish Owner with Contingent Liability Insurance Policy with coverage and liability limits the same as for Public Liability Insurance specified herein. Designate on policy as assured, only the Owner.
 6. Furnish Owner with Contingent Property Damage Insurance Policy with coverage and liability limits the same as for Property Damage specified herein. Designate on policy as assured, only the Owner.
 7. Policies shall include notification clause requiring ninety (90) days written notice to Owner in the event of policy cancellation, expiration, non-renewal, coverage reduction or other material change.
 8. Contractor shall not commence work under the Contract until after all insurance required herein has been obtained and certificates for such are approved by Owner.
- D. All such bonds and/or insurance shall be issued by surety licensed by the State of Michigan and acceptable to the Owner.

1. Insurance certificate(s) shall be signed by insurance agent licensed in the state of Michigan or a representative of the insurance company.

E. Contractor agrees to indemnify and hold harmless the Owner and Designer, including their agents and employees, from and against all claims, damages, losses and expenses, including, but not limited to, attorney fees arising out of, or resulting from the performance of the work to the fullest extent allowed by law on a comparison basis of fault.

3.04 MODIFICATION AND WITHDRAWAL

A. Bids may be withdrawn and/or changed any time prior to the deadline for submission of bids. Bids may not be withdrawn or changed thereafter and shall be deemed a firm offer continuing for ninety (90) calendar days. Bids received after the deadline for submission will be returned unopened at the Owner's discretion.

B. Withdrawal of any Bid after the opening time without specific approval by Owner may result in forfeiture of required bid security by Bidder.

3.05 CODES, ORDINANCES, REGULATIONS AND RELATED

A. All labor and materials shall be furnished and installed in strict accordance with the latest applicable codes, ordinances and regulations of any governing body having jurisdiction over this project.

B. In the event the quality of labor and materials required by the Drawings and Specifications herein exceeds requirements of current applicable codes, ordinances and regulations, the Drawings and Specifications shall take precedence.

C. In the event the quality of labor and materials required by current applicable codes, ordinances and regulations having jurisdiction over this project exceeds that of the Drawings and Specifications herein, the applicable codes, ordinances and regulations shall take precedence.

D. The Contractor shall give all notices and comply with all codes, laws, ordinances, rules, and regulations of any authority having jurisdiction, which bears on the performance of its work. This compliance includes, but is not limited to, the Michigan School Safety Initiative (PA129, PA130, PA131 and PA138) if applicable to work being performed.

E. The Contractor shall pay for all licenses, permits, taxes, and fees required for this project; and shall comply with all federal, state, local and Owner's codes, laws, ordinances, regulations and other requirements applicable to the work specified at no additional cost to the Owner. Contractor shall submit copies of all approved certificates and approvals to the Owner upon receipt.

3.06 SUB-CONTRACTOR AND MATERIAL SUPPLIER

- A. The successful Bidder shall submit to the Owner and Designer a complete list of all sub-contractors and all material suppliers proposed to engage on the work. Sub-contracts shall not be awarded until after they have been approved by the Designer and Owner.
- B. Finalist bidders may be required to submit additional details related to sub-contractors and suppliers within forty-eight (48) hours after the bid opening.
- C. Names of any principal sub-contractors must be listed on the Bid Form.
- D. All contracts made by the successful Bidder with Subcontractors shall be covered by the terms and conditions herein. The successful Bidder shall see to it that Subcontractors are fully informed in regard to these terms and conditions and shall bind all subcontractors to the same terms and conditions. Failure to do so will absolve the Owner from any liability for additional cost due to subcontractor claims for additional cost, time, or any claim(s) for additional cost by subcontractor(s).

3.07 BID RESPONSE FORMAT

- A. Bidder shall provide complete Bid copies in two formats as described herein.
 - 1. One (1) Hard copy format responses shall be in a bound tabulated format. Each response shall have tab indicators for each section.
 - 2. One (1) Electronic copy format responses shall be submitted on a USB Drive, readable by a standard Microsoft Windows 11 workstation. Electronic media shall contain separate folders to organize response documentation as described herein. Files submitted electronically shall be **Adobe Acrobat** "PDF" format (SCHEDULE OF VALUES is additionally required to be on the disk in the appropriate folder as a Microsoft Excel compatible spreadsheet and as described herein).
- B. All Bid Response formats shall be clearly externally marked to include, but not be limited to:
 - 1. Bidder identification.
 - 2. Project Owner identification.
 - 3. Project name.
 - 4. Bid submission date.

- C. Bid Responses shall include an index containing copies/PDF of a complete index of documents comprising Bid Response. Responses shall include, but not be limited to the following tabbed/folder sections:
1. Section 1 – Forms, which shall contain copies/PDF files of all required and completed bid forms.
 - a. BID FORM
 - b. Michigan Familial Relationship Disclosure Statement
 - c. REFERENCES
 - d. CONTRACT EXCEPTIONS
 - e. SCHEDULE(s) OF VALUES
 - f. BID BOND
 2. Section 2 – Overview, which shall contain copies/PDF files of cover letter and/or executive overview.
 3. Section 3 – Submittals, which shall contain copies/PDF files of all required and voluntary submittals.
 4. Section 4 – Appendices, which shall contain copies/PDF files of other reference materials Bidder wishes to or is required to submit.

3.08 AWARD OF CONTRACT

- A. The material proposed to be used for the completion of work, and the competency, solvency and responsibility of bidders will receive due consideration before award of contract. In the reception of bids for this work, the Owner incurs no obligation to accept the lowest, or any bid submitted. The right to accept or reject any and all bids or portion thereof is reserved by the Owner. The Owner reserves the right to require testimonial, accounting or legal documents pertaining to the solvency of a Contractor, or any other decision factor the Owner deems appropriate, prior to award of contract.
- B. Owner reserves the right to select individual components from schedule of values independent of installation as may be determined in Owners best interest. Selected bidder may be required to install selected components provided by others.
- C. Issuance of a Purchase Order by Owner in response to a valid bid shall be a Notice to Proceed, and shall become part of, but not limited to, all terms, conditions, and requirements herein. Notice to Proceed shall have the full effect of contract award, and shall make all terms, conditions, requirements,

and responsibilities of Bidder binding upon issuance. Notice to Proceed, once issued, shall become an inseparable part of the contract documents herein, and constitute both Bidder and Owner's acceptance of contract.

3.09 TIME, SCHEDULES, PROJECT MANAGEMENT, MEETINGS AND PLANS

- A. Time is of the essence on this project. Award of contracts for this project will be contingent on the bidder's agreement to complete the work on or before the contract completion date stated herein.
- B. All Contractors will commence work in such a manner and at such a time as to expeditiously interface with the work of other Contractors and will pursue the project diligently to completion. All Contractors will work in a cooperative manner with Owner and other Contractors.
- C. Contractor shall appoint an overall Project Manager acceptable to Owner, with skills and experience deemed appropriate by the Owner for the scope and size of the project. Project Manager shall be responsible for the scheduling of all Contractor resources and attending all project meetings. Upon notification of Bidder being considered a finalist, the Bidder shall submit professional resume of proposed Project Manager within forty-eight (48) hours.
 - 1. Project meetings shall be conducted at Owner's selected and identified location weekly and at Owner's and/or Designer's discretion.
 - 2. Within five (5) days of Notice to Proceed (issuance of a Purchase Order by the Owner), Contractor's Project Manager shall provide to the Owner a critical flow path in the form of a "Gantt Chart" (or equivalent) indicating the proposed sequence of events and approximate beginning and completion dates in accordance with, compliance to, and coordinated with requirements herein.
 - 3. Changes of the Project Manager during the project shall not be acceptable without prior written approval from the Owner.
 - 4. It is the responsibility of the Contractor's Project Manager to schedule work, work out issues, ensure that all required products and services are delivered according to schedule and attend to any other matters required by the Owner in the interest of professional and timely completion of the project.
 - 5. The appointed Project Manager, or a designee acceptable to the Owner, shall be in attendance of all project meetings throughout the term of the project. Failure to do so may be considered a material breach of contract.
 - 6. After a ten (10) business day notice, the Owner reserves the right to request a new Project Manager, when it appears that, in the Owner's sole

discretion, the Project Manager is not fulfilling the full responsibilities of the position. Failure by Contractor to provide adequate Project Manager meeting requirements of the Owner, may result in Contract termination.

3.10 CHANGES IN THE WORK

- A. No changes in work with the effect of either increasing or decreasing in the project value shall be made without specific and prior authorization by the Owner and Designer.
- B. Owner, without invalidating the contract and without notice to any surety, may at any time order extra work or make changes by altering, adding to or deducting from the work, the Contract Sum being adjusted accordingly. All such work shall be authorized by a written Change Order approved by Owner and Contract Designer. Upon receipt of such an order Contractor shall promptly proceed with the work involved. All such work shall be executed under the conditions of the original Contract. Owner authorized change order(s) may be issued at any time prior to Contract close out.
- C. When so directed, Contractor shall promptly submit an itemized estimate and a unit price for performing or deleting such extra or changed work as may be contemplated. Any extensions or reductions of the contract time associated with extra or changed work shall be identified at the time Contractor submits such documentation.
- D. At the Owner's discretion, adjustments in the Contract Sum shall be determined by one or more of the following methods:
 - 1. By mutual acceptance of a lump sum cost, including overhead and profit, itemized and supported by sufficient substantiating data to permit evaluation.
 - 2. By unit prices stated in the Contract Documents including, but not limited to, Schedule of Values.
 - 3. By unit prices mutually agreed upon.

3.11 PAYMENT REQUESTS AND PAYMENTS

- A. Contractor's invoices shall be submitted monthly in correlation with the Project Schedule indicating percentage of work completed.
- B. All contract and change order invoices shall be sent directly to Contract Designer.
- C. A 10% retainage shall be held back on all payment requests, including, but not limited to hardware, software, change orders and services, until final

completion and close out of the project or project phase as determined by Owner and Designer.

- D. Contractors are required to submit all invoices on approved AIA Payment Request Forms or other billing format pre-approved by Contract Designer. Each AIA Payment Request Form shall be accompanied by a properly completed, executed, and notarized Waiver of Lien which shall be in a format and contain verbiage approved by Owner.
- E. The Contract Designer and Owner shall process payment requests on a monthly schedule and in accordance with their respective established processes and procedures. Payments will be made by the Owner based only on AIA Request Forms having been previously certified, audited and approved by Contract Designer and accompanied by acceptable Waiver of Lien.

END OF SECTION

SECTION 00 65 00
CONTRACT CLOSE OUT

PART 1 - GENERAL

1.01 WORK INCLUDED

- A. Provide an orderly and efficient transfer of the completed work to Owner.
- B. Details affecting work of this Section includes but is not limited to all other Sections herein and all related Contract Documents.
- C. Activities relative to Contract close-out are described in, but not limited to, this and other Sections of this document.

1.02 SUBSTANTIAL COMPLETION

- A. "Substantial Completion" shall be defined as:
 - 1. All responsibilities of Contractor for all provisions and requirements of all divisions and sections of complete Contract herein, and as amended, are properly and fully completed, or properly, accurately and acceptably provisioned for.
 - 2. All systems, equipment, facilities, services, programming and/or components required by all divisions and sections of complete Contract are fully operational, acceptable, and useful to the Owner for their intended purposes.
- B. Prior to requesting inspection by Designer to certify Substantial Completion, Contractor shall use adequate means to assure the Work is completed in accordance with the specified requirements and is ready for such inspection.

PART 2 - MATERIALS

2.01 NOT USED FOR THIS SECTION

PART 3 - EXECUTION

3.01 PROCEDURES

- A. Contractor shall submit a written request to Designer indicating they have achieved Substantial Completion of Work.
- B. Within a reasonable time after receipt of the request, Designer will inspect Work to determine status of completion.
- C. Should Designer determine the Work is not substantially complete:

1. Designer promptly will so notify Contractor, in writing giving reasons therefore and providing sufficient details to allow Contractor to make corrective actions.
 2. Contractor shall then expeditiously remedy the deficiencies and notify Designer in writing when ready for re-inspection.
 3. Designer will re-inspect the Work.
 4. Excessive re-inspections of Work may result in fees being assessed Contractor.
- D. Should Designer concur the Work is substantially complete:
1. Designer will prepare a letter of Substantial Completion.
 2. Designer will submit the letter to Owner and Contractor.
 3. Contract shall be deemed "Closed Out" for retainage purposes.
 4. Final Acceptance of the system shall be deemed complete.

END OF SECTION

SECTION 27 51 16
PUBLIC ADDRESS SYSTEM

PART 1 - GENERAL

1.01 DESCRIPTION OF PROJECT

- A. Work described in this specification section pertains to Public Address and Intercom System for the new Kentwood Public Schools Early Childhood Center. Work shall include, but not be limited to, head-end equipment, cabling, ceiling and/or wall speakers, interface units and all other components and services required for a full and operational system.
- B. Owner desires to add to systems currently in operation and serving indicated locations.
 - 1. Early Childhood Center
100 60th Street SE
Kentwood, Michigan 49508
- C. The Contractor shall design, engineer, configure, supply, connect, test, document, and warrant a fully operational and compliant system, complete and with full functionality as specified herein.
- D. Contractor shall coordinate their installation with other communication systems, contractors, Designer, and the Owner as is appropriate.

1.02 WARRANTY

- A. Complete installation shall be fully functional and free from defect and/or failure for a period of three (3) years. Any replacement, upgrade, or fix, including labor for any non-conforming or non-operational part of the system shall be fixed and/or replaced at no cost to the Owner.
 - 1. Owner shall be provided full operation of system functions and features during the complete warranty period incurring absolutely no costs during that time.
- B. Manufacturer's warranty shall be provided for all components of the system.
 - 1. Any paperwork and/or submittals required by individual manufacturers for compliance with the standard and/or applicable extended warranty programs shall be provided and submitted for approval by the Contractor.
 - 2. Contractor shall submit all paperwork, apply for warranty or extended warranty certification, and provide a Certificate of Warranty or Extended

Warranty as may be applicable from the manufacturer prior to project closeout.

- C. On site services provided under the warranty shall be performed by personnel or representatives of Contractor as herein defined and located within physical proximity to provide response levels deemed acceptable to Owner.
- D. Contractor shall provide the following response times for all malfunctioning equipment:
 - 1. Four (4) hours or less for matters that render twenty percent (20%) or more of the system users unable to maintain normal productivity.
 - 2. Two (2) business days for matters not meeting the above criteria.
 - 3. Response time shall be measured from the time Contractor is notified by Owner to the time work is begun to resolve the matter.
- E. Bidder shall provide current monthly maintenance/service contract pricing for recommended programs for all equipment following the specified and included period as additional information. This information will be considered by Owner and Designer as part of the bid evaluation process.
- F. System Warranty shall commence on date of substantial completion as certified by Designer and provided for herein. Delivery to work site of materials, connection of circuits, turn-up of system, physical removal from packaging, issuance of Contractor documents including, but not limited to invoices and/or packing slips, or any event or documentation, not specifically provided for herein, shall have no effect on Warranty or System Acceptance by Owner and/or Designer.

1.03 STORAGE OF MATERIALS

- A. All materials shall be secured when not in use by the Contractor.
- B. It shall be the Contractor's responsibility to secure all equipment including material to be installed as part of the contract. No changes shall be made to the contract due to loss or theft of equipment and/or materials not officially accepted by the Owner.
- C. Formal receipt of the materials shall not be completed by the Owner until completion of project closeout. The Contractor shall be responsible for all equipment until time of closeout as provided for herein.

1.04 SUBMITTALS

- A. Submittals shall consist of, but not be limited to, technical cut sheets and detailed information pamphlets on all components of the system to be

installed. All cut sheets and submittals shall be distinctly marked to highlight the actual part number of the item being submitted for approval with Bid Proposals.

- B. Shop drawings and diagrams shall be submitted by Bidder for approval by Designer with Bid Proposals.
 - 1. Shop drawings and diagrams shall show all data relating to structural, electrical, wiring, cross connect, interconnect, equipment arrangement/layout, and any other information deemed significant by the Designer.
 - 2. No work constituting final installation shall be commenced until after approval of shop drawings by Designer.
- C. Contractor shall provide proof of manufacturer support by photocopy of certification and letter of support from major component manufacturers for this specific project with Bid Proposals.
- D. Equipment or material installed for this project that does not have an approved submittal associated with it, will be removed, and replaced with acceptable equipment or material as defined by the Designer. All replacement costs including, but not limited to material and labor, shall be the sole responsibility of the Contractor.
 - 1. The Owner and/or Designer may notify Contractor of any offending situations under this provision allowing Contractor up to forty-eight (48) hours to correct the situation prior to taking other corrective action.
 - 2. The Owner reserves the right to replace unapproved materials and deduct the costs of doing so as defined herein from any amounts that may be due or become due Contractor.
- E. The Contractor shall submit within five (5) calendar days after the Notice to Proceed, a schedule that reflects the sequence of activities of the contractor's approach to the execution of and completion of the work. The schedule shall be broken into work areas to provide for a clear identification of the planned progress of the work. Included in the schedule will be a list of tasks with list of deliverables and the percentage of work completed. This schedule shall coincide with progress payments applications dates and projected amounts. All durations shown will be in working days. The timeframe described in the Contractor's Schedule shall represent the Contractor's plan for organizing, directing, managing, controlling, staffing and executing the work required by the Contract Documents. Owner will rely on such schedules to coordinate and otherwise plan related work of Owner personnel, other separate contractors, or the Owner's routine daily work.

1.05 REFERENCE SPECIFICATIONS

- A. All work, products, and materials shall conform with the following standards as applicable for the intended use:

1. EIA/TIA Commercial and Administration Standards
2. NEC
3. IEEE 802
4. IETF RFCs
5. FCC Emissions Ratings
6. UL
7. MOSHA Safety Standards

1.06 CONTRACTOR

- A. The Contractor shall accept complete responsibility for the installation, certification, and support of the system. Contractor shall be an authorized vendor of all major components.
- B. All work shall be performed and supervised by Project Managers, Engineers and/or Technicians who are qualified to install Voice Communication System and perform related tests as recommended by the manufacturer and in accordance with the manufacturer's best practices and methods.
- C. Project Managers, Engineers and Technicians employed on this project shall be properly and fully trained and qualified by the manufacturer on the installation and testing of the equipment and systems to be installed.
- D. The Contractor shall have a proven track record in Public Address System configuration and installation. This must be shown by the inclusion of references of at least three (3) projects involving the installation of similar systems completed by the Contractor in the prior two (2) years on unaltered forms with the sealed Bid Proposal as provided herein.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

- A. Manufacturer of major components of the included Public Address / Intercom system shall be known and leading entity in the relevant communications field, and shall have been designing, manufacturing, and installing similar systems for a period of no less than three (3) years.
 1. Acceptable Manufacturers

- a. ADVANCED NETWORK DEVICES
- b. ATLASIED
- c. SINGLEWIRE

2.02 Supply most current version of all products provided.

- A. Prior and/or old versions of products, unless specifically approved and documented by Designer and/or Owner shall not be acceptable.
- B. In cases where a newer version of hardware or software is available at the time of installation, Contractor shall request clarification from Designer on which version is to be used.

2.03 Furnish only new, first-class quality materials and equipment.

2.04 PUBLIC ADDRESS AND PROGRAM SYSTEM

- A. A fully compliant public address and program system devices shall be configured and installed to service Owner's worksites listed herein.
- B. New Interior PoE speakers shall be provided in locations identified on provided drawings. Quoted cost must include all materials and labor to integrate speakers into Contractor provided mass notification software.
- C. New exterior, weatherproof wide-angle sound dispersion PoE exterior horn(s) shall be provided in locations identified on provided drawings. Quoted cost must include all parts and labor to integrate into Contractor provided mass notification software.

D. CENTRAL CONTROLLER

- 1. Contractor shall supply appropriate licensing and labor to integrate all devices into existing Singlewire Informacast Fusion system. Licensing shall be provided for term of warranty.
- 2. Central control software shall be configured and installed for amplification and distribution of audio programming to all areas of the facility. Owner applications may include, but will not be limited to:
 - a. Emergency alerting including possible building evacuation, shelter in place and/or lock-down.
 - b. System access from remote locations via either telephone and/or web browser to individual buildings for zone paging and/or alerting.
 - c. System access from remote locations via web browser to allow for program changes (i.e. Regular schedule to Snow day).

3. Central control software and all attached devices shall be installed and configured to meet or exceed all of the following requirements:
 - a. Interface to Voice Communication system (phone system) as primary voice input connection.
 1. Specific coded authorization shall be required to authenticate any user attempting to broadcast on the system. Codes shall originate by DTMF from voice terminals, and shall be up to four (4) tones (keys) in length.
 2. Capable of integrating with existing Shoretel phone system over SIP protocol.
 - b. Interface to computer data network system over Owner provided Ethernet.
 1. Specific password protected authorization shall be required to authenticate any user attempting to broadcast or modify programming on the system.
 2. Access shall be by standard web browser (MS Edge, Chrome, etc.) and shall not require specific application software be loaded onto access devices.
 - c. System shall store pre-recorded schedule for tone generation and interface to Owner's existing time sync (NTP Server) over Ethernet. System shall broadcast school "bells".
 1. Unlimited number of schedules must be supported for each building/facility (half day, normal day, exam schedule, etc.)
 - d. System shall store pre-recorded emergency alert messages matching owners existing standard in use at other facilities.
 1. Broadcast of up to six (6) alarm tones, pre-recorded messages or emergency voice messages to all or selected areas of the facility.
 2. Specific alarm tones shall be given priority over any other broadcast material.
 - e. System shall provide eight (8) additional contact closures, which when activated result in broadcast of predefined alarm tone(s) to predefined zone(s).
 - f. Paging system zones shall be customizable to allow complete control over paging zone output. Zones shall be easily modified using the web

browser interface to add or eliminate individual classrooms, hallways, and large venue spaces from zone lists.

- g. Owner provided PoE+ switches shall supply suitable power to enable intelligible audio from supplied Ethernet connected speakers.
 - h. System shall contain one (1) physical external interface in addition to telephone (primary voice interface) for connection to any one of a variety of music sources (including, but not limited to MP3, tuner, etc.) to be broadcast to designated zones or groups of zones. This interface shall be 3.5mm audio jack, and located in building central office to provide for building administrator convenient access.
 - i. System shall automatically generate and transmit a pre-announcement attention signal prior to any voice broadcast.
 - j. Feedback elimination precautions or system features shall be employed to suppress any audio coupling between and audio source and nearby speaker.
 - k. All building-based equipment shall be mounted in Owner designated rack in MDF room(s), except classroom equipment, which shall be installed in each classroom.
 - l. Gain control of alarms and announcements shall be individually configurable to different volume levels.
 - m. The unit shall operate from standard owner supplied 110 VAC power outlets within six feet (6') of required rack mounting in normal ambient climatic conditions for office communication closets.
4. Program System shall provide for, but not be limited to:
- a. Integrated calendar for storage of various different programs to be scheduled
 - 1. Normal Day
 - 2. Half Day
 - 3. Early Release Day
 - 4. Exam Day
 - 5. Delayed Start Day
 - b. Six (6) different tones/chimes/bells to signify class start/end/tardy etc.

- c. Password protected unique User ID access to the system by individual building principals and/or secretaries to manage and administer program calendars. Such credentials shall be integrated with the Owner's existing Microsoft Active Directory for common login control across the network.
 - d. Separate program databases for each facility that can be manipulated/managed by that facility's specific administrative team.
- 5. Preference will be given to system architectures where a common central server can be used from the district's data center for control and management of building operations.
 - 6. Contractor shall work collaboratively with Owner and other trades to fully integrate provided paging speakers and devices for building lockdown. Lockdown triggered from within Informacast will be configured to integrate with IP messaging clock devices and door access software (Lenel) via provided contact closure.
- E. INTERIOR POWER OVER ETHERNET (PoE) IN-CEILING (2x2) SPEAKERS

- 1. Acceptable Manufacturer(s)
 - a. ADVANCED NETWORK DEVICES
 - b. ATLASIED
 - 1. IP-22SYSMF
- 2. Interior Speakers shall be provided in classrooms and other common areas as identified on provided drawings. Speakers are identified on drawings with indicator **S1**.
 - a. Final speaker placement shall be adjusted as needed for appropriate audio intelligibility, volume levels and ceiling obstructions and/or conditions and shall remain the responsibility of the contractor.
- 3. Speakers shall meet or exceed the following requirements:
 - a. Square ceiling tile IP speaker (2' x 2')
 - b. LED Flasher – 7 Colors
 - c. Frequency response – 60 Hz – 17kHz
 - d. Built-in 8 W amplifier
 - e. PoE IEEE 802.3af/802.3af Type 1 Class 3 (max 12.95 W)

- f. Support for SIP integration with Voice over IP (VoIP) systems.
- g. Full multicast and broadcast support.
- h. All devices, including but not limited to, amplifiers, brackets, baffles, and Control Unit shall be mounted square and plumb and as recommended by the manufacturer and required by Owner and Architect.
- i. Each speaker shall be connected to central equipment using standard category 6 ethernet cabling provided by others. Contractor shall supply ethernet patch cables at both the closet and device location to extend provided cabling to optimal speaker location, cable shall not exceed 30'. Cable color shall be coordinated with Owner and/or designer.
- j. Contractor shall be responsible for cross connecting speakers in data closet and reporting back switch and switch port locations to Owner for programming.
- k. Each speaker shall be volume adjustable at installation to accommodate specific acoustical properties of the intended coverage area.
- l. Contractor shall include all parts and accessories for a fully functional and securely installed system using manufacturer and industry best practices.
- m. System shall produce audio at a peak level of approximately eighty-five (85) dBA at probable listener's positions.
- n. Provided speakers must be fully Singlewire Informacast and Syn-apps/Revolution compatible.

F. INTERIOR POWER OVER ETHERNET (PoE) SURFACE MOUNT SPEAKERS

- 1. Acceptable Manufacturer(s)
 - a. ADVANCED NETWORK DEVICES
 - b. ATLASIED
 - 1. IP-SM
- 2. Interior Speakers shall be provided in classrooms and other common areas as identified on provided drawings. Speakers are identified on drawings with indicator **S2**.

- a. Final speaker placement shall be adjusted as needed for appropriate audio intelligibility, volume levels and ceiling obstructions and/or conditions and shall remain the responsibility of the contractor.
- 3. Speakers shall meet or exceed the following requirements:
 - a. Surface mount IP speaker
 - b. Frequency response – 60 Hz – 17kHz
 - c. Built-in 8 W amplifier
 - d. PoE IEEE 802.3af/802.3af Type 1 Class 3 (max 12.95 W)
 - e. Support for SIP integration with Voice over IP (VoIP) systems.
 - f. Full multicast and broadcast support.
 - g. All devices, including but not limited to, amplifiers, brackets, baffles, and Control Unit shall be mounted square and plumb and as recommended by the manufacturer and required by Owner and Architect.
 - h. Each speaker shall be connected to central equipment using standard category 6 ethernet cabling provided by others. Contractor shall supply ethernet patch cables at both the closet and device location to extend provided cabling to optimal speaker location, cable shall not exceed 30'. Cable color shall be coordinated with Owner and/or designer.
 - i. Contractor shall be responsible for cross connecting speakers in data closet and reporting back switch and switch port locations to Owner for programming.
 - j. Each speaker shall be volume adjusted at installation to accommodate specific acoustical properties of the intended coverage area.
 - k. Each surface speaker shall include appropriate back box.
 - l. Contractor shall include all parts and accessories for a fully functional and securely installed system using manufacturer and industry best practices.
 - m. System shall produce audio at a peak level of approximately eighty-five (85) dBA at probable listener's positions.
 - n. Provided speakers must be fully Singlewire Informacast and Syn-apps/Revolution compatible.

G. EXTERIOR POWER OVER ETHERNET (PoE) HORNS

a. ADVANCED NETWORK DEVICES

b. ATLASIED

1. IP-HVP

2. Exterior Speakers shall be provided at exterior common public areas of the facility as identified on provided drawings and as provided for herein. Speakers are identified on drawings with indicator **S3**.

3. Horns shall meet or exceed the following requirements:

a. Built-in 8 W Class D amplifier

b. PoE IEEE 802.3af/802.3af Type 1 Class 3 (max 12.95 W)

c. Support for SIP integration with Voice over IP (VoIP) systems.

d. Vandal and weather resistant.

e. Speaker to include appropriate vandal proof back box.

f. Frequency response of 600Hz – 14 kHz.

g. Each speaker shall be connected to central equipment using standard category 6 ethernet cabling provided by others. Contractor shall supply ethernet patch cables at both the closet and device location for each speaker to extend provided cabling to optimal speaker location, cable shall not exceed 30'. Cable color shall be coordinated with Owner and/or designer.

h. Contractor shall be responsible for cross connecting speakers in data closet and reporting back switch and switch port locations to Owner for programming.

i. Contractor shall include all parts and accessories for a fully functional and securely installed system using manufacturer and industry best practices.

j. Provided speakers must be fully Singlewire Informacast and Syn-apps/Revolution compatible.

2.05 COMPONENT INTERCONNECTION

A. All wiring not installed in conduit shall be plenum type cable and shall be so identified with continuous marking.

B. No wiring installed shall be visible unless specifically and individually approved by Owner and Designer. All wire that traverses open areas shall be

installed in metal raceway of appropriate size for the number of wires installed plus twenty percent more.

1. All metal raceway shall be ordered in standard colors to as closely match the environment in which it is being installed as possible.
 2. Metal raceway shall be carefully and neatly installed, to meet manufacturer recommendations and standards for professional installation.
 3. Sharp edges, gaps in the covering or corners or other unprofessional workmanship characteristics of installation will not be acceptable.
- C. Wiring color shall remain the same throughout the system. Colors used for coding shall be as directed by the system manufacturer, Owner, and Architect.
- D. Wire shall be copper.

2.06 ALLOWANCES

- A. Contractor shall include allowances for equipment and/or other contract service reimbursements as required below in base bid lump sum amount(s). Equipment and/or contract services shall be provided and sourced at Owner's discretion and convenience with full cooperation by Contractor and paid for from successful bidder's contract in the amount(s) provided for herein. Any allowance amount proving to be excessive for the intended equipment and/or contract services shall be credited to the Owner against contract payment requests.
1. Allowance shall be made in the amount of \$5,000.00 for contract services related to supply, installation, and connection of contingency upgrades.

PART 3 - EXECUTION

3.01 PREPARATION

- A. Contractor shall conduct detailed walk-through examination with Designer and Owner verifying equipment and material locations as well as mounting and placement requirements prior to commencement of other installation activities.
- B. Contractor shall ensure all submittals and shop drawings have been provided to, and approval has been obtained from Designer prior to commencement of any final installation activities.

3.02 INSTALLATION

- A. Contractor shall be familiar with the environment where work will be done as specified herein.

- B. Work Areas shall be cleaned at the end of each day. All debris shall be cleared, removed, and disposed of in an approved container for the site. All equipment and tools shall be removed from common areas and stored in approved, secure storage locations. Any work that may impede the general use of the space and cannot be removed shall be flagged and cordoned off by the Contractor prior to their departure.
- C. All equipment and materials shall be installed in a neat and workmanlike manner. Best practices installation principles shall be used throughout the project.
- D. The Contractor shall furnish, set in place, and install all equipment necessary for a fully compliant and operational system as specified herein. The installation process includes, but is not limited to the following:
 - 1. Inventory receipt of all components and equipment.
 - 2. Storage of all equipment and components until such time those items are installed according to the specifications.
 - 3. Transport equipment to the Owner's installation location(s).
 - 4. Assemble, install, configure, and test all equipment and components, maintaining accurate inventory records and status documents and discarding packaging.
 - 5. Collect all information necessary to accurately program all sets and/or system devices to the Owner's intended use and need.
 - 6. Complete end user and system administrator training programs as specified herein.
 - 7. Work shall be performed to meet local codes and industry standards, including, but not limited to:
 - a. Adequate gas tube protection for outside plant cable connections.
 - b. Grounding and Bonding.
 - 8. Work includes extending cable bundles, as required, to Owner identified equipment installation locations at all locations.
 - 9. Owner will provide contractor with permanent asset tags for each system component that exceeds \$100.00 in value. Equipment installed in wiring closets will have district asset tags installed in a prominent location. Assets installed in public areas, such as staff desktop devices, will have asset tags installed in discreet but consistent area of each asset.

- a. Asset number, device/component description, serial number, make, model, part-number, site, room number/name and any other critical asset information shall be recorded for Owner.
- E. Worksites include the following:
 - 1. Early Childhood Center
100 60th Street SE
Kentwood, Michigan 49508
- F. It shall be the responsibility of the Contractor to repair or replace any damage done to the structure of finishes in the building by the Contractor. If in the course of work, Contractor damages, marks, or misplaces any surfaces or access plates/panels the Contractor shall repair and/or replace the surface, plate, or panel to the original condition.
 - 1. Final determination as to the damage condition and/or repair/replacement fitness of any surface, plate or panel shall be the sole responsibility of the Designer.
 - 2. The building and work area shall be returned to its original condition prior to final sign-off of the project.
- G. Following installation and prior to final acceptance of the system, Contractor shall conduct follow-up interviews with Owner identified administrators and staff to review system functionality, suitability and confirm feature and program fitness for Owner applications.
 - 1. Follow-up interviews shall be fully documented by Contractor and submitted to Owner for approval.
- H. Contractor shall collect, consolidate and otherwise prepare for shipping or disposal Owner's existing telecommunications system components, including, but not limited to stations, processors, cards, options, and application servers in a manner acceptable to, and consistent with, Owner's intended disposition of the items.

3.03 TESTING

- A. In an effort to ensure a smooth "turn-up" of the new system Contractor shall submit to a thorough testing process as defined herein prior to cut-over. Testing shall include, but not be limited to the following:
- B. Prior to requesting testing by Designer, the Contractor shall use adequate means to assure the Work is completed in accordance with the specified requirements, meets the owner's specific application requirements and is ready for functionality and integrity testing.

C. PROCEDURES

1. Prior to system “turn-up”, Contractor shall submit a written request to Designer indicating they have completed full and final configuration of the system and are ready to have system integrity and functionality tested.
2. Within reasonable time after receipt of request, Designer will provide a test schedule and coordinate testing date(s) with Owner and Contractor.
3. Should Designer determine the Work is not acceptably configured or not of adequate integrity:
 - a. Designer promptly will so notify Contractor, giving reasons therefore and providing sufficient details to allow Contractor to make corrective actions.
 - b. Contractor shall then expeditiously remedy the deficiencies and notify Designer in writing when ready for re-testing.
 - c. Designer will schedule re-test of the Work.
 - d. Excessive re-testing of Work may result in fees being assessed Contractor.
4. Should Designer and Owner concur the Work is configured properly, and system integrity is as required:
 - a. Designer will review Contractors detailed cut-over plan, and upon finding it acceptable issue a memorandum of Testing Completion to Owner and Contractor after which system cut-over can proceed.

3.04 DOCUMENTATION

- A. Contractor shall, throughout the completion of the project, provide Owner a file storage system that shall include all necessary equipment (file drawers, folders, dividers, etc.), to contain all as-built drawings, owner’s manuals of all equipment installed, warranty and maintenance information and other information the Contractor, Designer and/or Owner deem necessary.
- B. Contractor shall be responsible for providing thorough, timely documentation on all hardware, software. Documentation shall include, but not be limited to:
 1. Equipment description.
 2. Equipment make.
 3. Model number.

4. Software release.
5. Date installed.
6. Manufacturer's warranty.
7. Maintenance contract terms.
8. Verification of maintenance contract engagement.
9. Telephone numbers for service and support.
10. Detailed technical support and service procedure instructions.
11. All product (hardware and software) manuals and manufacturer supplied documentation, including, but not limited to owner manuals, system administrator manuals and configuration guides. Where number of duplicate copies for particular manual or documentation item could be reasonably considered excessive, Contractor shall request direction from Owner and Designer.
12. Photocopy of original invoice listing make and model for all components and equipment from individual manufacturer(s), distribution source(s), or authorized agent(s) to establish manufacturer warranty start date for potential use after end of contract warranty provisions.
13. CAD as built drawings for each building.

3.05 TRAINING

- A. No training shall be conducted prior to training outline and/or syllabus being approved by Owner. Instructional or overview activities conducted without prior content approval with not be deemed contract training, and Contractor shall remain responsible for delivery of approved training.
- B. Contractor shall provide training for the Owner designated system administrator(s). Training shall be a minimum of two (2), one (1) hour session in length, at the convenience of the Owner personnel, and of sufficient duration to satisfactorily complete training on all system administration functions including, but not limited to:
 1. Basic trouble shooting of the installed system and components including diagnostic and problem resolution actions.
 2. System back-up and restore functions and procedures for all system parameters and configurations.
 3. Device additions moves and changes as well as reconfiguration.

4. Review of system alerts, logs and monitoring of configuration parameters including, but not limited to and system configuration changes.
 5. System power-up and power down process.
 6. Recording and playing pre-recorded content.
 7. System update process
 8. System maintenance procedures.
 9. Problem reporting.
- C. Contractor shall provide in-person end user training for building office staff. Training shall be available at substantial completion. Training shall include, but not limited to the following:
1. System functionality overview.
 2. Bell schedule programming and changes.
 3. Paging zone controls.
 4. Intercom function use incoming and outgoing.
 5. System operation best practices.
 6. Building wide all page.
 7. Recording and playing pre-recorded content.
 8. Problem reporting.

3.06 SCHEDULE, MEETINGS AND PLANS

A. Schedule

1. Post bid Interviews: Week of February 20, 2023
2. Contractor Chosen: Week of March 13, 2023
3. Work Commences: November 1, 2023
4. Substantial Completion of Project: March 1, 2024
5. Project Close-out: June 1, 2024

- B. Planned sequence of operations shall be established by the Contractor within the guidelines established by the Owner, as required herein and as required to meet schedules.
- C. All work shall be coordinated with Owner's construction manager on site.
- D. Project progress meetings shall be held, but not limited to, weekly at a site and time identified as convenient for Owner and as required herein. Meetings will be attended as required herein.

END OF SECTION

SECTION 27 53 13
CLOCK SYSTEM

PART 0 - GENERAL

1.01 DESCRIPTION OF PROJECT

- A. Work described in this specification section specification section pertains to new Clock System equipment and installation for Kentwood Public Schools new Early Childhood Center. Work shall include, but not be limited to, head-end equipment, cabling, single and dual sided wall clocks, and all other components and services required for a full and operational system.
- B. Contractor shall advise, coordinate, and work cooperatively with Owner representatives and/or owner's designee related to any installation or special security provisions.
- C. The Contractor shall design, engineer, configure, supply, connect, test, document, train Owner representatives and warrant a fully operational and compliant system, complete and with full functionality as specified herein.
- D. Contractor shall coordinate their installation with other contractors, Designer and the Owner as is appropriate.

1.02 WARRANTY

- A. Complete installation shall be free from defect and/or failure for a period of three (3) years. Any replacement, upgrade, or fix, including labor for any non-conforming or non-operational part of the system shall be fixed and/or replaced at no cost to the Owner.
- B. Manufacturer's warranty shall be provided for all components of the system.
 - 1. Any documents and/or submittals required by individual manufacturers for compliance with the standard and/or applicable extended warranty programs shall be provided and submitted for approval by the Contractor.
 - 2. Contractor shall submit all documents, apply for warranty or extended warranty certification, and provide a Certificate of Warranty or Extended Warranty as may be applicable from the manufacturer prior to project closeout.
- C. On site services provided under the warranty shall be performed by personnel or representatives of Contractor as herein defined and located within physical proximity to provide response levels deemed acceptable to Owner.

- D. Contractor shall provide the following response times for all malfunctioning equipment:
1. Eight (8) hours or less for matters that render twenty percent (20%) or more of the system unable to maintain normal functionality.
 2. Two (2) business days for matters not meeting the above criteria.
 3. Response time shall be measured from the time Contractor is notified by Owner to the time work is begun to resolve the matter.
- E. Bidder shall provide current annual maintenance contract pricing for recommended maintenance programs for all equipment following the specified and included one (1) year period as a Voluntary Alternate. This information will be considered by Owner and Designer as part of the bid evaluation process.
- F. System Warranty shall commence on date of substantial completion as certified by Designer and provided for herein. Delivery to work site of materials, physical removal from packaging, issuance of Contractor documents including, but not limited to invoices and/or packing slips, or any event or documentation, not specifically provided for herein, shall have no effect on Warranty or System Acceptance by Owner and/or Designer.

1.03 STORAGE OF MATERIALS

- A. All materials shall be secured when not in use by the Contractor.
- B. It shall be the Contractor's responsibility to secure all equipment including material to be installed as part of the contract. No changes shall be made to the contract due to loss or theft of equipment and/or materials not officially accepted by the Owner.
- C. Formal receipt of the materials shall not be completed by the Owner until completion of project closeout. The Contractor shall be responsible for all equipment until time of closeout as provided for herein.

1.04 SUBMITTALS

- A. Submittals shall consist of, but not be limited to, technical cut sheets and detailed information pamphlets on all components of the system to be installed. All cut sheets and submittals shall be distinctly marked to highlight the actual part number of the item being submitted for approval with Bid Proposals.
- B. Shop drawings and diagrams shall be submitted by Bidder for approval by Designer with Bid Proposals.

1. Shop drawings and diagrams shall show all data relating to structural, electrical, wiring, cross connect, interconnect, equipment arrangement/layout, and any other information deemed significant by the Designer.
 2. No work constituting final installation shall be commenced until after approval of shop drawings by Designer.
- C. Contractor shall provide proof of manufacturer support by photocopy of certification and letter of support from major component manufacturers for this specific project with Bid Proposals.
- D. Equipment or material installed for this project that does not have an approved submittal associated with it, will be removed, and replaced with acceptable equipment or material as defined by the Designer. All replacement costs including, but not limited to material and labor, shall be the sole responsibility of the Contractor.
1. The Owner and/or Designer may notify Contractor of any offending situations under this provision allowing Contractor up to forty-eight (48) hours to correct the situation prior to taking other corrective action.
 2. The Owner reserves the right to replace unapproved materials and deduct the costs of doing so as defined herein from any amounts that may be due or become due Contractor.
- E. The Contractor shall submit within ten (10) calendar days after the Notice to Proceed, a schedule that reflects the sequence of activities of the contractor's approach to the execution of and completion of the work. The schedule shall be broken into work areas to provide for a clear identification of the planned progress of the work. Included in the schedule will be a list of tasks with list of deliverables and the percentage of work completed. This schedule shall coincide with progress payments applications dates and projected amounts. All durations shown will be in working days. Microsoft Project is the software of choice for this schedule. The timeframe described in the Contractor's Schedule shall represent the Contractor's plan for organizing, directing, managing, controlling, staffing, and executing the work required by the Contract Documents. Owner will rely on such schedules to coordinate and otherwise plan related work of Owner personnel, other separate contractors, or the Owner's routine daily work.

1.05 REFERENCE SPECIFICATIONS

- A. All work, products, and materials shall conform with the following standards as applicable for the intended use:
1. IEEE

2. EIA/TIA Commercial and Administration Standards
3. NEC
4. FCC – All Applicable Rules and Regulations
5. UL
6. MOSHA Safety Standards

1.06 CONTRACTOR

- A. The Contractor shall accept complete responsibility for the installation, certification, and support of the system. Contractor shall be an authorized vendor of all major components.
- B. All work shall be performed and supervised by Project Managers, Engineers and/or Technicians who are qualified to install system and perform related tests as recommended by the manufacturer and in accordance with the manufacturer's best practices and methods.
- C. Project Managers, Engineers and Technicians employed on this project shall be properly and fully trained and qualified by the manufacturer on the installation and testing of the equipment and systems to be installed.
- D. The Contractor shall have a proven track record in security system configuration and installation. This must be shown by the inclusion of references of at least three (3) projects involving the installation of similar systems completed by the Contractor in the prior two (2) years on unaltered forms with the sealed Bid Proposal as provided herein. Bid Proposal Form(s) may be duplicated as required in order to provide adequate space to list required number of reference installations for each division Bidder is responding to.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

- A. Acceptable Manufacturers:

1. ADVANCED NETWORK DEVICES
2. ATLASIED

2.02 Supply most current version of all products provided.

- A. Manufacturer shall have five (5) years of experience and history manufacturing similar products to those specified.

- B. Proposed components shall have been field tested and proven in actual use.
 - C. Prior and/or old versions of products, unless specifically approved and documented by Designer and/or Owner shall not be acceptable.
 - D. In cases where a newer version of hardware or software is available at the time of installation, Contractor shall request clarification from Designer on which version is to be used.
- 2.03 Furnish only new, first-class quality materials and equipment.
- 2.04 In the event of a power failure, complete system shall automatically re-initialize and “become active” to the last configuration in use with no human intervention.
- 2.05 Contractor shall be responsible for final and working system. Use of existing components and materials provided by others during new construction shall be integral to system configuration and cost-effective installation. Bidders are encouraged to use all compatible and working components in system solution. See schedule(s) and reference files for additional detail.
- 2.06 MESSAGING CLOCK SYSTEM
- A. A fully compliant messaging clock system shall be configured and installed to service Owner’s worksites listed herein.
 - B. New Interior PoE single sided messaging clocks shall be provided in locations identified on provided drawings. Quoted cost must include all materials and labor to integrate speakers into Owners existing Singlewire Informacast system.
 - C. New Interior PoE double sided messaging clocks shall be provided in locations identified on provided drawings. Quoted cost must include all materials and labor to integrate speakers into Owners existing Singlewire Informacast system.
 - D. Contractor shall supply all necessary licensing and labor to integrate clock devices with existing Singlewire Informacast Fusion system. Contractor shall supply appropriate licensing for term of warranty.
 - E. Contractor shall work collaboratively with Owner and other trades to fully integrate provided paging speakers and devices for building lockdown. Lockdown triggered from within Informacast will be configured to integrate with IP messaging clock devices and door access software (Lenel) via provided contact closure.
 - a. System shall provide eight (8) additional contact closures, which when activated result in broadcast of predefined alarm tone(s) to predefined zone(s).

2.07 ROOM CLOCK/SPEAKER - Type 1 (C1 on drawings)

A. Acceptable Manufacturers

1. ADVANCED NETWORK DEVICES

a. IPSWDHD-MW

2. ATLASIED

a. IP-SMDF

B. Informacast and Synapps Revolution Compatible

C. Speaker/Clock Combo shall include the following ports:

1. 2 General Purpose Inputs

2. 1 General Purpose Output (2A @ 30VDC)

3. Aux Audio Line-In Balanced

4. Aux Audio Line-Out Balanced

D. 8" coaxial speaker

E. Contractor shall supply single sided factory assembled digital clock with integral speaker as indicated on provided drawings and specified herein.

F. Clocks shall display time during normal operation.

G. Clocks shall include all necessary hardware including slanted back box to be surface mounted in identified locations.

H. Clocks shall function as a scrolling message board during emergency notification operation.

I. Clocks shall include all necessary hardware including back box to be surface mounted in identified locations.

J. Clocks shall meet or exceed the following:

1. Integrated flashers to draw visual attention.

2. Function fully on PoE+ Power.

3. Communicate to Owners existing NTP server

4. Fully communicate over Owner's existing ethernet network.

- 5. Viewable clock display shall be at least 12 inches by 3.75 inches in size.
 - K. Clocks shall be capable of changing the color of the display for viewer attention. Available colors shall include, but not be limited to Red, Green and Blue.
 - L. Clocks installed in Imagination Station locations shall include protective cages.
- 2.08 CORRIDOR CLOCK/SPEAKERS - Type 2 (C2 on drawings)
- A. Acceptable Manufacturers
 - 1. ADVANCED NETWORK DEVICES
 - a. IPCSHD-DS-MB
 - 2. ATLAS IED
 - a. IP-DDS
 - B. Informacast and Synapps Revolution Compatible
 - C. Speaker/Clock Combo shall include the following ports:
 - 1. 2 General Purpose Inputs
 - 2. 1 General Purpose Output (2A @ 30VDC)
 - 3. Aux Audio Line-In Balanced
 - 4. Aux Audio Line-Out Balanced
 - D. Clocks shall display time during normal operation.
 - E. Clocks shall function as a scrolling message board during emergency notification operation.
 - F. Clocks shall meet or exceed the following:
 - 1. Integrated flashers to draw visual attention.
 - 2. Function fully on PoE+ Power.
 - 3. Communicate to Owners existing NTP server
 - 4. Fully communicate over Owner's existing ethernet network.
 - 5. Viewable clock display shall be at least 8 inches by 2.25 inches in size.

- G. Clocks shall be capable of changing the color of the display for viewer attention. Available colors shall include, but not be limited to Red, Green and Blue.

2.09 ALLOWANCES

- A. Contractor shall include allowances for equipment and/or other contract service reimbursements as required below in base bid lump sum amount(s). Equipment and/or contract services shall be provided and sourced at Owner's discretion and convenience with full cooperation by Contractor and paid for from successful bidder's contract in the amount(s) provided for herein. Any allowance amount proving to be excessive for the intended equipment and/or contract services shall be credited to the Owner against contract payment requests.
 - 1. Allowance shall be made in the amount of \$5,000.00 for contract services related to supply, installation, and connection of contingency upgrades.

PART 3 - EXECUTION

3.01 PREPARATION

- A. Contractor shall conduct detailed walk-through examination with Designer and Owner verifying equipment and material locations as well as mounting and placement requirements prior to commencement of other installation activities.
- B. Contractor shall ensure all submittals and shop drawings have been provided to, and approval has been obtained from Designer prior to commencement of any final installation activities.

3.02 INSTALLATION

- A. Contractor shall be familiar with the environment where work will be done as specified herein and make every reasonable effort to minimize interference with Owner's or other contractor's activities.
- B. Work Areas shall be cleaned at the end of each day. All debris shall be cleared, removed, and disposed of in an approved container for the site. All equipment and tools shall be removed from common areas and stored in approved, secure storage locations. Any work that may impede the general use of the space and/or other contractor's work and cannot be removed shall be flagged and cordoned off by the Contractor prior to their departure.
- C. All equipment and materials shall be installed in a neat and workmanlike manner. Best practices installation principles shall be used throughout the project.

- D. The Contractor shall furnish, set in place, and install all equipment necessary for a fully compliant and operational system as specified herein. The installation process includes, but is not limited to the following:
1. Inventory receipt of all components and equipment.
 2. Storage of all equipment and components until such time those items are installed according to the specifications.
 3. Transport equipment to the Owner's installation location(s).
 4. Assemble, install, configure, and test all equipment and components, maintaining accurate inventory records and status documents and discarding packaging.
 5. Collect all information necessary to accurately program all system devices to the Owner's intended use and need.
 6. Label all system devices as may be appropriate and required by Owner and Designer.
 7. Complete end user and system administrator training programs as specified herein.
 8. Work shall be performed to meet local codes and industry standards including proper grounding and bonding of installed equipment.
- E. Worksites include the following:
1. Early Childhood Center
100 60th Street SE
Kentwood, Michigan 49508
- F. It shall be the responsibility of the Contractor to repair or replace any damage done to the structure of finishes in the building by the Contractor. If in the course of work, Contractor damages, marks, or misplaces any surfaces or access plates/panels the Contractor shall repair and/or replace the surface, plate or panel to the original condition.
1. Final determination as to the damage condition and/or repair/replacement fitness of any surface, plate or panel shall be the sole responsibility of the Designer.
 2. The building and work area shall be returned to its original condition prior to final sign-off of the project.
- G. Following installation and system "turn-up", but prior to final acceptance of the system, Contractor shall conduct follow-up interviews with Owner

identified administrators and staff to review system functionality, suitability and confirm feature and program fitness for Owner applications.

1. Follow-up interviews shall be fully documented by Contractor and submitted to Owner for approval.

H. Contractor shall install room clocks as identified on drawings.

1. Contractor shall be responsible for connecting clocks to Owner's existing PoE+ switches, and as such will provide category 6 patch cables at both the closet and device location
 - a. The clock patch cable will not exceed 20' to the nearest data drop, must be plenum rated, properly supported and fully enclosed in raceway when in front of finished surfaces.
 - b. The network switch patch cable shall be color matched to the Owner standard and compliant with workmanship and standards existing when the work is completed.
 - c. Contractor shall be responsible for cross connecting clocks in data closet and reporting back switch and switch port locations to Owner for programming.

3.03 TESTING

- A. In an effort to ensure a smooth "turn-up" of the new system Contractor shall submit to a thorough testing process as defined herein prior to cut-over.
- B. Prior to requesting testing by Designer, the Contractor shall use adequate means to assure the Work is completed in accordance with the specified requirements, meets the owner's specific application requirements and is ready for functionality and integrity testing.
- C. Testing Procedures
 1. Prior to system "turn-up", Contractor shall submit a written request to Designer indicating they have completed full and final configuration of the system and are ready to have system integrity and functionality tested.
 2. Within reasonable time after receipt of request, Designer will provide a test schedule and coordinate testing date(s) with Owner and Contractor.
 3. Should Designer determine the Work is not acceptably configured or not of adequate integrity:

- a. Designer promptly will so notify Contractor, giving reasons therefore and providing sufficient details to allow Contractor to make corrective actions.
 - b. Contractor shall then expeditiously remedy the deficiencies and notify Designer in writing when ready for re-testing.
 - c. Designer will schedule re-test of the Work.
 - d. Excessive re-testing of Work may result in fees being assessed Contractor.
4. Should Designer and Owner concur the Work is configured properly, and system integrity is as required:
 - a. Designer will review Contractors detailed “turn-up” plan, and upon finding it acceptable issue a memorandum of Testing Completion to Owner and Contractor after which system “turn-up” can proceed.

3.04 DOCUMENTATION

- A. Contractor shall, throughout the completion of the project, provide Owner a file storage system that shall include all necessary equipment, including if reasonably required, file drawers, folders, dividers, etcetera, to contain all as-built drawings, owner’s manuals of all equipment installed, warranty and maintenance information and other information the Contractor, Designer and/or Owner deem necessary. Documentation shall also be provided in a digital format in file formats and on media as specified by Owner and/or Designer.
- B. Contractor shall be responsible for providing thorough, timely documentation on all hardware, software. Documentation shall include, but not be limited to:
 1. Equipment description.
 2. Equipment make.
 3. Model number.
 4. Software release.
 5. Date installed.
 6. Manufacturer's warranty.
 7. Maintenance contract terms.
 8. Verification of maintenance contract engagement.

9. Telephone numbers for service and support.
10. Detailed technical support and service procedure instructions.
11. All product (hardware and software) manuals and manufacturer supplied documentation, including, but not limited to owner manuals, system administrator manuals and configuration guides. Where number of duplicate copies for particular manual or documentation item could be reasonably considered excessive, Contractor shall request direction from Owner and Designer.
12. Photocopy of original invoice listing make and model for all components and equipment from individual manufacturer(s), distribution source(s), or authorized agent(s) to establish manufacturer warranty start date for potential use after end of contract warranty provisions.
13. As built drawings for each building.
14. System Configuration Report.
15. Complete inventory of installed hardware and system software. Hardware inventory shall include, but not be limited to, model numbers, serial

3.05 TRAINING

- A. Not used.

3.06 SCHEDULE, MEETINGS AND PLANS

A. Schedule

1. Post bid Interviews: Week of February 20, 2023
2. Contractor Chosen: Week of March 13, 2023
3. Work Commences: November 1, 2023
4. Substantial Completion of Project: March 1, 2024
5. Project Close-out: June 1, 2024

- B. Planned sequence of operations shall be established by the Contractor within the guidelines established by the Owner, as required herein and as required to meet schedules.

- C. All work shall be coordinated with Owner's construction manager on site.

- D. Project progress meetings shall be held, but not limited to, weekly at a site and time identified as convenient for Owner and as required herein. Meetings will be attended as required herein.

END OF SECTION

SECTION 28 13 00
BUILDING ACCESS CONTROLS

PART 1 - GENERAL

1.01 DESCRIPTION OF PROJECT

- A. Work described in this specification section pertains to a new and rework of existing access control equipment for the sites listed and specified herein. All equipment will be integrated into Owners existing Lenel OnGuard access control system.
- B. Contractor shall advise, coordinate, and work cooperatively with Owner representatives and/or owner's designee related to any installation or special security provisions.
- C. The Contractor shall design, engineer, configure, supply, connect, test, document, train Owner representatives and warrant a fully operational and compliant system, complete and with full functionality as specified herein.
- D. Contractor shall coordinate their installation with other contractors, Designer and the Owner as is appropriate.
- E. Contractor shall fully coordinate and cooperate with door hardware vendor supplying the balance of items identified in section Appendix A - 08 06 71 – Door Hardware Schedule as identified herein. All final connections, component integration, configuration, testing and programming functions to provide for a fully operational and functional system as specified shall remain the responsibility of Contractor selected for work in this section/division.

1.02 WARRANTY

- A. Complete installation shall be free from defect and/or failure for a period of three (3) year. Any replacement, upgrade, or fix, including labor for any non-conforming or non-operational part of the system shall be fixed and/or replaced at no cost to the Owner.
- B. Manufacturer's warranty shall be provided for all components of the system.
 - 1. Any documents and/or submittals required by individual manufacturers for compliance with the standard and/or applicable extended warranty programs shall be provided and submitted for approval by the Contractor.
 - 2. Contractor shall submit all documents, apply for warranty or extended warranty certification, and provide a Certificate of Warranty or Extended Warranty as may be applicable from the manufacturer prior to project closeout.

- C. On site services provided under the warranty shall be performed by personnel or representatives of Contractor as herein defined and located within physical proximity to provide response levels deemed acceptable to Owner.
- D. Contractor shall provide the following response times for all malfunctioning equipment:
 - 1. Eight (8) hours or less for matters that render twenty percent (20%) or more of the system unable to maintain normal functionality.
 - 2. Two (2) business days for matters not meeting the above criteria.
 - 3. Response time shall be measured from the time Contractor is notified by Owner to the time work is begun to resolve the matter.
- E. System Warranty shall commence on date of substantial completion as certified by Designer and provided for herein. Delivery to work site of materials, physical removal from packaging, issuance of Contractor documents including, but not limited to invoices and/or packing slips, or any event or documentation, not specifically provided for herein, shall have no effect on Warranty or System Acceptance by Owner and/or Designer.

1.03 STORAGE OF MATERIALS

- A. All materials shall be secured when not in use by the Contractor.
- B. It shall be the Contractor's responsibility to secure all equipment including material to be installed as part of the contract. No changes shall be made to the contract due to loss or theft of equipment and/or materials not officially accepted by the Owner.
- C. Formal receipt of the materials shall not be completed by the Owner until completion of project closeout. The Contractor shall be responsible for all equipment until time of closeout as provided for herein.

1.04 SUBMITTALS

- A. Submittals shall consist of, but not be limited to, technical cut sheets and detailed information pamphlets on all components of the system to be installed. All cut sheets and submittals shall be distinctly marked to highlight the actual part number of the item being submitted for approval with Bid Proposals.
- B. Shop drawings and diagrams shall be submitted by Bidder for approval by Designer with Bid Proposals.
 - 1. Shop drawings and diagrams shall show all data relating to structural, electrical, wiring, cross connect, interconnect, equipment

arrangement/layout, and any other information deemed significant by the Designer.

2. No work constituting final installation shall be commenced until after approval of shop drawings by Designer.
- C. Contractor shall provide proof of manufacturer support by photocopy of certification and letter of support from major component manufacturers for this specific project with Bid Proposals.
- D. Equipment or material installed for this project that does not have an approved submittal associated with it, will be removed, and replaced with acceptable equipment or material as defined by the Designer. All replacement costs including, but not limited to material and labor, shall be the sole responsibility of the Contractor.
 1. The Owner and/or Designer may notify Contractor of any offending situations under this provision allowing Contractor up to forty-eight (48) hours to correct the situation prior to taking other corrective action.
 2. The Owner reserves the right to replace unapproved materials and deduct the costs of doing so as defined herein from any amounts that may be due or become due Contractor.
- E. The Contractor shall submit within ten (10) calendar days after the Notice to Proceed, a schedule that reflects the sequence of activities of the contractor's approach to the execution of and completion of the work. The schedule shall be broken into work areas to provide for a clear identification of the planned progress of the work. Included in the schedule will be a list of tasks with list of deliverables and the percentage of work completed. This schedule shall coincide with progress payments applications dates and projected amounts. All durations shown will be in working days. Microsoft Project is the software of choice for this schedule. The timeframe described in the Contractor's Schedule shall represent the Contractor's plan for organizing, directing, managing, controlling, staffing, and executing the work required by the Contract Documents. Owner will rely on such schedules to coordinate and otherwise plan related work of Owner personnel, other separate contractors, or the Owner's routine daily work.

1.05 REFERENCE SPECIFICATIONS

- A. All work, products, and materials shall conform with the following standards as applicable for the intended use:
 1. IEEE
 2. EIA/TIA Commercial and Administration Standards

3. NEC
 4. FCC – All Applicable Rules and Regulations
 5. UL
 6. MOSHA Safety Standards
- B. Bidder shall be responsible for supply, configuration and installation of components identified in Section 087100 - Door Hardware, Part 5 “Hardware Schedule”.

1.06 CONTRACTOR

- A. The Contractor shall accept complete responsibility for the installation, certification, and support of the system. Contractor shall be an authorized vendor of all major components.
- B. All work shall be performed and supervised by Project Managers, Engineers and/or Technicians who are qualified to install system and perform related tests as recommended by the manufacturer and in accordance with the manufacturer’s best practices and methods.
- C. Project Managers, Engineers and Technicians employed on this project shall be properly and fully trained and qualified by the manufacturer on the installation and testing of the equipment and systems to be installed.
- D. The Contractor shall have a proven track record in security system configuration and installation. This must be shown by the inclusion of references of at least three (3) projects involving the installation of similar systems completed by the Contractor in the prior two (2) years on unaltered forms with the sealed Bid Proposal as provided herein. Bid Proposal Form(s) may be duplicated as required in order to provide adequate space to list required number of reference installations for each division Bidder is responding to.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

- A. Manufacturer of major components of the included Building Access Control system shall be known and leading entity in the relevant communications field, and shall have been designing, manufacturing, and installing similar systems for a period of no less than three (5) years.
- B. Acceptable Manufacturers (In alphabetical order):
 1. LENEL S2

- 2.02 Supply most current version of all products provided.
- A. Proposed components shall have been field tested and proven in actual use.
 - B. Prior and/or old versions of products, unless specifically approved and documented by Designer and/or Owner shall not be acceptable.
 - C. In cases where a newer version of hardware or software is available at the time of installation, Contractor shall request clarification from Designer on which version is to be used.
- 2.03 Furnish only new, first-class quality materials and equipment.
- 2.04 System shall be comprised of interoperable components including, but not limited to, controller, credential sensors, and management software integrated into a common working system.
- 2.05 System administrator shall be capable of complete system back-up and full system restoration from a previously saved configuration.
- 2.06 System shall be of a distributed processing design with a fully distributed database including, but not limited to time, date, valid codes, access levels and related data so that each Controller makes access control decisions for that location. If communications with central station equipment is lost, all transactions shall be buffered until the restoration of a connection to the central station.
- 2.07 In the event of a power failure, complete system shall automatically re-initialize and “become active” to the last configuration in use with no human intervention.
- 2.08 Contractor shall be responsible for final and working system. Use of existing components and materials provided by others during new construction shall be integral to system configuration and cost-effective installation. Bidders are encouraged to use all compatible and working components in system solution. See schedule(s) and reference files for additional detail.
- 2.09 CENTRAL MANAGEMENT SOFTWARE
- A. New access control hardware shall be integrated with existing LenelS2 OnGuard open platform security software for a fully functional system.
 - B. Provide all labor to integrate new hardware into existing software.
 - C. Contractor will supply all necessary licensing and labor to integrate new door access hardware into existing LenelS2 system.
 - 1. System shall provide eight (8) additional contact closures, which when activated result in engagement of predefined door locking condition(s) to predefined zone(s).

2.10 CONTROLLER

A. Acceptable Manufacturer(s)

1. LENELS2

a. LNL-X2210

B. Door controllers shall be provided in locations at all electrified door hardware locations and as identified on drawings and door hardware schedule. Contractor shall provide one door controller for each 1 or 2-leaf opening requiring electrified door hardware as identified on Section 087100 door schedule.

C. Controllers are to be housed in a surface mounted lockable impact resistant enclosure to protect the controller and provide for cable termination and management in current centralized door controller location. Contractor shall provide all necessary plenum rated cables at both the closet and device location to the controller.

D. Contractor shall supply and install all necessary patch cables to connect equipment to network and in data closet location. Contractor shall cross connect equipment in data closet and report to Owner data closet, switch and port location for programming.

E. In identified locations where new controllers and doors are to be added. Controller(s) shall provide, but not be limited to:

1. LenelS2 Mercury hardware based to support multiple software vendor's systems.
2. Capable of supporting multiple types and styles of credential readers.

2.11 CREDENTIAL READERS

A. Where indicated on drawings, credential readers shall be provided that meet or exceed the following requirements:

1. HID - HID40NKS Smart Card Reader or mullion mount equivalent.
2. Contractor shall supply appropriately size card reader for either wall switch or mullion mounting.
3. Read Owner supplied credentials.
4. DC powered from associated Controller.
5. Response time for passage requests of 800ms.

6. Sealed weatherproof shell enclosure rated for outdoor operation.
7. Surface mounted on exterior surface of structure for external readers.
8. LED or other type of visual indicator indicating request status.
9. Audible status indicator upon user prompt.
10. Range of four inches (4”).

B. See associated supplied drawings and door schedule for location and quantity.

2.12 DOOR INTERFACE HARDWARE (INTEGRATED COMPONENTS)

A. All controllers shall be Mercury door controllers, where new door controllers are to be provided, the door interface hardware provided by others shall meet or exceed the following:

1. 12v PoE+ controller compliant strikes will be provided by others as part of Section 08700 work and shall be integrated into the door controller installation by Contractor.
2. Where new door controllers are to be provided and as indicated on provided door schedule, each door controlled by the system shall be equipped with PIR REX device where applicable and shall be integrated into the door controller installation by Contractor.
 - a. REX devices shall be Risco RK700PRPW00A
3. Where new door controllers are to be provided and as indicated on provided door schedule, each door shall be equipped with magnetic DPI sensors by Contractor and shall be integrated into the door controller installation by Contractor.
 - a. DPI sensors shall be Nascom 1178GSHK/ST
4. All door strike, REX and DPI cables shall of a sufficient length to be neatly routed by Contractor supplying material, to a location suitable to reach inside controller enclosure for door(s).

2.13 HIDDEN DOOR RELEASE SWITCHES

A. Door release switches are to be provided in locations identified on provided drawings and as indicated in supplied door schedule.

1. Door release switches shall meet or exceed the following requirements:
 - a. Alarm Controls Corp TS-18

2. Hidden door release switches shall be programmed to provide door release capabilities for doors identified on provided drawings and a specified herein. Contractors shall supply all necessary cabling, labor and accessories to integrate hidden door release switches with Contractor provided door controllers.

2.14 DOOR STATIONS

- A. A Door Station shall be provided, installed, provisioned, licensed and configured at each location indicated herein.
 1. Door stations shall be Axis A8105-E or equal.
 2. Devices shall be powered by Ethernet PoE as described herein.
 3. Sealed weatherproof shell enclosure rated for outdoor operation.
 4. Surface mounted on exterior surface of structure.
 5. See associated schedule(s) and or Drawings herein for location and quantity.

2.15 INTEGRATION

- A. Contractor provided building access equipment shall be integrated with existing Singlewire Informacast system via provided contact closure device. Lockdown triggered from within Informacast system shall place building in lockdown state desired by Owner.
- B. Provided Credential Readers/Door Controllers shall be integrated with door handicap operators where applicable. Contractor shall supply all labor and accessories to integrate Credential reader with handicap operators for a safe and fully functional system. Contractor shall work collaboratively with handicap operator installers to verify the following functionality:
 1. External operator buttons shall only be functional in the event of a successful card read or remote door unlatch. Door operator motor should only be operable in the event of a successful card read.
 2. Internal operator buttons shall be functional at all times, the door should unlock automatically.
 3. Contractor to supply all hardware necessary including accessories and installation to enable this capability
- C. Provided Credential Readers/Door Controllers shall be integrated with mag hold opens provided by others.

1. Mag hold open devices shall be released in the event of a lockdown.
2. Contractor shall supply all necessary licensing, cabling and installation to tie lockdown buttons with fire panel system to release mag hold open doors.

2.16 COMPONENT INTERCONNECTION

- A. All wiring not installed in conduit shall be plenum type cable and shall be so identified with continuous marking.
- B. Wiring color shall remain the same throughout the system. Colors used for coding shall be as directed by the system manufacturer, Owner and Designer.
- C. Wire shall be copper.
- D. Contractor shall coordinate with all relevant building trades subcontractors as well as Owner's Construction Manager to integrate and interconnect all relevant equipment, components, devices, connections and wires that may be provided by others. Refer to construction documents provided for reference.

2.17 ALLOWANCES

- A. Contractor shall include allowances for equipment and/or other contract service reimbursements as required below in base bid lump sum amount(s). Equipment and/or contract services shall be provided and sourced at Owner's discretion and convenience with full cooperation by Contractor and paid for from successful bidder's contract in the amount(s) provided for herein. Any allowance amount proving to be excessive for the intended equipment and/or contract services shall be credited to the Owner against contract payment requests.
 1. Allowance shall be made in the amount of \$10,000.00 for contract services related to supply, installation, and connection of contingency upgrades.

PART 3 - EXECUTION

3.01 PREPARATION

- A. Contractor shall conduct detailed walk-through examination with Designer and Owner verifying equipment and material locations as well as mounting and placement requirements prior to commencement of other installation activities.
- B. Contractor shall ensure all submittals and shop drawings have been provided to, and approval has been obtained from Designer prior to commencement of any final installation activities.

3.02 INSTALLATION

- A. Contractor shall be familiar with the environment where work will be done as specified herein and make every reasonable effort to minimize interference with Owner's or other contractor's activities.
- B. Work Areas shall be cleaned at the end of each day. All debris shall be cleared, removed, and disposed of in an approved container for the site. All equipment and tools shall be removed from common areas and stored in approved, secure storage locations. Any work that may impede the general use of the space and/or other contractor's work and cannot be removed shall be flagged and cordoned off by the Contractor prior to their departure.
- C. All equipment and materials shall be installed in a neat and workmanlike manner. Best practices installation principles shall be used throughout the project.
- D. The Contractor shall furnish, set in place, and install all equipment necessary for a fully compliant and operational system as specified herein. The installation process includes, but is not limited to the following:
 - 1. Inventory receipt of all components and equipment.
 - 2. Storage of all equipment and components until such time those items are installed according to the specifications.
 - 3. Transport equipment to the Owner's installation location(s).
 - 4. Assemble, install, configure, and test all equipment and components, maintaining accurate inventory records and status documents and discarding packaging.
 - 5. Collect all information necessary to accurately program all system devices to the Owner's intended use and need.
 - a. It is intended that work performed, and configurations made by contractor shall include, but is not limited to:
 - 1. All door control functionality and configurations shall be reviewed with the Owner and Designer prior to final configuration work.
 - 2. A door position switch shall be provided and installed on all new entrances and configured in the system for door position monitoring and alarming. Refer to provided door schedule for work and components that may be provided by others.
 - 3. Coordination with both hardware and scheduling to program momentary deactivation of magnetic hold opens associated with

academic wing access doors. This may be associated with normal schedules as well as special situations including, but not limited to building lockdown.

4. Lock/Unlock schedules configured for doors as desired by owner.
 6. Label all system devices as may be appropriate and required by Owner and Designer.
 7. Complete end user and system administrator training programs as specified herein.
 8. Work shall be performed to meet local codes and industry standards including proper grounding and bonding of installed equipment.
- E. Worksites include the following:
1. Early Childhood Center
100 60th Street SE
Kentwood, Michigan 49508
- F. It shall be the responsibility of the Contractor to repair or replace any damage done to the structure of finishes in the building by the Contractor. If in the course of work, Contractor damages, marks, or misplaces any surfaces or access plates/panels the Contractor shall repair and/or replace the surface, plate or panel to the original condition.
1. Final determination as to the damage condition and/or repair/replacement fitness of any surface, plate or panel shall be the sole responsibility of the Designer.
 2. The building and work area shall be returned to its original condition prior to final sign-off of the project.
- G. Following installation and system “turn-up”, but prior to final acceptance of the system, Contractor shall conduct follow-up interviews with Owner identified administrators and staff to review system functionality, suitability and confirm feature and program fitness for Owner applications.
1. Follow-up interviews shall be fully documented by Contractor and submitted to Owner for approval.

3.03 TESTING

- A. In an effort to ensure a smooth “turn-up” of the new system Contractor shall submit to a thorough testing process as defined herein prior to cut-over.

- B. Prior to requesting testing by Designer, the Contractor shall use adequate means to assure the Work is completed in accordance with the specified requirements, meets the owner's specific application requirements and is ready for functionality and integrity testing.
- C. Testing Procedures
1. Prior to system "turn-up", Contractor shall submit a written request to Designer indicating they have completed full and final configuration of the system and are ready to have system integrity and functionality tested.
 2. Within reasonable time after receipt of request, Designer will provide a test schedule and coordinate testing date(s) with Owner and Contractor.
 3. Should Designer determine the Work is not acceptably configured or not of adequate integrity:
 - a. Designer promptly will so notify Contractor, giving reasons therefore and providing sufficient details to allow Contractor to make corrective actions.
 - b. Contractor shall then expeditiously remedy the deficiencies and notify Designer in writing when ready for re-testing.
 - c. Designer will schedule re-test of the Work.
 - d. Excessive re-testing of Work may result in fees being assessed Contractor.
 4. Should Designer and Owner concur the Work is configured properly, and system integrity is as required:
 - a. Designer will review Contractors detailed "turn-up" plan, and upon finding it acceptable issue a memorandum of Testing Completion to Owner and Contractor after which system "turn-up" can proceed.

3.04 DOCUMENTATION

- A. Contractor shall, throughout the completion of the project, provide Owner a file storage system that shall include all necessary equipment, including if reasonably required, file drawers, folders, dividers, etcetera, to contain all as-built drawings, owner's manuals of all equipment installed, warranty and maintenance information and other information the Contractor, Designer and/or Owner deem necessary. Documentation shall also be provided in a digital format in file formats and on media as specified by Owner and/or Designer.

B. Contractor shall be responsible for providing thorough, timely documentation on all hardware, software. Documentation shall include, but not be limited to:

1. Equipment description.
2. Equipment make.
3. Model number.
4. Software release.
5. Date installed.
6. Manufacturer's warranty.
7. Maintenance contract terms.
8. Verification of maintenance contract engagement.
9. Telephone numbers for service and support.
10. Detailed technical support and service procedure instructions.
11. All product (hardware and software) manuals and manufacturer supplied documentation, including, but not limited to owner manuals, system administrator manuals and configuration guides. Where number of duplicate copies for particular manual or documentation item could be reasonably considered excessive, Contractor shall request direction from Owner and Designer.
12. Photocopy of original invoice listing make and model for all components and equipment from individual manufacturer(s), distribution source(s), or authorized agent(s) to establish manufacturer warranty start date for potential use after end of contract warranty provisions.
13. CAD as built drawings for each building.
14. System Configuration Report.
15. Complete inventory of installed hardware and system software. Hardware inventory shall include, but not be limited to, model numbers, serial number, physical installation location and software/firmware options.

3.05 TRAINING

A. Training shall be conducted at the Owner's discretion and at times and places convenient to Owner personnel. Prior to any training being conducted, Contractor shall provide Owner and Designer with detailed training syllabus and schedule for proposed training event. Compliant syllabus and schedule

shall be provided at least ninety-six 96 hours in advance. Owner reserves the right to postpone training if syllabus and/or schedule submitted are deemed inadequate. Training shall not be conducted until such time a syllabus and schedule submitted by Contractor are found to be acceptable to Owner.

- B. Contractor shall provide training for the Owner designated system administrator(s). Training shall be a minimum of one (1), one (1) hour session(s) in length, at the convenience of the Owner personnel, and of sufficient duration to satisfactorily complete training on all system administration functions including, but not limited to:
 - 1. Basic trouble shooting of the installed system and components including diagnostic and problem resolution actions.
 - 2. System back-up and restore functions and procedures for all system parameters and configurations.
 - 3. Review of system alerts, logs and monitoring of configuration parameters including, but not limited to, configuration changes and device status.

3.06 SCHEDULE, MEETINGS AND PLANS

A. Schedule

- 1. Post bid Interviews: Week of February 20, 2023
- 2. Contractor Chosen: Week of March 13, 2023
- 3. Work Commences: November 1, 2023
- 4. Substantial Completion of Project: March 1, 2024
- 5. Project Close-out: June 1, 2024

- B. Planned sequence of operations shall be established by the Contractor within the guidelines established by the Owner, as required herein and as required to meet schedules.
- C. All work shall be coordinated with Owner's construction manager on site.
- D. Project progress meetings shall be held, but not limited to, weekly at a site and time identified as convenient for Owner and as required herein. Meetings will be attended as required herein.

END OF SECTION

SECTION 28 20 00
VIDEO MONITORING SYSTEM

PART 1 - GENERAL

1.01 DESCRIPTION OF PROJECT

- A. Work described in this specification section pertains to a Video Monitoring System upgrade for the new Kentwood Public Schools Early Childhood Center.
- B. Contractor shall propose a System to be deployed using IEEE Ethernet technology. The system components shall be installed and connected to the owner's Ethernet infrastructure and as specified herein. System shall be of a "network" architecture using Ethernet cameras and centrally located Ethernet server(s).
 - 1. Owner will provide adequate IEEE 802.3at 10/100/1000 Ethernet switch ports for the number of devices specified herein on existing Cisco switch infrastructure.
- C. The centralized server recording equipment shall be installed in the Owner's existing district administration building Main Distribution Frame (MDF) and as required.
- D. Contractor shall advise, coordinate and work cooperatively with Owner representatives or owner's designee related to any configuration changes required and/or proposed for Owner's existing Ethernet infrastructure (VLAN configuration, QoS mapping, routing, Firewall security provisions etc.).
- E. The Contractor shall design, engineer, configure, supply, connect, test, document, train Owner representatives and warrant a fully operational and compliant network video monitoring system, complete and with full functionality as specified herein.
- F. Contractor shall coordinate their installation with other contractors, Designer and the Owner as is appropriate.

1.02 WARRANTY

- A. Complete installation shall be free from defect and/or failure for a period of Three (3) years. Any replacement, upgrade or fix, including labor for any non-conforming or non-operational part of the system shall be fixed and/or replaced at no cost to the Owner.
- B. Manufacturer's warranty shall be provided for all components of the system.

1. System integrator or local vendor warranty, without underlying manufacturer's warranty/extended warranty will not be considered an acceptable base bid.
 2. Any documents and/or submittals required by individual manufacturers for compliance with the standard and/or applicable extended warranty programs shall be provided and submitted for approval by the Contractor.
 3. Contractor shall submit all documents, apply for warranty or extended warranty certification, and provide a Certificate of Warranty or Extended Warranty as may be applicable from the manufacturer prior to project closeout.
- C. On site services provided under the warranty shall be performed by personnel or representatives of Contractor as herein defined and located within physical proximity to provide response levels deemed acceptable to Owner and without additional charge for any offending components.
- D. Contractor shall provide the following response times for all malfunctioning equipment:
1. Twenty-four (24) hours or less for matters that render twenty percent (20%) or more of the system unable to maintain normal functionality.
 2. Two (2) business days for matters not meeting the above criteria.
 3. Response time shall be measured from the time Contractor is notified by Owner to the time work is begun to resolve the matter.
- E. System Warranty shall commence on date of acceptance by Owner. Delivery to work site of materials, physical removal from packaging, issuance of Contractor documents including, but not limited to invoices and/or packing slips, or any event or documentation, not specifically provided for herein, shall have no effect on Warranty or System Acceptance by Owner and/or Designer.
- F. Bidder shall provide current annual maintenance contract pricing for recommended maintenance programs for all equipment following the specified and included period as an alternate. This information will be considered by Owner and Designer as part of the bid evaluation process.

1.03 STORAGE OF MATERIALS

- A. All materials shall be secured when not in use by the Contractor.
- B. It shall be the Contractor's responsibility to secure all equipment including material to be installed as part of the contract. No changes shall be made to the

contract due to loss or theft of equipment and/or materials not officially accepted by the Owner.

- C. Formal receipt of the materials shall not be completed by the Owner until completion of project closeout. The Contractor shall be responsible for all equipment until time of closeout as provided for herein.

1.04 SUBMITTALS

- A. Submittals shall consist of, but not be limited to, technical cut sheets and detailed information pamphlets on all components of the system to be installed. All cut sheets and submittals shall be distinctly marked to highlight the actual part number of the item being submitted for approval with Bid.
- B. Shop drawings and diagrams shall be submitted by Bidder for approval by Designer with Bid.
 - 1. Shop drawings and diagrams shall show all data relating to structural, electrical, wiring, cross connect, interconnect, equipment arrangement/layout, and any other information deemed significant by the Designer.
 - 2. No work constituting final installation shall be commenced until after approval of shop drawings by Designer.
- C. Contractor shall provide proof of manufacturer support by photocopy of certification and letter of support from major component manufacturers for this specific project with Bid.
- D. Equipment or material installed for this project that does not have an approved submittal associated with it, will be removed and replaced with acceptable equipment or material as defined by the Designer. All replacement costs including, but not limited to material and labor, shall be the sole responsibility of the Contractor.
 - 1. The Owner and/or Designer may notify Contractor of any offending situations under this provision allowing Contractor up to forty-eight (48) hours to correct the situation prior to taking other corrective action.
 - 2. The Owner reserves the right to replace unapproved materials and deduct the costs of doing so as defined herein from any amounts that may be due, or become due Contractor.
- E. The Contractor shall submit within ten (10) calendar days after the Notice to Proceed, a schedule that reflects the sequence of activities of the contractor's approach to the execution of and completion of the work. The schedule shall be broken into work areas to provide for a clear identification of the planned progress of the work. Included in the schedule will be a list of tasks with list

of deliverables and the percentage of work completed. This schedule shall coincide with progress payments applications dates and projected amounts. All durations shown will be in working days. Microsoft Project is the software of choice for this schedule. The timeframe described in the Contractor's Schedule shall represent the Contractor's plan for organizing, directing, managing, controlling, staffing and executing the work required by the Contract Documents. Owner will rely on such schedules to coordinate and otherwise plan related work of Owner personnel, other separate contractors, or the Owner's routine daily work.

1.05 REFERENCE SPECIFICATIONS

- A. All work, products, and materials shall conform with the following standards as applicable for the intended use:
 - 1. EIA/TIA Commercial and Administration Standards
 - 2. NEC
 - 3. IEEE 802
 - 4. IETF RFCs
 - 5. FCC – All Applicable Rules and Regulations
 - 6. UL
 - 7. MOSHA Safety Standards

1.06 CONTRACTOR

- A. The Contractor shall accept complete responsibility for the installation, certification and support of the system. Contractor shall be an authorized vendor of all major components.
- B. All work shall be performed and supervised by Project Managers, Engineers and/or Technicians who are qualified to install system and perform related tests as recommended by the manufacturer and in accordance with the manufacturer's best practices and methods.
- C. Project Managers, Engineers and Technicians employed on this project shall be properly and fully trained and qualified by the manufacturer on the installation and testing of the equipment and systems to be installed.
- D. The Contractor shall have a proven track record in video monitoring system configuration and installation. This must be shown by the inclusion of references of at least three (3) projects involving the installation of similar systems completed by the Contractor in the prior two (2) years on unaltered

forms with the sealed Bid as provided herein. Bid Form(s) may be duplicated as required in order to provide adequate space to list required number of reference installations for each division Bidder is responding to.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

A. Acceptable Manufacturers (In alphabetical order):

1. AXIS
2. GENETEC

2.02 Supply most current version of all products provided.

- A. Manufacturer shall have five (5) years of experience and history manufacturing similar products to those specified.
- B. Proposed components shall have been field tested and proven in actual use.
- C. Prior and/or old versions of products, unless specifically approved and documented by Designer and/or Owner shall not be acceptable.
- D. In cases where a newer version of hardware or software is available at the time of installation, Contractor shall request clarification from Designer on which version is to be used.

2.03 Furnish only new, first-class quality materials and equipment.

2.04 System shall be comprised of fully interoperable components including, but not limited to, camera licenses (which shall be installed on Owner's existing centrally located servers), Ethernet attached cameras, camera mounting brackets and housings, patch cords and all other necessary components integrated into a common working system.

2.05 CENTRAL VIDEO MONITORING CONTROL SOFTWARE

- A. Contractor shall provide and install Genetec Omnicast licensing for all provided devices and an additional ten (10) more cameras without additional software investment required (actual camera and mounting hardware cost excluded) for a fully functional system.
- B. Contractor shall integrate new camera devices into existing Genetec software installation on Owner provided servers.

2.06 CAMERAS

A. Ethernet cameras shall be provided as indicated herein. Cameras shall meet or exceed the following specified capabilities:

1. Interior Standard Camera (SC1)

- a. Axis P3268-LV
- b. Activity/motion detection
- c. 0.14 lux Min illumination/light sensitivity (Color)
- d. 0 lux Min illumination/light sensitivity (B/W)
- e. 3840 x 2160 Image Size (8MP Resolution)
- f. H.264 Compression
- g. Motion JPEG Compression
- h. 25fps Maximum Frame Rate at 5MP resolution
- i. 10/100 Ethernet (RJ-45) connector
- j. IEEE power over Ethernet 802.3at compliance
- k. Internal image memory for motion-based buffering
- l. Operating temperature range from -35 – +120 degrees Fahrenheit.
- m. Cameras shall be installed in integrated, tamper and impact resistant, environmentally controlled dome enclosure meeting or exceeding the following requirements:
 - 1. Optically correct acrylic or polycarbonate lower dome with integral UV protection.
 - 2. Dust and water protection based on EN60529 standard of IP66.
 - 3. Optically correct acrylic or polycarbonate lower dome with light loss not greater than 11.5 f-stops and integral UV protection.
 - 4. Integral sun shroud when mounted outside.
 - 5. Impact resistant with capability to withstand repeated multiple blunt impact forces up to 100 foot-pounds.

6. Camera shall include all necessary mounting hardware and accessories for a fully supported installation.
7. Contractor shall include appropriate protective cage in gym location(s).

2. Interior Multidirectional – Quad Sensor (SC2)

- a. Axis P3719-PLVE
- b. Four (4) lenses in a single camera housing with combined horizontal angle of view of 360 degrees
- c. Activity/motion detection
- d. 0.2 lux at 50 IRE F1.8 minimum illumination (Color)
- e. 15 MP, 360 degree multidirectional
- f. H.264 Compression
- g. H.265 Compression
- h. Motion JPEG Compression
- i. 25fps Maximum Frame Rate at full resolution
- j. 10/100 Ethernet (RJ-45) connector
- k. IEEE power over Ethernet (802.3at) compliance
- l. Internal image memory for motion-based buffering
- m. Operating temperature range from -22 – +112 degrees Fahrenheit.
- n. Cameras shall be installed in integrated, tamper and impact resistant, environmentally controlled dome enclosure meeting or exceeding the following requirements:
 1. Optically correct acrylic or polycarbonate lower dome with integral UV protection.
 2. Dust and water protection based on EN60529 standard of IP66.
 3. Integral sun shroud where installed outdoors

4. Available integrated enclosure or “Gooseneck” and “Corner” wall mount adapter to comply with installation either directly on exterior walls or to a single gang electrical box and as identified herein, providing 10/100/1000 PoE+ UTP connection for installed camera.
 5. Impact resistant with capability to withstand repeated multiple blunt impact forces up to 100 foot-pounds.
3. Interior/Exterior Panoramic - Identified on drawings as **SC3**
- a. Axis P3818-PVE
 - b. 180° horizontal and 90° vertical coverage
 - c. Activity/motion detection
 - d. 0.16 lux Min illumination/light sensitivity (Color)
 - e. 0.05 lux Min illumination/light sensitivity (B/W)
 - f. 5120 x 2560 max video resolution
 - g. H.264 Compression
 - h. H.265 Compression
 - i. Motion JPEG Compression
 - j. 25fps Frame Rate at full resolution in 360-degree Overview mode
 - k. 10/100 Ethernet (RJ-45) connector
 - l. IEEE power over Ethernet (802.3at) compliance
 - m. Internal image memory for motion-based buffering
 - n. Operating temperature range from -35 – 120 degrees Fahrenheit.
 - o. Cameras shall be installed in integrated, tamper and impact resistant, environmentally controlled dome enclosure meeting or exceeding the following requirements:
 1. Optically correct acrylic or polycarbonate lower dome.
 2. Dust and water protection based.

3. Integrated enclosure mount adapter to facilitate installation either directly on walls, to a ceiling or to a single gang electrical box providing 10/100/1000 PoE+ UTP connection for installed camera.
 4. Impact resistant with capability to withstand repeated multiple blunt impact forces up to 100 foot-pounds.
- B. Ethernet cameras shall properly and acceptably communicate over, and attach to, Owner's standard Ethernet communications network provided by others and be powered by use of IEEE 802.3at compliance.
- C. Cameras shall conform to and/or support the following certifications, features, standards and/or protocols:
 1. Secure network access incorporating user ID and password protection
 2. NTP
 3. SNMP
 4. FCC Part 15 Subpart B Class B
 5. Underwriters Laboratories Listed
- D. IEEE 802.3 (Ethernet) UTP eight (8) pin modular connector.
- E. Each camera shall be provided with an appropriate license for operation with the Central Video Monitoring and Control Software system and include the warranty provisions for continual operation and support for the period described herein.
- F. All cameras and/or camera enclosures shall be firmly and securely mounted to finished ceiling, wall, or other surfaces as required and/or specified herein to maximize coverage and minimize tampering potential. Bidder shall provide, in base bid, all mounting materials and labor to comply with mounting conditions documented herein.

2.07 ALLOWANCES

- A. Contractor shall include allowances for equipment and/or other contract service reimbursements as required below in base bid lump sum amount(s). Equipment and/or contract services shall be provided and sourced at Owner's discretion and convenience with full cooperation by Contractor, and paid for from successful bidder's contract in the amount(s) provided for herein. Any allowance amount proving to be excessive for the intended equipment and/or contract services shall be credited to the Owner against contract payment requests.

1. Allowance shall be made in the amount of \$5,000.00 for contract services related to renovation and configuration of necessary infrastructure upgrades at the Owner's sole discretion.

PART 3 - EXECUTION

3.01 PREPARATION

- A. Contractor shall conduct detailed walk-through examination with Designer, Construction Manager and Owner verifying equipment and material locations as well as mounting, view and placement requirements prior to commencement of other installation activities.
- B. Owner and Designer shall approve a written final installation plan provided by Contractor prior to commencement of installation activity.
- C. Contractor shall ensure all submittals and shop drawings have been provided to, and approval has been obtained from Designer prior to commencement of any final installation activities.

3.02 INSTALLATION

- A. Contractor shall be familiar with the environment where work will be done as specified herein and make every reasonable effort to minimize interference with Owner's or other contractor's activities.
- B. Work Areas shall be cleaned at the end of each day. All debris shall be cleared, removed and disposed of in an approved container for the site. All equipment and tools shall be removed from common areas and stored in approved, secure storage locations. Any work that may impede the general use of the space and/or other contractor's work and cannot be removed shall be flagged and cordoned off by the Contractor prior to their departure.
- C. All equipment and materials shall be installed in a neat and workmanlike manner. Best practices installation principles shall be used throughout the project.
- D. The Contractor shall furnish, set in place, and install all equipment necessary for a fully compliant and operational system as specified herein. The installation process includes, but is not limited to the following:
 1. Inventory receipt of all components and equipment.
 2. Storage of all equipment and components until such time those items are installed according to the specifications.
 3. Transport equipment to the Owner's installation location(s).

4. Assemble, install, configure and test all equipment and components, maintaining accurate inventory records and status documents and discarding packaging.
5. Carefully aim and focus each system camera to meet Owner's required views and focal points.
6. Collect all information necessary to accurately program all system devices to the Owner's intended use and need.
7. Label all system devices as may be appropriate and required by Owner and Designer.
 - a. Owner will provide appropriate asset tags for all cameras in the project. Contractor shall ensure the tags are permanently affixed to the cameras in/on locations coordinated with the Owner. Tag numbers along with other inventory records for the installation shall be documented as specified herein.
8. Complete end user and system administrator training programs as specified herein.
9. Work shall be performed to meet local codes and industry standards including proper grounding and bonding of installed equipment.
10. Work includes extending Ethernet from installed equipment, as required, to Owner identified connection outlets at all locations.
 - a. Work includes supply and connection of Category 6 Ethernet patch cables. Cables for some cameras may be in air plenum spaces, above finished ceilings, or in other ways require special care and suitable tools to complete.
 - b. Patch cables at camera location shall not exceed twenty-five (25) feet in length.
 - c. Patch cables at wire closets for cross connection to Owner's existing Ethernet switching infrastructure shall not be excessive in length, but be installed and routed to efficiently reach each connection point with reasonable and adequate slack for efficient "clean" access and ongoing maintenance.
 - d. Contractor shall cross connect and report back switch port locations back to Owner for programming as necessary.
 - e. Patch cables color shall be green in color.
11. Camera mounting and penetrations:

- a. Where cameras will be mounted on interior or exterior walls, Video Monitoring Contractor shall be responsible for making final penetration to extend existing data cabling or data cabling provided by Others if penetration does not exist.
- b. Where penetrations are made through fire rated walls, Contractor shall be responsible for supplying appropriate fire stop material.

E. Additional and Specific Requirements:

1. Contractor shall install all new cameras in locations indicated on appendices and detailed in related installation sections herein, and/or as directed by Owner and Designer. New equipment shall be installed and mounted to facilitate desired views and focal points.
2. Contractor shall use care and employ best industry practices to ensure mounting of new equipment is professional and appropriate.
3. Contractor shall use care and employ best industry practices to ensure installation of Owner provided repair materials, which may include, but not be limited to, ceiling tiles/pads, block/brick filler, and paint professionally and appropriately restores the surface and location vacated by prior equipment to the best possible condition.
4. Contractor shall supply and install stainless steel faceplates in all abandoned wall locations.
5. All cabling shall be removed to source including all accessories, housings, brackets and connectors.

F. Sites of Work:

1. Early Childhood Center
100 60th Street SE
Kentwood, Michigan 49508

G. It shall be the responsibility of the Contractor to repair or replace any damage done to the structure of finishes in the building by the Contractor. If in the course of work, Contractor damages, marks or misplaces any surfaces or access plates/panels the Contractor shall repair and/or replace the surface, plate or panel to the original condition.

1. Final determination as to the damage condition and/or repair/replacement fitness of any surface, plate or panel shall be the sole responsibility of the Designer.

2. The building and work area shall be returned to its original condition prior to final sign off of the project.
- H. Following installation and system “turn-up”, but prior to final acceptance of the system, Contractor shall conduct follow-up interviews with Owner identified administrators and staff to review system functionality, suitability and confirm feature and program fitness for Owner applications.
1. Follow-up interviews shall be fully documented by Contractor and submitted to Owner for approval.

3.03 TESTING

- A. In an effort to ensure a smooth “turn-up” of the new system Contractor shall submit to a thorough testing process as defined herein prior to cut-over.
- B. Prior to requesting testing by Designer, the Contractor shall use adequate means to assure the Work is completed in accordance with the specified requirements, meets the owner’s specific application requirements and is ready for functionality and integrity testing.
- C. Testing Procedures
1. Prior to system “turn-up”, Contractor shall submit a written request to Designer indicating they have completed full and final configuration of the system, and are ready to have system integrity and functionality tested.
 2. Within reasonable time after receipt of request, Designer will provide a test schedule and coordinate testing date(s) with Owner and Contractor.
 3. Should Designer determine the Work is not acceptably configured or not of adequate integrity:
 - a. Designer promptly will so notify Contractor, giving reasons therefore and providing sufficient details to allow Contractor to make corrective actions.
 - b. Contractor shall then expeditiously remedy the deficiencies and notify Designer in writing when ready for re-testing.
 - c. Designer will schedule re-test of the Work.
 - d. Excessive re-testing of Work may result in fees being assessed Contractor.
 4. Should Designer and Owner concur the Work is configured properly and system integrity is as required:

- a. Designer will review Contractors detailed “turn-up” plan, and upon finding it acceptable issue a memorandum of Testing Completion to Owner and Contractor after which system “turn-up” can proceed.

3.04 DOCUMENTATION

- A. Contractor shall, throughout the completion of the project, provide Owner a file storage system that shall include all necessary equipment, including if reasonably required, file drawers, folders, dividers, etcetera, to contain all as-built drawings, Owner manuals of all equipment installed, warranty and maintenance information and other information the Contractor, Designer and/or Owner deem necessary. Documentation shall also be provided in a digital format in file formats and on media as specified by Owner and/or Designer.
- B. Contractor shall be responsible for providing thorough, timely documentation on all hardware, software. Documentation shall include, but not be limited to:
 1. Equipment description.
 2. Equipment make.
 3. Model number.
 4. Serial Number
 5. MAC Address
 6. Asset Tag Number
 7. Software release.
 8. Date installed.
 9. Manufacturer's warranty.
 10. Maintenance contract terms.
 11. Verification of maintenance contract engagement.
 12. Telephone numbers for service and support.
 13. Detailed technical support and service procedure instructions.
 14. All product (hardware and software) manuals and manufacturer supplied documentation, including, but not limited to owner manuals, system administrator manuals and configuration guides. Where number

of duplicate copies for particular manual or documentation item could be reasonably considered excessive, Contractor shall request direction from Owner and Designer.

15. Photocopy of original invoice listing make and model for all components and equipment from individual manufacturer(s), distribution source(s), or authorized agent(s) to establish manufacturer warranty start date for potential use after end of contract warranty provisions.
16. CAD as built drawings for each building.
17. System Configuration Report.
18. Complete inventory of installed hardware and system software.

3.05 TRAINING

- A. Training shall be conducted at the Owner's discretion and at times and places convenient to Owner personnel. Prior to any training being conducted, Contractor shall provide Owner and Designer with detailed training syllabus and schedule for proposed training event. Compliant syllabus and schedule shall be provided at least ninety-six 96 hours in advance. Owner reserves the right to postpone training if syllabus and/or schedule submitted are deemed inadequate. Training shall not be conducted until such time a syllabus and schedule submitted by Contractor are found to be acceptable to Owner.
- B. Contractor shall provide User/Operator Level Training for the Owner designated system operator(s). Owner shall designate up to four (4) operators to be trained. Training shall be a minimum of one (1), two (2) hour sessions in length, at the convenience of the Owner personnel, and of sufficient duration to satisfactorily complete training on all system administration functions including, but not limited to:
 1. View live video from camera(s) identified to be of interest.
 2. View stored video from camera(s) identified to be of interest, from a range of time in history.
 3. Zoom stored video to better identify or better review visual details of portions of video of interest.
 4. Review historical video to watch a historical event such as damage to property after normal hours of operation.
- C. Contractor shall provide physical on-site training for the Owner designated system administrator(s). Owner shall designate up to Four (4) system administrators to be trained. Training shall be a minimum of one (1), four (4)

hour session(s) in length, at the convenience of the Owner personnel, and of sufficient duration to satisfactorily complete training on all system administration functions including, but not limited to:

1. Add, remove and reconfigure cameras on system.
2. Basic configuration and system administration of the installed system
3. Basic trouble shooting of the installed system and components including diagnostic and problem resolution actions.
4. System back-up and restore functions and procedures for all system parameters and configurations.
5. Review of system alerts, logs and monitoring of configuration parameters including, but not limited to, configuration changes and device status.
6. System database updates and maintenance.
7. Review standard system reports

3.06 SCHEDULE, MEETINGS AND PLANS

1. Post bid Interviews: Week of February 20, 2023
 2. Contractor Chosen: Week of March 13, 2023
 3. Work Commences: November 1, 2023
 4. Substantial Completion of Project: March 1, 2024
 5. Project Close-out: June 1, 2024
- B. Planned sequence of operations shall be established by the Contractor within the guidelines established by the Owner, as required herein and as required to meet schedules.
- C. All work shall be coordinated with Owner's construction manager on site.
- D. Project progress meetings shall be held, but not limited to, weekly at a site and time identified as convenient for Owner and as required herein. Meetings will be attended as required herein.

END OF SECTION

PROJECT NO. 21701.00
TOWNLINE EARLY CHILDHOOD CENTER - BID PACKAGE 2
KENTWOOD PUBLIC SCHOOLS

DOOR HARDWARE SCHEDULE
08 0671 - 1
10-25-2022

SECTION 08 0671 – DOOR HARDWARE SCHEDULE

PART 1 - GENERAL

RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

SUMMARY

- B. This Section references specification sections relating to commercial door hardware for the following:
1. Swinging doors.
 2. Sliding Doors.
 3. Other doors to the extent indicated.
- C. Commercial door hardware includes, but is not necessarily limited to, the following:
1. Mechanical door hardware.
 2. Electromechanical and access control door hardware.
 3. Electromechanical and access control door hardware power supplies, back-ups and surge protection.
 4. Automatic operators.
 5. Cylinders specified for doors in other sections.
- D. Related Sections:
1. Division 08 Section "Door Hardware".
 2. Division 28 Section "Access Control Hardware Devices".
- E. Codes and References: Comply with the version year adopted by the Authority Having Jurisdiction.
1. ANSI A117.1 - Accessible and Usable Buildings and Facilities.
 2. ICC/IBC - International Building Code.
 3. NFPA 70 - National Electrical Code.
 4. NFPA 80 - Fire Doors and Windows.
 5. NFPA 101 - Life Safety Code.
 6. NFPA 105 - Installation of Smoke Door Assemblies.
 7. State Building Codes, Local Amendments.
- F. Standards: Reference Related Sections for requirements regarding compliance with applicable industry standards.

SUBMITTALS

- G. Product Data: Manufacturer's product data sheets including installation details, material descriptions, dimensions of individual components and profiles, operational descriptions and finishes.
- H. Door Hardware Schedule: Prepared by or under the supervision of supplier, detailing fabrication and assembly of door hardware, as well as procedures and diagrams. Coordinate the final Door Hardware Schedule with doors, frames, and related work to ensure proper size, thickness, hand, function, and finish of door hardware.
 - 1. Format: Comply with scheduling sequence and vertical format in DHI's "Sequence and Format for the Hardware Schedule."
 - 2. Organization: Organize the Door Hardware Schedule into door hardware sets indicating complete designations of every item required for each door or opening. Organize door hardware sets in same order as in the Door Hardware Sets at the end of Part 3. Submittals that do not follow the same format and order as the Door Hardware Sets will be rejected and subject to resubmission.
 - 3. Content: Include the following information:
 - a. Type, style, function, size, label, hand, and finish of each door hardware item.
 - b. Manufacturer of each item.
 - c. Fastenings and other pertinent information.
 - d. Location of door hardware set, cross-referenced to Drawings, both on floor plans and in door and frame schedule.
 - e. Explanation of abbreviations, symbols, and codes contained in schedule.
 - f. Mounting locations for door hardware.
 - g. Door and frame sizes and materials.
 - 4. Submittal Sequence: Submit the final Door Hardware Schedule at earliest possible date, particularly where approval of the Door Hardware Schedule must precede fabrication of other work that is critical in the Project construction schedule. Include Product Data, Samples, Shop Drawings of other work affected by door hardware, and other information essential to the coordinated review of the Door Hardware Schedule.
- I. Keying Schedule: Prepared under the supervision of the Owner, separate schedule detailing final keying instructions for locksets and cylinders in writing. Include keying system explanation, door numbers, key set symbols, hardware set numbers and special instructions. Owner to approve submitted keying schedule prior to the ordering of permanent cylinders.
- J. Product Test Reports: Indicating compliance with cycle testing requirements, based on evaluation of comprehensive tests performed by manufacturer and witnessed by a qualified independent testing agency.
- K. Operating and Maintenance Manuals: Provide manufacturers operating and maintenance manuals for each item comprising the complete door hardware installation in quantity as required in Division 01, Closeout Submittals. The manual to include the name, address, and contact information of the manufacturers providing the hardware and their nearest service representatives. The final copies delivered after completion of the installation test to include "as built" modifications made during installation, checkout, and acceptance.
- L. Warranties and Maintenance: Special warranties and maintenance agreements specified in the Related Sections.

DELIVERY, STORAGE, AND HANDLING

- M. Inventory door hardware on receipt and provide secure lock-up and shelving for door hardware delivered to Project site. Do not store electronic access control hardware, software or accessories at Project site without prior authorization.
- N. Tag each item or package separately with identification related to the final Door Hardware Schedule, and include basic installation instructions with each item or package.
- O. Deliver, as applicable, permanent keys, cylinders, cores, access control credentials, software and related accessories directly to Owner via registered mail or overnight package service. Instructions for delivery to the Owner shall be established at the "Keying Conference".

WARRANTY

- P. General Warranty: Reference Division 01, General Requirements. Special warranties specified in this Article shall not deprive Owner of other rights Owner may have under other provisions of the Contract Documents and shall be in addition to, and run concurrent with, other warranties made by Contractor under requirements of the Contract Documents.

MAINTENANCE SERVICE

- Q. Maintenance Tools and Instructions: Furnish a complete set of specialized tools and maintenance instructions as needed for Owner's continued adjustment, maintenance, and removal and replacement of door hardware.

PRODUCTS

SCHEDULED DOOR HARDWARE

- R. Refer to "PART 3 – EXECUTION" for required specification sections.

EXECUTION

DOOR HARDWARE SETS

- S. The door hardware sets represent the design intent and direction of the owner and architect. They are a guideline only and should not be considered a detailed hardware schedule. Discrepancies, conflicting hardware and missing items should be brought to the attention of the architect with corrections made prior to the bidding process. Omitted items not included in a hardware set should be scheduled with the appropriate additional hardware required for proper application and functionality.
 - 1. Quantities listed are for each pair of doors, or for each single door.
 - 2. The supplier is responsible for handing and sizing all products.
 - 3. Where multiple options for a piece of hardware are given in a single line item, the supplier shall provide the appropriate application for the opening.

4. At existing openings with new hardware the supplier shall field inspect existing conditions prior to the submittal stage to verify the specified hardware will work as required. Provide alternate solutions and proposals as needed.
- T. Products listed in the hardware sets shall be supplied by and in accordance with the requirements described in the specification section as noted for each item.
1. Section 08 7100 – Door Hardware.
 2. Section 28 1500 – Access Control Hardware Devices.
- U. Manufacturer's Abbreviations:
1. MK - McKinney
 2. PE - Pemko
 3. SU - Securitron
 4. RO - Rockwood
 5. OT - Other
 6. RU - Corbin Russwin
 7. HS - HES
 8. RF - Rixson
 9. NO - Norton
 10. PN - PERSONA
 11. LU - Lund Equipment Co

Hardware Sets

Set: 1.0

Doors: 019E, 019F, 024B, 101A, 201A

1 Continuous Hinge	CFM-SLF-HD1		PE	087100	
1 Continuous Hinge	CFM-SLF-HD1 x PT		PE	087100	
1 Electric Power Transfer	CEPT-C5E	630	SU	087100	⚡
1 Removable Mullion	910KM		RU	087100	
1 IN220 Rim Exit	ED5200SN PR9134ET-IN220 BIPS	630	RU	281500	⚡
1 Exit Device (rim, exit only)	ED5200S EO M110	630	RU	087100	
1 Mortise Cylinder	CR1580 CT7D GMK	626	RU	087100	
1 Rim Cylinder	CR3580 CT7D GMK	626	RU	087100	
2 Interchangeable Core	CR8000 GMK	626	RU	087100	
2 Conc Overhead Stop	6-X36	630	RF	087100	
2 Surface Closer	J7500 x mounting plate to suit	689	NO	087100	

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KENTWOOD PUBLIC SCHOOLS**

**DOOR HARDWARE SCHEDULE
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10-25-2022**

1 Threshold	application 252x3AFG MSES25SS	PE 087100
1 Weatherstrip	- integral within construction of door and frame assembly	OT 08 4113
2 Sweep	29326CNB TKSP	PE 087100
1 ElectroLynx Harness	PoE-C1300_ (power transfer to junction box above)	MK 087100 ⚡
1 ElectroLynx Harness	PoE-C (power transfer to electric lock or exit device)	MK 087100 ⚡
1 Door Position Switch	- Provided by Security Contractor	OT 281300 ⚡
1 Wiring Diagram	Elevation and Point to Point as Specified	OT

Notes:

Doors normally closed and locked.

Presentation of valid credential at card reader momentarily unlocks electric exit device trim allowing ingress.

Door position switch to monitor / report open closed status of opening to security system.

Electric exit device touch bar equipped with request to exit switch to shunt door monitoring at egress.

Free egress at all times.

Fail-secure.

Set: 2.0

Doors: 011B, 025B, 026B

1 Continuous Hinge	CFM-SLF-HD1	PE 087100
1 Exit Device (rim, exit only)	ED5200S EO M110	630 RU 087100
1 Conc Overhead Stop	6-X36	630 RF 087100
1 Surface Closer	J7500 x mounting plate to suit application	689 NO 087100
1 Threshold	252x3AFG MSES25SS	PE 087100
1 Weatherstrip	- integral within construction of door and frame assembly	OT 08 4113
1 Sweep	29326CNB TKSP	PE 087100
1 Door Position Switch	- Provided by Security Contractor	OT 281300 ⚡
1 Wiring Diagram	Elevation and Point to Point as Specified	OT

Notes:

Door position switch to monitor / report open closed status of opening to security system.

Set: 3.0

Doors: 014B, 029, 108A, 108B, 109A, 109B, 118A, 118B, 119A, 119B, 208A, 208B, 209A, 209B, 218A, 218B, 219A, 219B

1 Continuous Hinge	CFM-SLF-HD1 x PT		PE	087100	
1 Electric Power Transfer	CEPT-C5E	630	SU	087100	⚡
1 Access Control Mort Lock	IN220-ML20234 B PSA BIPS CT7D	626	RU	281500	⚡
1 Interchangeable Core	CR8000 GMK	626	RU	087100	
1 Conc Overhead Stop	6-X36	630	RF	087100	
1 Surface Closer	J7500 x mounting plate to suit application	689	NO	087100	
1 Threshold	252x3AFG MSES25SS		PE	087100	
1 Weatherstrip	- integral within construction of door and frame assembly		OT	08 4113	
1 Sweep	29326CNB TKSP		PE	087100	
1 ElectroLynx Harness	PoE-C1300_ (power transfer to junction box above)		MK	087100	⚡
1 ElectroLynx Harness	PoE-C (power transfer to electric lock or exit device)		MK	087100	⚡
1 Wiring Diagram	Elevation and Point to Point as Specified		OT		

Notes:

Door normally closed and locked.
Presentation of valid credential at card reader momentarily unlocks electric lock allowing ingress.
Door position switch to monitor / report open closed status of opening to security system.
Inside lever of electric lock equipped with request to exit switch to shunt door monitoring at egress.
Free egress at all times.
Fail-secure.

Set: 4.0

Doors: 000C

1 Continuous Hinge	CFM-SLF-HD1		PE	087100	
1 Exit Device (rim, exit only)	ED5200S EO M110	630	RU	087100	
1 Electric Strike	9700	630	HS	087100	⚡
1 SMART Pac Bridge Rectifier	2005M3		HS	087100	⚡
1 Vandal Resistant Trim	VRT22	US32D	RO	087100	

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1 Conc Overhead Stop	6-X36	630	RF	087100	
1 Surface Closer	J7500 x mounting plate to suit application	689	NO	087100	
1 Threshold	252x3AFG MSES25SS		PE	087100	
1 Weatherstrip	- integral within construction of door and frame assembly		OT	08 4113	
1 Sweep	29326CNB TKSP		PE	087100	
1 ElectroLynx Harness	QC-C1500P (power transfer or electric strike to junction box above)		MK	087100	⚡
1 Door Position Switch	- Provided by Security Contractor		OT	281300	⚡
1 Power Supply	- Provided by Security Contractor		OT	281300	⚡
1 Wiring Diagram	Elevation and Point to Point as Specified		OT		

Notes:

Door to be on lock unlock schedule per the buildings access control system.
Door position switch to monitor / report open closed status of opening to security system.
Free egress at all times.
Fail-secure.

Set: 5.0

Doors: 000A, 020A

2 Continuous Hinge	CFM-SLF-HD1		PE	087100	
1 Fixed Mullion	- Provided with Aluminum Frame	AL	OT	084126	
1 Nightlatch	ED5200S K157ET x LC M110	630	RU	087100	
1 Exit Device (rim, exit only)	ED5200S EO M110	630	RU	087100	
1 Rim Cylinder	CR3580 CT7D GMK	626	RU	087100	
1 Interchangeable Core	CR8000 GMK	626	RU	087100	
1 Electric Strike	9700-LBM	630	HS	087100	⚡
1 SMART Pac Bridge Rectifier	2005M3		HS	087100	⚡
1 Vandal Resistant Trim	VRT22 C	US32D	RO	087100	
2 Conc Overhead Stop	6-X36	630	RF	087100	
1 Surface Closer	J7500 x mounting plate to suit application	689	NO	087100	
1 Automatic Opener	6021 / 6031 x D - confirm head detail	689	NO	087100	⚡
1 Threshold	252x3AFG MSES25SS		PE	087100	
1 Weatherstrip	- integral within construction of door and frame assembly		OT	08 4113	

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2 Sweep	29326CNB TKSP	PE 087100	
2 ElectroLynx Harness	QC-C1500P (power transfer or electric strike to junction box above)	MK 087100	⚡
1 Door Switch	504 - vestibule mount	NO 087100	⚡
1 Door Switch	505 - wall mount	NO 087100	⚡
2 Door Position Switch	- Provided by Security Contractor	OT 281300	⚡
1 Power Supply	- Provided by Security Contractor	OT 281300	⚡
1 Wiring Diagram	Elevation and Point to Point as Specified	OT	

Notes:

Door to be on lock unlock schedule per the buildings access control system.
Door position switch to monitor / report open closed status of opening to security system.
Free egress at all times.
Fail-secure.

Automatic operator by actuator.

Rough-in for future card reader

Set: 6.0

Doors: 101B, 201B

2 Continuous Hinge	CFM-SLF-HD1	PE 087100	
2 Dummy Bar, Exit Only	ED5000DB EO	630 RU 087100	
2 Vandal Resistant Trim	VRT22	US32D RO 087100	
2 Conc Overhead Stop	6-X36	630 RF 087100	
2 Surface Closer	J7500 x mounting plate to suit application	689 NO 087100	

Set: 7.0

Doors: 020B

2 Continuous Hinge	CFM-SLF-HD1	PE 087100	
2 Dummy Bar, Exit Only	ED5000DB EO	630 RU 087100	
2 Vandal Resistant Trim	VRT22	US32D RO 087100	
2 Conc Overhead Stop	6-X36	630 RF 087100	

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**DOOR HARDWARE SCHEDULE
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1 Surface Closer	J7500 x mounting plate to suit application	689	NO 087100	
1 Automatic Opener	6021 / 6031 x D - confirm head detail	689	NO 087100	⚡
1 Door Switch	505 - wall mount		NO 087100	⚡

Notes:

Automatic operator by actuator.

Set: 8.0

Doors: 000B

2 Continuous Hinge	CFM-SLF-HD1		PE 087100	
1 Fixed Mullion	- Provided with Aluminum Frame	AL	OT 084126	
1 Nightlatch	ED5200S K157ET x LC M110	630	RU 087100	
1 Exit Device (rim, exit only)	ED5200S EO M110	630	RU 087100	
1 Rim Cylinder	CR3580 CT7D GMK	626	RU 087100	
1 Interchangeable Core	CR8000 GMK	626	RU 087100	
1 Electric Strike	9700-LBM	630	HS 087100	⚡
1 SMART Pac Bridge Rectifier	2005M3		HS 087100	⚡
1 Vandal Resistant Trim	VRT22 C	US32D	RO 087100	
2 Conc Overhead Stop	6-X36	630	RF 087100	
1 Surface Closer	J7500 x mounting plate to suit application	689	NO 087100	
1 Automatic Opener	6021 / 6031 x D - confirm head detail	689	NO 087100	⚡
2 ElectroLynx Harness	QC-C1500P (power transfer or electric strike to junction box above)		MK 087100	⚡
1 Door Switch	505 - wall mount		NO 087100	⚡
1 Intercom	- Provided by Security Contractor		OT 281300	
2 Door Position Switch	- Provided by Security Contractor		OT 281300	⚡
1 Card Reader	- Provided by Security Contractor		OT 281300	⚡
1 Power Supply	- Provided by Security Contractor		OT 281300	⚡
1 Wiring Diagram	Elevation and Point to Point as Specified		OT	

Notes:

Door to be normally closed and locked.

Presentation of valid credential at card reader, or intercom unlocks electric strike allowing ingress.
Door position switch to monitor / report open closed status of opening to security system.
Free egress at all times.
Fail-secure.

Automatic operator by actuator.

Set: 9.0

Doors: 001

6 Hinge, Full Mortise, Hvy Wt	T4A3786	US26D	MK 087100	
1 Rim Exit Device, Nightlatch	ED5200S PR957ET M110	630	RU 087100	
1 Exit Device (rim, exit only)	ED5200S EO M110	630	RU 087100	
1 Rim Cylinder	CR3580 CT7D GMK	626	RU 087100	
1 Interchangeable Core	CR8000 GMK	626	RU 087100	
1 Electric Strike	9700-LBM	630	HS 087100	⚡
1 SMART Pac Bridge Rectifier	2005M3		HS 087100	⚡
1 Surface Closer	CPS7500	689	NO 087100	
1 Automatic Opener	6061 / 6071 x D - confirm head detail	689	NO 087100	⚡
2 Kick Plate	K1050 10" high CSK BEV	US32D	RO 087100	
2 Silencer	608 / 609		RO 087100	
1 ElectroLynx Harness	QC-C1500P (power transfer or electric strike to junction box above)		MK 087100	⚡
2 Door Switch	505 - wall mount		NO 087100	⚡
1 Card Reader	- Provided by Security Contractor		OT 281300	⚡
1 Power Supply	- Provided by Security Contractor		OT 281300	⚡
1 Wiring Diagram	Elevation and Point to Point as Specified		OT	

Notes:

Door to be normally closed and locked.
Presentation of valid credential at card reader, unlocks electric strike allowing ingress.
Door position switch to monitor / report open closed status of opening to security system.
Free egress at all times.

Fail-secure.

Automatic operator by actuator.

Set: 10.0

Doors: 019A, 019D

3 Hinge, Full Mortise, Hvy Wt	T4A3786	US26D	MK 087100	
1 Electric Power Transfer	CEPT-C5E	630	SU 087100	⚡
1 IN220 Rim Exit	ED5200N PR9134ET-IN220 BIPS	630	RU 281500	⚡
1 Rim Cylinder	CR3580 CT7D GMK	626	RU 087100	
1 Interchangeable Core	CR8000 GMK	626	RU 087100	
1 Surface Closer	PR7500	689	NO 087100	
1 Kick Plate	K1050 10" high CSK BEV	US32D	RO 087100	
1 Wall Stop	406 / 409	US32D	RO 087100	
3 Silencer	608 / 609		RO 087100	
1 ElectroLynx Harness	PoE-C1300_ (power transfer to junction box above)		MK 087100	⚡
1 ElectroLynx Harness	PoE-C (power transfer to electric lock or exit device)		MK 087100	⚡
1 Wiring Diagram	Elevation and Point to Point as Specified		OT	

Notes:

Door normally closed and locked.

Presentation of valid credential at card reader momentarily unlocks electric exit device trim allowing ingress.

Door position switch to monitor / report open closed status of opening to security system.

Electric exit device touch bar equipped with request to exit switch to shunt door monitoring at egress.

Free egress at all times.

Fail-secure.

Set: 11.0

Doors: 015

3 Hinge, Full Mortise, Hvy Wt	T4A3786	US26D	MK 087100	
1 Electric Power Transfer	CEPT-C5E	630	SU 087100	⚡
1 IN220 Fire Rated Rim Exit	ED5200AN B PR9134ET-IN220 BIPS	630	RU 281500	⚡
1 Rim Cylinder	CR3580 CT7D GMK	626	RU 087100	
1 Interchangeable Core	CR8000 GMK	626	RU 087100	

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KENTWOOD PUBLIC SCHOOLS**

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1 Surface Closer	PR7500	689	NO	087100	
1 Kick Plate	K1050 10" high CSK BEV	US32D	RO	087100	
1 Wall Stop	406 / 409	US32D	RO	087100	
1 Gasketing	S88BL		PE	087100	
1 ElectroLynx Harness	PoE-C1300_ (power transfer to junction box above)		MK	087100	⚡
1 ElectroLynx Harness	PoE-C (power transfer to electric lock or exit device)		MK	087100	⚡
1 Wiring Diagram	Elevation and Point to Point as Specified		OT		

Notes:

Door normally closed and locked.

Presentation of valid credential at card reader momentarily unlocks electric exit device trim allowing ingress.

Door position switch to monitor / report open closed status of opening to security system.

Electric exit device touch bar equipped with request to exit switch to shunt door monitoring at egress.

Free egress at all times.

Fail-secure.

Set: 12.0

Doors: 100, 200

6 Hinge, Full Mortise, Hvy Wt	T4A3786	US26D	MK	087100	
1 Electric Power Transfer	CEPT-C5E	630	SU	087100	⚡
1 IN220 Rim Exit	ED5200N PR9134ET-IN220 BIPS	630	RU	281500	⚡
1 Rim Exit Device, Exit Only	ED5200 EO M110	630	RU	087100	
1 Rim Cylinder	CR3580 CT7D GMK	626	RU	087100	
1 Interchangeable Core	CR8000 GMK	626	RU	087100	
2 Surface Closer	PR7500	689	NO	087100	
2 Wall Stop	406 / 409	US32D	RO	087100	
2 Silencer	608 / 609		RO	087100	
1 ElectroLynx Harness	PoE-C1300_ (power transfer to junction box above)		MK	087100	⚡
1 ElectroLynx Harness	PoE-C (power transfer to electric lock or exit device)		MK	087100	⚡
1 Wiring Diagram	Elevation and Point to Point as Specified		OT		

Notes:

Doors normally closed and locked (lock / unlock scheduled by access control system).

Presentation of valid credential at card reader momentarily unlocks electric exit device trim allowing ingress.
Door position switch to monitor / report open closed status of opening to security system.
Electric exit device touch bar equipped with request to exit switch to shunt door monitoring at egress.
Free egress at all times.
Fail-secure.

Set: 13.0

Doors: 014A, 024A

6 Hinge, Full Mortise, Hvy Wt	T4A3786	US26D	MK 087100
1 Removable Mullion	910KM		RU 087100
2 Rim Exit Device, Passage	ED5200 PR910ET M110	630	RU 087100
2 Surface Closer	7500 - pull side mount	689	NO 087100
2 Kick Plate	K1050 10" high CSK BEV	US32D	RO 087100
2 Surface OH Stop/Holder	10-x26	689	RF 087100
2 Silencer	608 / 609		RO 087100

Set: 14.0

Doors: 006, 007

3 Hinge, Full Mortise	TA2714	US26D	MK 087100
1 Electric Power Transfer	CEPT-C5E	630	SU 087100 ⚡
1 Access Control Mort Lock	IN220-ML20234 B PSA BIPS CT7D	626	RU 281500 ⚡
1 Interchangeable Core	CR8000 GMK	626	RU 087100
1 Wall Stop	406 / 409	US32D	RO 087100
3 Silencer	608 / 609		RO 087100
1 ElectroLynx Harness	PoE-C1300_ (power transfer to junction box above)		MK 087100 ⚡
1 ElectroLynx Harness	PoE-C (power transfer to electric lock or exit device)		MK 087100 ⚡
1 Wiring Diagram	Elevation and Point to Point as Specified		OT

Notes:

Door normally closed and locked.
Presentation of valid credential at card reader momentarily unlocks electric lock allowing ingress.
Door position switch to monitor / report open closed status of opening to security system.
Inside lever of electric lock equipped with request to exit switch to shunt door monitoring at egress.
Free egress at all times.
Fail-secure.

Set: 15.0

Doors: 018, 028

6 Hinge, Full Mortise, Hvy Wt	T4A3786	US26D MK 087100
1 Electric Power Transfer	CEPT-C5E	630 SU 087100 ⚡
1 Flush Bolt	2805 / 2905	US26D RO 087100
1 Access Control Mort Lock	IN220-ML20234 B PSA BIPS CT7D	626 RU 281500 ⚡
1 Interchangeable Core	CR8000 GMK	626 RU 087100
1 Surface Closer	PR7500	689 NO 087100
2 Kick Plate	K1050 10" high CSK BEV	US32D RO 087100
2 Wall Stop	406 / 409	US32D RO 087100
2 Silencer	608 / 609	RO 087100
1 ElectroLynx Harness	PoE-C1300_ (power transfer to junction box above)	MK 087100 ⚡
1 ElectroLynx Harness	PoE-C (power transfer to electric lock or exit device)	MK 087100 ⚡
1 Wiring Diagram	Elevation and Point to Point as Specified	OT

Notes:

Door normally closed and locked.
Presentation of valid credential at card reader momentarily unlocks electric lock allowing ingress.
Door position switch to monitor / report open closed status of opening to security system.
Inside lever of electric lock equipped with request to exit switch to shunt door monitoring at egress.
Free egress at all times.
Fail-secure.

Set: 16.0

Doors: 004B, 102, 103, 104A, 104B, 105A, 105B, 110, 111, 112, 113, 114A, 114B, 115A, 115B, 120, 121, 202, 203, 204A, 204B, 205A, 205B, 210, 211, 212, 213, 214A, 214B, 215A, 215B, 220, 221

3 Hinge, Full Mortise, Hvy Wt	T4A3786	US26D MK 087100
1 Electric Power Transfer	CEPT-C5E	630 SU 087100 ⚡
1 Access Control Mort Lock	IN220-ML20234 B PSA BIPS CT7D	626 RU 281500 ⚡
1 Interchangeable Core	CR8000 GMK	626 RU 087100
1 Kick Plate	K1050 10" high CSK BEV	US32D RO 087100

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1 Wall Stop	406 / 409	US32D RO 087100
3 Silencer	608 / 609	RO 087100
1 ElectroLynx Harness	PoE-C1300_ (power transfer to junction box above)	MK 087100 ⚡
1 ElectroLynx Harness	PoE-C (power transfer to electric lock or exit device)	MK 087100 ⚡
1 Wiring Diagram	Elevation and Point to Point as Specified	OT

Notes:

Door normally closed and locked.
Presentation of valid credential at card reader momentarily unlocks electric lock allowing ingress.
Door position switch to monitor / report open closed status of opening to security system.
Inside lever of electric lock equipped with request to exit switch to shunt door monitoring at egress.
Free egress at all times.
Fail-secure.

Set: 17.0

Doors: 004A, 011A, 017, 022, 027

3 Hinge, Full Mortise, Hvy Wt	T4A3786	US26D MK 087100
1 Electric Power Transfer	CEPT-C5E	630 SU 087100 ⚡
1 Access Control Mort Lock	IN220-ML20234 B PSA BIPS CT7D	626 RU 281500 ⚡
1 Interchangeable Core	CR8000 GMK	626 RU 087100
1 Surface Closer	7500 - pull side mount	689 NO 087100
1 Kick Plate	K1050 10" high CSK BEV	US32D RO 087100
1 Wall Stop	406 / 409	US32D RO 087100
3 Silencer	608 / 609	RO 087100
1 ElectroLynx Harness	PoE-C1300_ (power transfer to junction box above)	MK 087100 ⚡
1 ElectroLynx Harness	PoE-C (power transfer to electric lock or exit device)	MK 087100 ⚡
1 Wiring Diagram	Elevation and Point to Point as Specified	OT

Notes:

Door normally closed and locked.
Presentation of valid credential at card reader momentarily unlocks electric lock allowing ingress.

Door position switch to monitor / report open closed status of opening to security system.
Inside lever of electric lock equipped with request to exit switch to shunt door monitoring at egress.
Free egress at all times.
Fail-secure.

Set: 18.0

Doors: 002, 003A, 003B

3 Hinge, Full Mortise, Hvy Wt	T4A3786	US26D	MK 087100	
1 Electric Power Transfer	CEPT-C5E	630	SU 087100	⚡
1 Access Control Mort Lock	IN220-ML20234 B PSA BIPS CT7D	626	RU 281500	⚡
1 Interchangeable Core	CR8000 GMK	626	RU 087100	
1 Surface Closer	PR7500	689	NO 087100	
1 Kick Plate	K1050 10" high CSK BEV	US32D	RO 087100	
1 Wall Stop	406 / 409	US32D	RO 087100	
3 Silencer	608 / 609		RO 087100	
1 ElectroLynx Harness	PoE-C1300_ (power transfer to junction box above)		MK 087100	⚡
1 ElectroLynx Harness	PoE-C (power transfer to electric lock or exit device)		MK 087100	⚡
1 Wiring Diagram	Elevation and Point to Point as Specified		OT	

Notes:

Door normally closed and locked.
Presentation of valid credential at card reader momentarily unlocks electric lock allowing ingress.
Door position switch to monitor / report open closed status of opening to security system.
Inside lever of electric lock equipped with request to exit switch to shunt door monitoring at egress.
Free egress at all times.
Fail-secure.

Set: 19.0

Doors: 009, 016A, 016B, 019S, 025A, 026A, 101E, 101S, 201E, 201S

3 Hinge, Full Mortise, Hvy Wt	T4A3786	US26D	MK 087100	
1 Electric Power Transfer	CEPT-C5E	630	SU 087100	⚡
1 Access Control Mort Lock	IN220-ML20234 B PSA BIPS	626	RU 281500	⚡

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	CT7D		
1 Interchangeable Core	CR8000 GMK	626	RU 087100
1 Surface Closer	7500 - pull side mount	689	NO 087100
1 Kick Plate	K1050 10" high CSK BEV	US32D	RO 087100
1 Wall Stop	406 / 409	US32D	RO 087100
1 Gasketing	S88BL		PE 087100
1 ElectroLynx Harness	PoE-C1300_ (power transfer to junction box above)	MK 087100	⚡
1 ElectroLynx Harness	PoE-C (power transfer to electric lock or exit device)	MK 087100	⚡
1 Wiring Diagram	Elevation and Point to Point as Specified	OT	

Notes:

Door normally closed and locked.
Presentation of valid credential at card reader momentarily unlocks electric lock allowing ingress.
Door position switch to monitor / report open closed status of opening to security system.
Inside lever of electric lock equipped with request to exit switch to shunt door monitoring at egress.
Free egress at all times.
Fail-secure.

Set: 20.0

Doors: 015T

3 Hinge, Full Mortise, Hvy Wt	T4A3786	US26D	MK 087100
1 Electric Power Transfer	CEPT-C5E	630	SU 087100 ⚡
1 Access Control Mort Lock	IN220-ML20234 B PSA BIPS CT7D	626	RU 281500 ⚡
1 Interchangeable Core	CR8000 GMK	626	RU 087100
1 Surface Closer	CPS7500	689	NO 087100
1 Kick Plate	K1050 10" high CSK BEV	US32D	RO 087100
1 Gasketing	S88BL		PE 087100
1 ElectroLynx Harness	PoE-C1300_ (power transfer to junction box above)	MK 087100	⚡
1 ElectroLynx Harness	PoE-C (power transfer to electric lock or exit device)	MK 087100	⚡
1 Wiring Diagram	Elevation and Point to Point as Specified	OT	

Notes:

Door normally closed and locked.
Presentation of valid credential at card reader momentarily unlocks electric lock allowing ingress.
Door position switch to monitor / report open closed status of opening to security system.
Inside lever of electric lock equipped with request to exit switch to shunt door monitoring at egress.
Free egress at all times.
Fail-secure.

Set: 21.0

Doors: 005

3 Hinge, Full Mortise	TA2714	US26D MK 087100
1 Passage Latch	ML2010 PSA	626 RU 087100
1 Wall Stop	406 / 409	US32D RO 087100
3 Silencer	608 / 609	RO 087100

Set: 22.0

Doors: 004T

3 Hinge, Full Mortise, Hvy Wt	T4A3786	US26D MK 087100
1 Privacy Lock	ML2060 PSA M34 V21	626 RU 087100
1 Kick Plate	K1050 10" high CSK BEV	US32D RO 087100
1 Wall Stop	406 / 409	US32D RO 087100
3 Silencer	608 / 609	RO 087100
1 Coat Hook	796	US26D RO 087100

Set: 23.0

Doors: 008, 012, 100T, 200T

3 Hinge, Full Mortise, Hvy Wt	T4A3786	US26D MK 087100
1 Privacy Lock	ML2060 PSA M34 V21	626 RU 087100
1 Surface Closer	7500 - pull side mount	689 NO 087100
1 Kick Plate	K1050 10" high CSK BEV	US32D RO 087100
1 Wall Stop	406 / 409	US32D RO 087100
3 Silencer	608 / 609	RO 087100
1 Coat Hook	796	US26D RO 087100

Set: 24.0

Doors: 013, 023

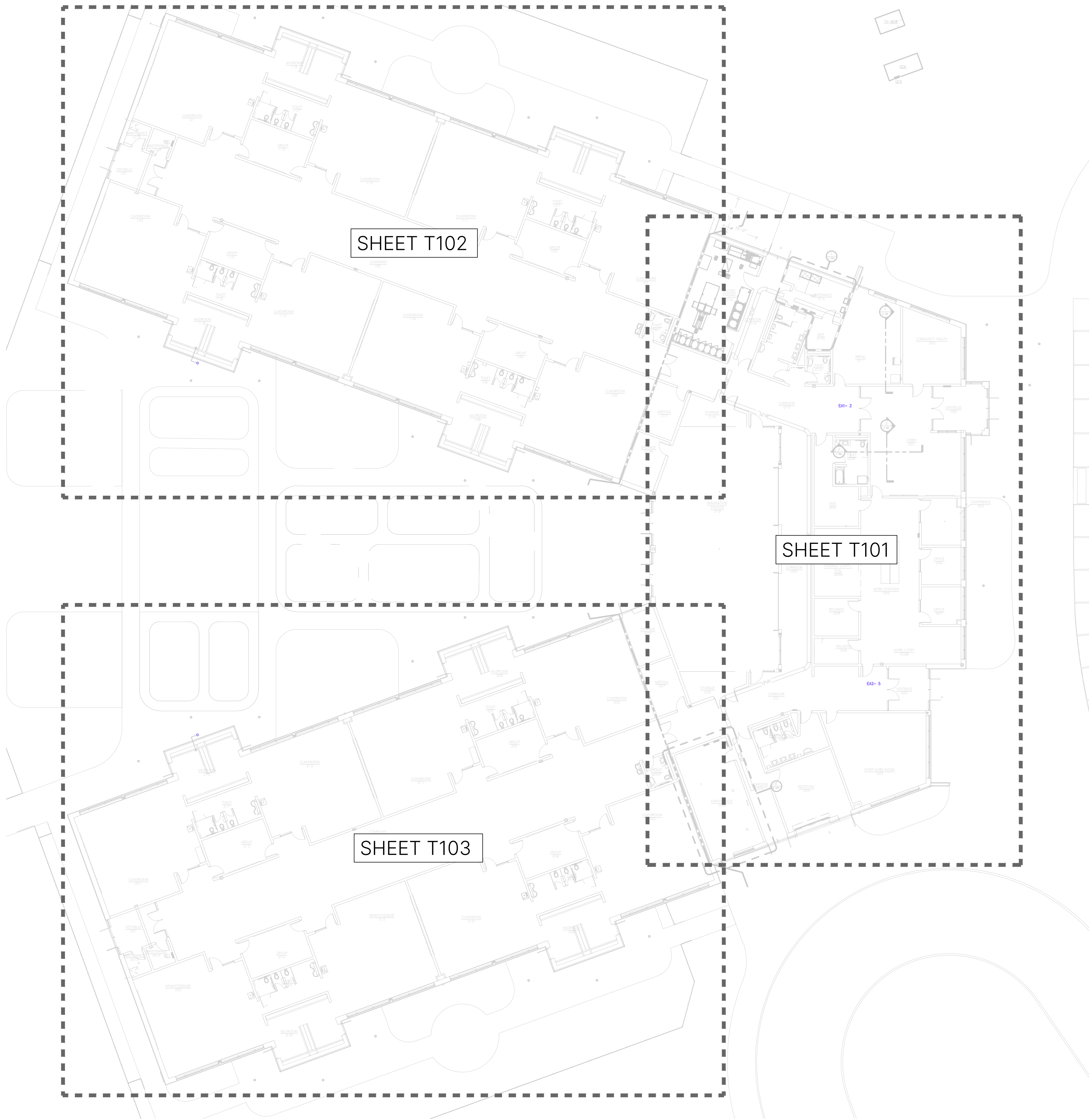
3 Hinge, Full Mortise, Hvy Wt	T4A3786	US26D MK 087100
1 Deadbolt	DL4117 CT7D	626 RU 087100
1 Interchangeable Core	CR8000 GMK	626 RU 087100
1 Push Plate	70C-RKW	US32D RO 087100
1 Pull Plate	BF 111x70B	US32D RO 087100
1 Surface Closer	7500 - pull side mount	689 NO 087100
1 Kick Plate	K1050 10" high CSK BEV	US32D RO 087100
1 Wall Stop	406 / 409	US32D RO 087100
3 Silencer	608 / 609	RO 087100

Set: 25.0

Doors: MISC

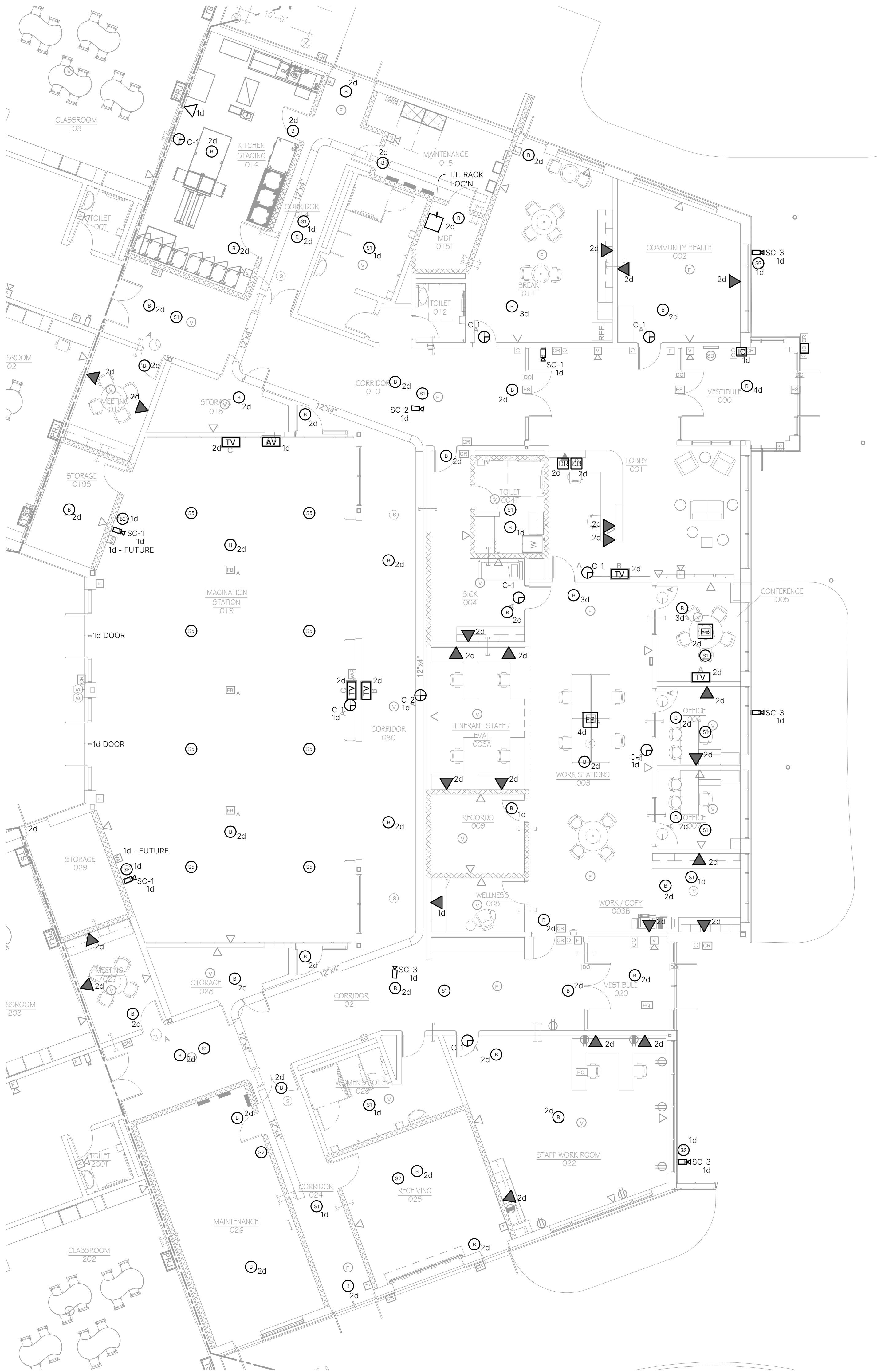
1 Repair Kit	QC-R001	MK 087100 ⚡
1 Kit	WFCD1	PN 281300
1 Data Hinge Tester	DHTA	PN 087100
1 Crimp Tool	QC-R003	MK 087100 ⚡
1 Key Cabinet	1200 Series x Mounting Brackets & Capacity As Required	LU

END OF SECTION 08 0671



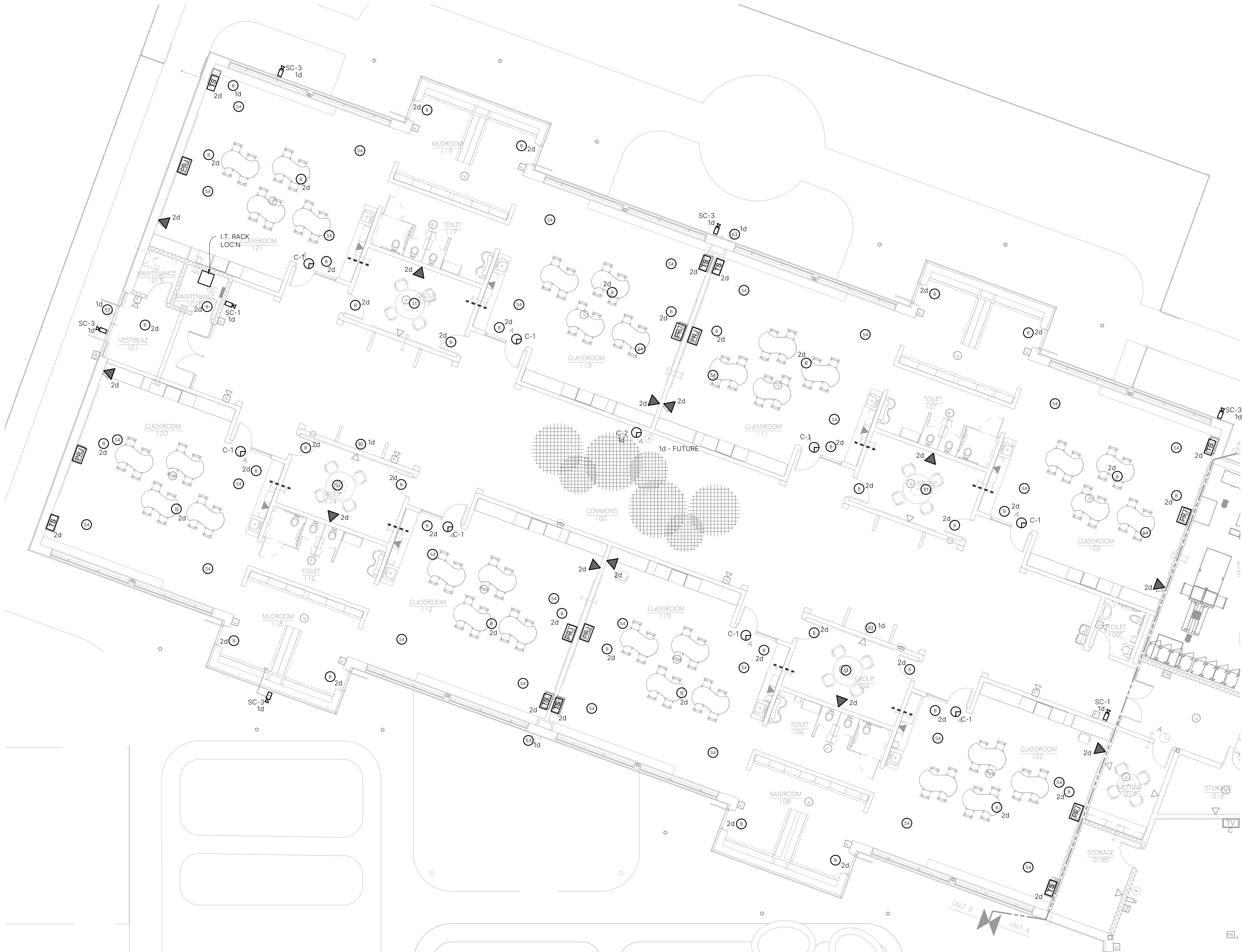
COMMUNICATIONS SYMBOL LEGEND	
	DATA JACK - SEE PLAN FOR # OF DROPS
	WALL PHONE JACK - SEE PLAN FOR # OF DROPS
	FLOOR BOX - SEE PLAN FOR # OF DROPS
	WIRELESS ACCESS POINT - DEVICES (BY OTHERS) ON BISCUIT JACK ABOVE CEILING OR ON WALL IF NOTED
	MONITOR - SEE PLAN FOR SIZE
	TEACHER STATION
	CEILING MOUNTED PROJECTOR - SHORT THROW
	VISUAL ALERTER
	AUDIO/VIDEO EQUIPMENT RACK
	INTERMEDIATE DISTRIBUTION FRAME
	DOOR BUZZER
	LOCKDOWN BUTTON
	CARD READER - WALL PLATE OR MULLION STYLE
	MONITOR ROUGH IN - LOW VOLTAGE (ART. = ARTICULATING UNIT)
	DOOR RELEASE SWITCH
	'PUSH TO ENTER' BUTTON
	TOUCH PANEL
	ELECTRIC STRIKE or ELECTRIC LATCH
	SINGLE LENS - WALL OR CEILING MOUNTED
	MULTIDIRECTIONAL QUAD LENS - WALL OR CEILING MOUNTED
	EXTERIOR PANORAMIC - WALL OR CEILING MOUNTED
	C-1 SINGLE-SIDED DIGITAL CLOCK / SPEAKER
	C-2 DOUBLE-SIDED DIGITAL CLOCK / SPEAKER
	BISCUIT JACK
	2x2 PAGING SPEAKER w/ FLASHER
	SURFACE MOUNTED PAGING SPEAKER
	EXTERIOR HORN
	CLASSROOM IN-CEILING AUDIO SPEAKER
	GROSS MOTOR PENDANT SPEAKERS
	(1) 2" ø SLEEVES IN WALL (ABOVE CEILING)
NOTES	
1. COORDINATE LOCATION OF ALL DEVICES WITH ARCHITECTURAL & ELECTRICAL DRAWINGS BY OTHERS. 2. WHERE APPLICABLE, COORDINATE THE RELOCATION OF EXISTING DEVICES WITH DEMOLITION PLAN. 3. INTEGRATE MAGNETIC HOLD OPEN DEVICES WITH LOCK DOWN BUTTONS.	

OVERALL FLOOR PLAN
1/16" = 1'-0"



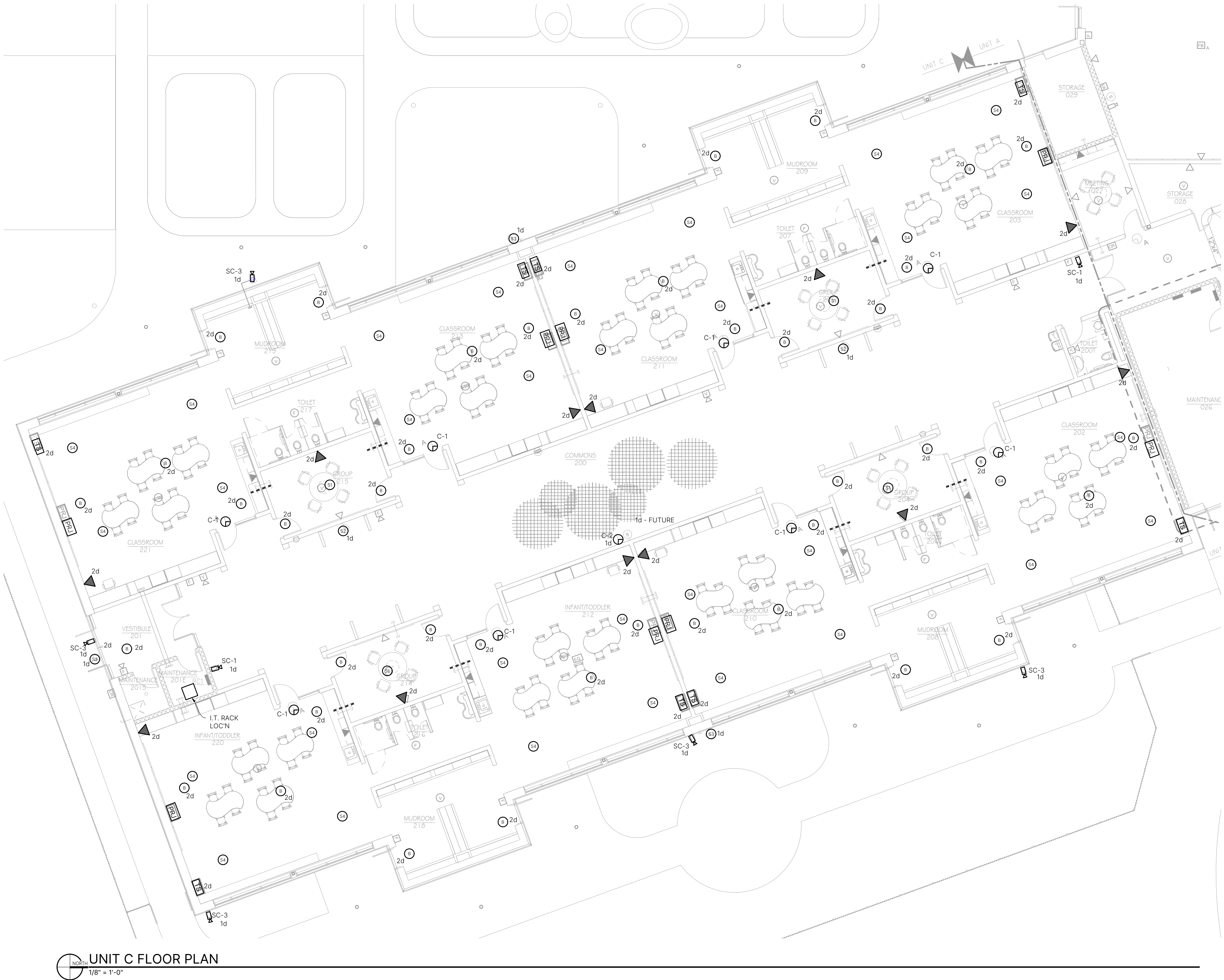
UNIT A FLOOR PLAN
1/8" = 1'-0"

COMMUNICATIONS SYMBOL LEGEND	
	DATA JACK - SEE PLAN FOR # OF DROPS
	WALL PHONE JACK - SEE PLAN FOR # OF DROPS
	FLOOR BOX - SEE PLAN FOR # OF DROPS
	WIRELESS ACCESS POINT - DEVICES (BY OTHERS) ON BISCUIT JACK ABOVE CEILING OR ON WALL IF NOTED
	MONITOR - SEE PLAN FOR SIZE
	TEACHER STATION
	CEILING MOUNTED PROJECTOR - SHORT THROW
	VISUAL ALERTER
	AUDIO/VIDEO EQUIPMENT RACK
	INTERMEDIATE DISTRIBUTION FRAME
	DOOR BUZZER
	LOCKDOWN BUTTON
	CARD READER - WALL PLATE OR MULLION STYLE
	MONITOR ROUGH IN - LOW VOLTAGE (ART. = ARTICULATING UNIT)
	DOOR RELEASE SWITCH
	'PUSH TO ENTER' BUTTON
	TOUCH PANEL
	ELECTRIC STRIKE or ELECTRIC LATCH
	SC-1 SINGLE LENS - WALL OR CEILING MOUNTED
	SC-2 MULTIDIRECTIONAL QUAD LENS - WALL OR CEILING MOUNTED
	SC-3 EXTERIOR PANORAMIC - WALL OR CEILING MOUNTED
	C-1 SINGLE-SIDED DIGITAL CLOCK / SPEAKER
	C-2 DOUBLE-SIDED DIGITAL CLOCK / SPEAKER
	BISCUIT JACK
	2x2 PAGING SPEAKER w/ FLASHER
	SURFACE MOUNTED PAGING SPEAKER
	EXTERIOR HORN
	CLASSROOM IN-CEILING AUDIO SPEAKER
	GROSS MOTOR PENDANT SPEAKERS
	(1) 2" ø SLEEVES IN WALL (ABOVE CEILING)
NOTES	
1. COORDINATE LOCATION OF ALL DEVICES WITH ARCHITECTURAL & ELECTRICAL DRAWINGS BY OTHERS. 2. WHERE APPLICABLE, COORDINATE THE RELOCATION OF EXISTING DEVICES WITH DEMOLITION PLAN. 3. INTEGRATE MAGNETIC HOLD OPEN DEVICES WITH LOCK DOWN BUTTONS.	



UNIT B FLOOR PLAN
1/8" = 1'-0"

COMMUNICATIONS SYMBOL LEGEND	
	DATA JACK - SEE PLAN FOR # OF DROPS
	WALL PHONE JACK - SEE PLAN FOR # OF DROPS
	FLOOR BOX - SEE PLAN FOR # OF DROPS
	WIRELESS ACCESS POINT - DEVICES (BY OTHERS) ON BISCUIT JACK ABOVE CEILING OR ON WALL IF NOTED
	MONITOR - SEE PLAN FOR SIZE
	TEACHER STATION
	CEILING MOUNTED PROJECTOR - SHORT THROW
	VISUAL ALERTER
	AUDIO/VIDEO EQUIPMENT RACK
	INTERMEDIATE DISTRIBUTION FRAME
	DOOR BUZZER
	LOCKDOWN BUTTON
	CARD READER - WALL PLATE OR MULLION STYLE
	MONITOR ROUGH IN - LOW VOLTAGE (ART. = ARTICULATING UNIT)
	DOOR RELEASE SWITCH
	'PUSH TO ENTER' BUTTON
	TOUCH PANEL
	ELECTRIC STRIKE or ELECTRIC LATCH
	SC-1 SINGLE LENS - WALL OR CEILING MOUNTED
	SC-2 MULTIDIRECTIONAL QUAD LENS - WALL OR CEILING MOUNTED
	SC-3 EXTERIOR PANORAMIC - WALL OR CEILING MOUNTED
	C-1 SINGLE-SIDED DIGITAL CLOCK / SPEAKER
	C-2 DOUBLE-SIDED DIGITAL CLOCK / SPEAKER
	BISCUIT JACK
	2x2 PAGING SPEAKER w/ FLASHER
	SURFACE MOUNTED PAGING SPEAKER
	EXTERIOR HORN
	CLASSROOM IN-CEILING AUDIO SPEAKER
	GROSS MOTOR PENDANT SPEAKERS
	(1) 1/2" ø SLEEVES IN WALL (ABOVE CEILING)
NOTES	
1. COORDINATE LOCATION OF ALL DEVICES WITH ARCHITECTURAL & ELECTRICAL DRAWINGS BY OTHERS.	
2. WHERE APPLICABLE, COORDINATE THE RELOCATION OF EXISTING DEVICES WITH DEMOLITION PLAN.	
3. INTEGRATE MAGNETIC HOLD OPEN DEVICES WITH LOCK DOWN BUTTONS.	



UNIT C FLOOR PLAN

COMMUNICATIONS SYMBOL LEGEND	
	DATA JACK - SEE PLAN FOR # OF DROPS
	WALL PHONE JACK - SEE PLAN FOR # OF DROPS
	FLOOR BOX - SEE PLAN FOR # OF DROPS
	WIRELESS ACCESS POINT - DEVICES (BY OTHERS) ON BISCUIT JACK ABOVE CEILING OR ON WALL IF NOTED
	MONITOR - SEE PLAN FOR SIZE
	TEACHER STATION
	CEILING MOUNTED PROJECTOR - SHORT THROW
	VISUAL ALERTER
	AUDIO/VIDEO EQUIPMENT RACK
	INTERMEDIATE DISTRIBUTION FRAME
	DOOR BUZZER
	LOCKDOWN BUTTON
	CARD READER - WALL PLATE OR MULLION STYLE
	MONITOR ROUGH IN - LOW VOLTAGE (ART. = ARTICULATING UNIT)
	DOOR RELEASE SWITCH
	'PUSH TO ENTER' BUTTON
	TOUCH PANEL
	ELECTRIC STRIKE or ELECTRIC LATCH
	SC-1 SINGLE LENS - WALL OR CEILING MOUNTED
	SC-2 MULTIDIRECTIONAL QUAD LENS - WALL OR CEILING MOUNTED
	SC-3 EXTERIOR PANORAMIC - WALL OR CEILING MOUNTED
	C-1 SINGLE-SIDED DIGITAL CLOCK / SPEAKER
	C-2 DOUBLE-SIDED DIGITAL CLOCK / SPEAKER
	BISCUIT JACK
	2x2 PAGING SPEAKER w/ FLASHER
	SURFACE MOUNTED PAGING SPEAKER
	EXTERIOR HORN
	CLASSROOM IN-CEILING AUDIO SPEAKER
	GROSS MOTOR PENDANT SPEAKERS
	(1) 1/2" x 2" SLEEVES IN WALL (ABOVE CEILING)
NOTES	
1. COORDINATE LOCATION OF ALL DEVICES WITH ARCHITECTURAL & ELECTRICAL DRAWINGS BY OTHERS. 2. WHERE APPLICABLE, COORDINATE THE RELOCATION OF EXISTING DEVICES WITH DEMOLITION PLAN. 3. INTEGRATE MAGNETIC HOLD OPEN DEVICES WITH LOCK DOWN BUTTONS.	

