Western School District

SECTION 00 01 10
TABLE OF CONTENTS

DIVISION 00 – BIDDING & CONTRACT REQUIREMENTS

DIVISION 26 – ELECTRICAL SYSTEMS

DIVISION 27 – TECHNOLOGY SYSTEMS

DIVISION 28 – ELECTRONIC SAFETY & SECURITY

APPENDICES

END OF SECTION

SECTION 00 01 15
LIST OF DRAWINGS

File/Name *Description*

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: NEW ELEMENTARY TECHNOLOGY SYSTEMS

A. Western School District (Owner) is seeking bids for purchase and installation of new fiber, network, wireless, classroom multimedia, public address, clock, building access systems, and video monitoring systems and associated equipment and installation. Proposed systems shall be configured and installed as described herein.

B. Project: New Elementary Technology Systems

C. Owner: Western School District
1400 S. Dearing Road
Parma, Michigan 49269

D. Designer: Communications by Design, Inc.

E. Sites of Work:

1. Western Elementary School
1399 S. Dearing Road
Parma, Michigan 49269

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: March 11, 2025

2. Pre-Bid Meeting: March 18, 2025 at 12:00 PM

3. Intent to Bids Due: March 21, 2025 at 5:00 PM

4. Question and Clarification Deadline: March 21, 2025 at 5:00 PM

5. Public Bids Due: April 1, 2025 at 9:00 AM

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: March 18, 2025 at 12:00 PM

C. Location: Western School District Administration Building
1400 S Dearing Road
Parma, MI 49269

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: April 1, 2025 at 9:00 AM

C. Bid Opening Location: Western School District Administration Building
1400 S. Dearing Road
Parma, MI 49269

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 Western School District, 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 March 21, 2025. 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 31 23 – Outside Fiber Optic Plant Network
- ☐ Section 26 33 53 - UPS Equipment
- ☐ Section 27 21 19 - Network Electronics
- ☐ Section 27 21 33 - Wireless Network
- ☐ Section 27 41 16 - Multimedia System
- ☐ 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: Western School District
Attention: Mr. Mike Smajda
1400 S. Dearing Road
Parma, Michigan 49269

BID FROM: _____

_____

_____

PROJECT: NEW ELEMENTARY TECHNOLOGY SYSTEMS
TECHNOLOGY BID #3058

INCLUDING ADDENDA: Addendum No._____Dated_____
Addendum No._____Dated_____

DUE: April 1, 2025 at 9:00 AM

BID FORM

BID TO: Western School District
Attention: Mr. Mike Smajda
1400 South Dearing Road
Parma, Michigan 49269

BID FROM: _____

_____

_____

PROJECT: NEW ELEMENTARY TECHNOLOGY SYSTEMS
TECHNOLOGY BID #3058

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

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

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 _____

Alternate E _____

Alternate F _____

Alternate G _____

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 _____, 2025.

In the County of _____ State of _____

By _____ Seal or Stamp:
Notary Public Signature

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 Western School District 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:

Paragraph Number	***Explanation***

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: ______

ID	***Qty***	***Part Number***	***Mfg and Description***	***Unit Cost***	***Unit Labor Cost***	***Total Proposed Cost***
			PROJECT MANAGEMENT			
			TRAINING			
			BONDS AND INSURANCE			
			GRAND TOTAL (Must match base bid)			

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 <u>not</u> 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 WITHDRAWL

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 form offer continuing for ninety (90) calendar days. Bids receive 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 26 33 53
UNINTERRUPTABLE POWER SUPPLIES

PART 1 - GENERAL

1.01 DESCRIPTION OF PROJECT

A. Work described in this specification section pertains to supply and installation of new uninterruptable power supply (UPS) units for the new Western Elementary School.

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. Contractor shall 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 installation with other contractors, Architect and the Owner as is appropriate.

E. Contractor shall provide service rates for additional services not specified herein for Owner consideration. Rates shall be provided for the duration of the warranty period. Owner will consider rate structures for additional services outside of the base contract as a factor in determining contract award.

1.02 WARRANTY

A. Complete installation shall be free from defect and/or failure for a period of five (5) years. Any replacement, upgrade or fix, including labor for any non-conforming, unsupportable 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. System Warranty shall commence on date of substantial completion as certified by Architect 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 Architect.

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 Architect 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 Architect.

2. No work constituting final installation shall be commenced until after approval of shop drawings by Architect.

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 Architect. All replacement costs including, but not limited to material and labor, shall be the sole responsibility of the Contractor.

1. The Owner and/or Architect 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.

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. FCC – All Applicable Rules and Regulations

3. IEEE

4. MOSHA Safety Standards

5. NEC

6. UL

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 relevant similar 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 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 Architect 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 Architect on which version is to be used.

2.02 Furnish only new, first class quality materials and equipment.

2.03 Administration access shall be protected by unique and secure log on.

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 Acceptable Manufacturers (in alphabetical order)

A. APC

B. EATON

C. LIEBERT/VERTIV

D. Or Equal.

2.06 UNINTERUPTABLE POWER SUPPLIES (UPS) UNITS -TYPE A

A. Three (3) - Online, Double Conversion Uninterruptable Power Supplies shall be provided and installed in MDF closet as directed by Owner and/or Designer meeting or exceed the following required feature sets, specifications and/or standards:

1. APC

a. SMX3000RM2U

2. 3000VA/2700W Capacity

3. Each unit shall include specific rack mount kit

4. Units shall protect all active components from power surges, sags and/or spikes in the power system.

B. Each unit shall attach to Owner's existing Ethernet network using standard 10/100/1000 port and provide alerting and management tools.

C. Where individual units cannot be installed in Owner racks, units shall be securely and permanently mounted on walls in communication closets by Contractor. Contractor shall supply all materials and labor for a safe, Secure and permanent wall mounting of UPS unit adjacent to wall mounted communication cabinet or rack.

D. UPS equipment shall be SNMP manageable and be connected to a dedicated Ethernet port in each wire center (IDF/MDF).

E. UPS equipment shall be installed and mounted as space, location details, and Owner standards dictate.

F. Input connection shall be NEMA L5-30R

G. Full UPS monitoring and management software shall be included providing, but not limited to, the following features:

1. Battery Condition

2. Power Quality

3. All other features currently a part of the manufacturer's latest commercial release.

2.07 UNINTERUPTABLE POWER SUPPLIES (UPS) UNITS -TYPE B

A. One (1) Online, Double Conversion Uninterruptable Power Supplies shall be provided and installed in each of the following; IDF1, IDF2, and IDF3 IT closets as directed by Owner and/or Designer meeting or exceed the following required feature sets, specifications and/or standards:

1. APC

a. SMX2000LV2U

2. 2000VA/1800W Capacity

3. Each unit shall include specific rack mount kit

4. Units shall protect all active components from power surges, sags and/or spikes in the power system.

B. Each unit shall attach to Owner's existing Ethernet network using standard 10/100/1000 port and provide alerting and management tools.

C. Where individual units cannot be installed in Owner racks, units shall be securely and permanently mounted on walls in communication closets by Contractor. Contractor shall supply all materials and labor for a safe, Secure and permanent wall mounting of UPS unit adjacent to wall mounted communication cabinet or rack.

D. UPS equipment shall be SNMP manageable and be connected to a dedicated Ethernet port in each wire center (IDF/MDF).

E. UPS equipment shall be installed and mounted as space, location details, and Owner standards dictate.

F. Input connection shall be NEMA L5-20R

G. Full UPS monitoring and management software shall be included providing, but not limited to, the following features:

1. Battery Condition

2. Power Quality

3. All other features currently a part of the manufacturer's latest commercial release.

PART 3 - EXECUTION

3.01 PREPARATION

A. Contractor shall conduct detailed system overview and examination with Architect verifying equipment and material locations as well as mounting and placement requirements prior to commencement of other installation activities.

B. Contractor shall insure all submittals and shop drawings have been provided to, and approval has been obtained from Architect prior to commencement of any final installation activities.

3.02 INSTALLATION

A. 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.

B. Contractor shall conduct an initial programming meeting with the Owner and designer to review content available and planned, as well as establish schedule for project completion.

C. 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.

D. The Contractor shall furnish, set in place, and install all equipment necessary for a fully compliant and operational system as specified herein. Such materials shall include all items necessary for full and final operation of the system. 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.

E. 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.

F. Sites of Work:

1. Western Elementary School
   1399 S. Dearing Road
   Parma, Michigan 49269

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 Architect 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, Architect will provide a test schedule and coordinate testing date(s) with Owner and Contractor.

3. Should Architect determine the Work is not acceptably configured or not of adequate integrity:

   a. Architect 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 Architect in writing when ready for re-testing.

   c. Architect will schedule re-test of the Work.

   d. Excessive re-testing of Work may result in fees being assessed Contractor.

4. Should Architect and Owner concur the Work is configured properly and system integrity is as required:

   a. Architect 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 provide Owner as-built drawings and manuals of all equipment installed, warranty and maintenance information and other information the Contractor, Architect 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 Architect.

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 Architect.
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. System Configuration Report.
14. 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.
15. Complete record of all system and administrative passwords for full operation and administration of all system components and operations.

3.05 TRAINING

A. Contractor shall provide physical on-site training for the Owner designated system administrator(s). Owner shall designate up to three (3) system administrators to be trained. Training shall be a minimum of one (1), one (1) hour session(s) in length, at

the convenience of the Owner personnel at a location determined by the Owner, and of sufficient duration to satisfactorily complete training on all system administration functions including, but not limited to:

1. Basic configuration and system administration of the installed system

2. Basic trouble shooting of the installed system and components including diagnostic and problem resolution actions.

3. System back-up and restore functions and procedures for all system parameters and configurations.

4. Review of system alerts, logs and monitoring of configuration parameters including, but not limited to, configuration changes and device status.

5. System database updates and maintenance.

6. Review standard system reports

3.06 SCHEDULE, MEETINGS AND PLANS

A. 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.

B. Schedule

1. Post bid Interviews: Week of April 7, 2025

2. Contractor Chosen: Week of April 28, 2025

3. Work Commences: Week of October 6, 2025

4. Substantial Completion of Project: Week of November 24, 2025

5. Project Close-out: Week of January 19, 2026

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 13 23
OUTSIDE PLANT FIBER OPTIC NETWORK

1.01 DESCRIPTION OF PROJECT

A. Work described in this specification section pertains to an outside plant fiber optic network expansion of the Western School District private fiber optic network infrastructure.

B. Owner intends to install new outside plant fiber-optic from the Existing Western Middle School pull box on the West side of S Dearing Road, installed underground to contractor provided pull box on the East side of S Dearing Road. Contractor shall install new outside plant fiber in existing conduit to the new Western Elementary School.

C. Worksites include the following:

1. Western Elementary School
   1399 S. Dearing Road
   Parma, Michigan 49269

D. Fiber count for route shall be Twelve (12) strands.

1.02 WORK INCLUDED

A. Work includes, but is not limited to, the following:

1. Single mode fiber optic cable.

2. Connectors and couplers.

3. Splice enclosures.

   a. Aerial

   b. Pedestal

4. Pole make-ready budget

   a. Budget must be accompanied by detailed description of basis for the amount being proposed.

5. Pole agreements and/or permits

    a. Budget must be accompanied by detailed description of basis for the amount being proposed.

6. Encroachment permits

7. All permits and inspections required by all legal authorities and agencies.

8. Ongoing right of ways or pole access charges the Owner will be obligated to pay shall be detailed clearly identified in Bidder's response.

9. Aerial Storage Loops on approved snowshoes

    a. Installed at each major intersection crossing with forty (40) feet of stored cable.

B. The Contractor shall design, engineer, supply, install, connect, test, document, and warrant a fully operational and compliant Outside Plant Network, complete as specified herein.

C. Contractor shall coordinate their installation with other communication systems, contractors, Designer and the Owner as is appropriate.

1.03 REQUIRED BASE BID AND ALTERNATE CONFIGURATIONS

A. Base bid shall be for an outdoor fiber optic network as documented in Appendix A and otherwise herein.

    1. Pathway for new fiber shall be contractor provided, both aerial and underground, and as specified herein.

B. A single outdoor rated twenty-four (24) strand OS2 single mode (SMF) fiber optic cable installed between the existing fiber splice box at 1400 S. Dearing Road to Western Elementary to connect with existing WAN fiber backbone as identified in this document and as shown on provided drawings.

    1. Contractor shall provide pricing for any one or all of the following connectivity options: Leased Lit

Fiber, Dark Fiber or Self-Provisioned Fiber.

a. Work includes, but is not limited to, the following:

b. Contractor shall carefully pull exterior single mode cable to buildings in pathway provided by Others.

c. New OS2 fiber optic cables shall be terminated on Contractor supplied enclosure shelf with LC connectors.

d. All 12 strands are to be terminated and tested.

2. All options can include special construction or one-time E-rate eligible non-recurring costs as well as E-rate eligible recurring circuit costs. Based on the bids and both a short term and long-term cost effectiveness analysis, Western School District will determine which district fiber option is acceptable. The specifications related to each solution option are as follows.

3. Western School District must have guaranteed transport bandwidth to this end point throughput (upload and download) of 20 gbps, upgradeable to 40 gbps with Service Level Agreement (SLA) guarantees. The minimum 500 mbps designates the current State Educational Technology Directors Association (SETDA) bandwidth standard for schools. The transport circuit endpoints school end point to the school district hub and if necessary, from the school district hub to the nearest Internet Access Point.

4. The following service level agreement standards will be met.

a. Circuit uptime of 99.999%

b. Lit and Operations proposals only: Frame/packet loss .25% commitment

c. Lit and Operations proposals only: 25 ms Network Latency Commitment

d. Lit and Operations proposals only: 10 ms Network Jitter Commitment

e. There is no right of provider to limit or throttle the capacity of the circuit at any time for any

reason

f. Mean Time-To-Repair for outages <4 hours

1.04 APPLICABLE CODES AND STANDARDS

A. NEMA TC 6 & 8 – Polyvinyl Chloride (PVC) Plastic Utilities Duct for Underground Installations

B. NEMA TC 9 – Fittings for Polyvinyl Chloride (PVC) Plastic Utilities Duct for Underground Installations

C. ASTM C 31 – Standards Practice for Making and Curing Concrete Test Specimens in the Field

D. ASTM C 39 – Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens

E. ASTM C 172 – Standards Practice for Sampling Freshly Mixed Concrete

F. ACI 301 – Structural Concrete

G. ASTM A 615 – Deformed and Plain Carbon Steel Bars for Concrete Reinforcement

H. ASTM D 698 – Standard Test Methods for laboratory Compaction Characteristics of Soil Using Standard Effort

1.05 WARRANTY

A. Complete installation shall be free from defect and/or failure for a period of three (3) years. The installation shall withstand environmental conditions and remain operational throughout the seasons. 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 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

3. 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. 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.

1.06 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.

1.07 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. 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.

D. 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. 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. The district will rely on such schedules to coordinate and otherwise plan the work of the District, other separate contractors, or the District's routine daily work.

1.08 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. UL

4. MOSHA Safety Standards

1.09 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 Outside Plant Fiber Optic Cable Network 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.

PART 2 - PRODUCTS

2.01 CONDUIT AND FITTINGS

A. All products shall be new, first-quality materials.

B. Nonmetallic Conduit shall be provided for all buried cable. Conduit sizes shall be 1.5". Provide continuous material. Where continuous material is not possible, watertight welded fitting of the same type material conduit is required.

C. Provide polypropylene pull full length in each underground conduit**.**

2.02 MANUFACTURERS

A. Manufacturer of major components of the Outside Plant Fiber Optic Network shall be a known and leading entity in the cabling and/or connector field, and shall have been designing, manufacturing and installing similar components for a period of no less than four (4) years.

B. Acceptable Manufacturers (In alphabetical order):

1. Belden
2. Berk-Tek
3. CommScope
4. Hubbell
5. Lucent
6. Nordex
7. Siecor / Corning Cable Systems

C. Network shall be constructed using industry standards and as specified herein.

D. Contractor shall provide all dielectric fiber optic cable. All fiber shall comply with applicable ANSI/TIA/EIA specifications, including, but not limited to 568A.

E. All fiber optic cables shall meet or exceed the following specifications or performance requirements:

1. Installed cable shall be single mode graded index glass fiber.

2. All materials in the cable are to be dielectric.

3. 8.3-micron core size

4. 125-micron cladding

5. Gel filled buffer tube, 250 um, acrylate.

6. EIA/TIA – 598 color coding for fiber optic cable

7. Flooded core

8. Capable of bend radius as small as 20 x outside cable diameter (under installation load) and 10 x outside cable diameter (long term load).

9. Capable of a minimum crush resistance of 850 lb/in.

F. All fibers shall be terminated on LC connectors with composite ferrules sat head end locations (MDF). Total optical attenuation through the cross connect from any terminated fiber to any other terminated fiber shall not exceed 2 dB. All optical fiber shall be handled, installed, and supported as per manufacturer recommendations.

2.03 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.

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

2.05 System shall be comprised of interoperable components.

2.06 ALLOWANCES

A. Contractor shall include allowances for contract service reimbursements as required in base bid lump sum amount(s).

1. Allowance shall be made in the amount of $10,000 for Owner directed infrastructure upgrades.

B. Contract services shall be provided and sourced at Owner's discretion, direction and convenience with full cooperation by Contractor, and paid for from successful bidder's contract in the amount(s) provided for herein.

C. 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.

D. No material or labor charges and/or mark-ups or margins will be permitted on allowance expenditures approved by Owner and Designer.

PART 3 - EXECUTION

3.01 PREPARATION

A. Contractor shall conduct detailed project walk-through examination with Designer and Owner verifying routing and configuration for 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. Prepare, execute, confirm and coordinate with the pole owners, right of way authorities and others all applications and documentation as required by Owner. Owner shall provide a "Letter of Agency" to Contractor to facilitate this activity as required.

6. All fiber optic cables installed on poles shall be supported with one (1) quarter inch (1/4") messenger strand and four (4) down-guy assemblies.

    a. All fiber optic cables shall be double lashed to the messenger strand.

    b. Squirrel guard shall be installed as needed.

7. Work shall be performed to meet local codes and

industry standards, including, but not limited to:

a. Adequate electrical and lightning protection for outside plant cable connections entering buildings.

b. Grounding and Bonding.

8. All underground cable must be installed within conduit with pull string(s) and as may be specified.

   a. Cable installed beneath roads, parking lots, or any other load bearing structures must be routed through conduit using approved methods.

   b. Contractor shall properly restore all areas affected by the installation of conduit/backbone cabling.

   c. “CAUTION” tape and/or messenger/locator wire manufactured with a metallic conductor shall be laid directly above buried cable or conduits between six and twelve inches (6-12”) below grade. Where boring is employed, bury tape/locator wire alongside the cable or conduit.

9. Work includes extending outside plant cable connections, as required, to Owner identified equipment installation locations at all locations. It shall be the sole responsibility of Contractor to provide building entry and access to the Main Distribution Frames (MDF) in each building and as specified herein.

   a. All cable installed inside buildings (from building entrance to individual building MDF as identified by Owner and herein) shall be installed in one- and one-half inch (1.5”) PVC yellow colored fiber optic inner duct with suitable couplings when joining ends of inner duct.

   b. Contractor shall install spider fan-out kits on fiber optic cable prior to termination.

   c. All fiber optic cables shall all be terminated on fiber optic LC connectors on rack mounted patch panels (racks provided by others).

d. All fiber optic cable terminations shall be clearly labeled at each end with computer generated labels designations as approved by Owner.

e. Contractor shall be responsible for all required coring. All cores are to be fitted with sleeves, bushings, and fire stopping and must comply with EIA/TIA standards.

f. Any firewalls penetrated to facilitate the routing of communication wiring shall be fire stopped using approved methods as outlined in the current National Electric Code (NEC) and all applicable State, County and Local ordinances.

E. Contractor shall be responsible for locating and avoiding all underground electrical, water, wastewater, and other services prior to beginning any underground work.

1. Contractor damage to any existing utilities and/or structures shall remain the Contractors sole responsibility to fully restore.

F. Contractor shall be responsible for ensuring cable and components are not damaged during installation and the manufacturer's recommended pulling ratings are not exceeded.

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. TRENCH EXCAVATION – (if applicable)

1. Comply with applicable OSHA Safety and Health Regulations for Construction.

2. Before beginning trenching operations, stake out the proposed routing including trench width and obtain approval from the Owner's representative. Coordinate location identification of all underground utilities and services with appropriate agency or agencies.

3. After trenching has begun and before any ducts or conduits are placed, notify the Owner's representative so that the trenching and installation may be inspected. Also notify the Owner's representative prior to any placement of concrete for duct banks, so that he/she may observe the placement.

4. Excavate a trench of sufficient width to allow thorough compacting of the backfill under and around the duct bank. A level sand bed a minimum of 6 inches deep shall be placed in the trench before conduit is installed.

5. Where excavation is in rock, remove all rock to a depth below the grade shown on the Drawings. Rock is defined as material that cannot be ripped or excavated by a backhoe with a one cubic yard bucket with rock teeth. Water shall be continuously pumped out from the trench.

6. The Owner's approval is required for the extent of the trench excavation prior to the duct bank installation. Contractor shall schedule excavation in accordance with the Owner's requirements prior to beginning construction.

7. Provide all necessary bracing and bridging to maintain traffic flow during construction through all areas interrupted by trenching. Provide construction signage, traffic barriers, and warning notices throughout the construction period.

8. Provide all necessary repairs to erosion control measures and reseeding of grass in areas disturbed by trenching.

I. UNDERGROUND INSTALLATION - (if applicable)

1. Provide conduit in one complete lot. Partial shipment is not

approved.

2. Conduit runs shall not exceed 600 feet between pull boxes.

3. Carefully handle and place all conduits to prevent breakage or other damage. For duct banks, brace and support all conduits as shown on the Drawings to prevent shifting when concrete is poured. All underground duct banks under roads and parking lots shall be steel reinforced.

4. Lay conduit in true straight line of a gradual or uniform sweep. Maintain uniform grade between buildings and/or manholes per profile Drawings. Conduits shall be sloped to drain into manholes or buildings where possible at a minimum grade 4 inches per 100 feet. Provide factory made long sweep bends for all bends 15 degrees or more, either horizontal or vertical, unless prior approval is given by Owner to bend conduit in field. Bend radius shall be 48" minimum unless noted otherwise on Drawings.

5. Cleanout conduits as work progresses and securely plug all open ends to prevent water, mud or debris from entering.

6. A minimum 10-foot section of galvanized rigid steel conduit shall be used when conduits enter and terminate in pull boxes, buildings, concrete walls, or other rigid structures. Provide plastic/rigid steel conduit adapters and rigid steel end bells where the conduits enter and terminate in the pull boxes, building, concrete walls, or other rigid structures.

7. Identify the underground cable location with metallic safety tape or vinyl tape with magnetic tracer marked "CAUTION! BURIED CABLE". Tape shall be located 12 inches above the conduit where possible.

J. PULL BOX INSTALLATION - (if applicable)

1. The excavation for the pull box shall be to a suitable depth to allow for the pull box cover to be slightly elevated above the finished grade to prevent run-off from the entering. The finished grade material shall be sloped around the pull box collar of frame to prevent adequate cover and support.

2. The site preparation for the pull box shall conform to the manufacturer's recommendations. Generally, 3 to 6 inches of stabilize sand and base material shall be spread in the bottom of the excavation. The base material or sand shall be compacted and graded to the proper elevation.

K. TRENCH BACKFILLING – (if applicable)

1. Backfill using fine material up to 24 inches above the top of the duct bank placed in 6-inch lifts and thoroughly tamped.

2. Consolidate the conduit fill material under roads or similar traffic areas in such a manner as to provide an unyielding foundation of the paving. Remove all excess materials.

3. Succeeding layers of backfill 18 inches and greater above the duct bank may contain courser materials. Backfill shall be free of all organic material or any other material that would cause subsequent settlement. Maximum size of backfill stone or aggregate shall not exceed 6 inches in its greatest dimension.

4. Surface of backfill shall be safe for vehicular traffic as soon as possible. At the upper 12 inches of the backfill provide an approved moist material, thoroughly compacted by tamping thin lifts (approximately 4 inches per lift). Lay the top layer at the required grade surface.

5. Compact backfill by tamping or other method as approved by the Owner's representative. Maintain compaction at a minimum of 95 percent of the maximum density at optimum moisture content as determined by ASTM D 698. The Owner's representative shall direct which method of consolidation is to be followed on each part of the work.

6. Contractor shall assume full responsibility for any deficiency in quantity of material or filling of depressions caused by settlement of backfill material. Damage to other trade's work caused by settling shall be corrected at the Contractor's expense. Contractor

shall assume full responsibility for damages to any underground utility lines or other structure.

7. Dispose of all excess material from the construction site as directed by the Owner. Contractor should remove excess spoils and other material from the site.

3.03 TESTING

A. All fiber optic cable shall be factory tested on a reel basis with performance data for each cable supplied to Owner.

1. Tests shall be conducted at 1300nm utilizing an Optical Tim Domain Reflectometer (OTDR). Attenuation will be recorded for each fiber.

2. Continuity testing shall be performed on each fiber of each cable reel prior to installation.

B. Contractor shall review all end faces of field terminated connectors with a fiber inspection scope following final polish. Connector end faces with hackles, scratches, cracks, chips and/or surface pitting shall be rejected and re-polished, or replaced if re-polishing will not remove defects. The minimum viewing magnification for connector end inspections shall be 200x.

C. Contractor shall conduct and document OTDR traces from head end location(s) for baseline documentation on each strand.

D. All fiber optic cable (system) shall be tested in both directions by Contractor following installation, and prior to acceptance.

E. All fiber optic strands shall be tested end-to-end for bi-directional attenuation, 1310 nm / 1550 nm. Tests shall be conducted in compliance with EIA/TIA- 526-14 or OFSTP 14, Method B and according to the manufacturer's instructions for the test set being utilized.

F. Tests must certify the measured link loss for each strand does not exceed the "worst case" allowable loss defined as the sum of connector loss (based on the number of mated connector pairs at EIA/TIA-568B maximum allowable loss of .75 dB per mated pair) and optical loss (based on the performance standard specified herein).

1. The maximum allowable attenuation for any splice or termination is 0.3 dB.

2. Contractor shall perform Optical Test Set consisting of an Optical Source (transmitter) and Optical Meter (receiver) to determine end-to-end attenuation and fiber length. All testing will be done in accordance with EIA/TIA 526-14.

3. The procedure shall be completed in three steps.

   a. Reference set-up

   b. Jumper test

   c. Standard test

4. Final test shall be the successful operation of the network utilizing the transfer of at least one ten-megabyte (10Mb) file from computers located in each building to and from a computer located at the other end of each link. All pairs of fiber shall be tested in this step.

5. Test results shall be submitted on both paper and a USB formatted.

G. Upon receipt of test documentation, Designer shall verify particular and specific test results by means of independent re-testing.

   1. Prior to submitting testing to Designer, Contractor shall use adequate means to assure the work is completed in accordance with the specified requirements, meets the owner's specific application requirements.

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 District 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. Manufacturer's warranty.

3. Maintenance contract terms.

4. Verification of maintenance contract engagement.

5. Telephone numbers for service and support.

6. Detailed technical support and service procedure instructions.

7. 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 manual or documentation item could be reasonably

   considered excessive, Contractor shall request direction from Owner and Designer.

8. Photocopy of original invoice listing make and model for all material 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.

9. CAD as built drawings for each building.

3.05 TRAINING

A. Not Used

3.06 SCHEDULE, MEETINGS AND PLANS

A. 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.

B. Schedule

1. Post Bid Interviews: April 7, 2025

2. Contractor Chosen: April 28, 2025

3. Work Commences: October 6, 2025

4. Substantial Completion of Project: November 24, 2025

5. Project Close-out: Week of January 19, 2026

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 21 19
NETWORK ELECTRONICS

PART 1 - GENERAL

1.01 DESCRIPTION OF PROJECT

A. Work described in this specification section pertains to Ethernet switch infrastructure for the new Western Elementary School.

B. System shall be comprised of building core consolidation switches and distribution switches (stackable) in distribution closets for connection to end devices as described herein. Switches shall be installed, configured and connected to the existing building cable plant at the Owner's discretion.

C. Contractor shall coordinate their delivery and 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 five (5) 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 and/or extended 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.

3. Network switches deployed for both Building Distribution and Device Distribution as described herein shall additionally be covered by a manufacturers limited lifetime warranty. Such warranty shall provide for the full repair or replacement of any component not properly functioning, including materials and labor, for the useful life of the product.

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. Next business day (NBD) or less for matters that render twenty percent (20%) or more of the system unable to maintain normal functionality. Replacement parts for any item determined to be functioning below full design capacity shall be replaced promptly. Replacement components shall be shipped to Owner in order to arrive on the next business. Replacement components shall be shipped in advance of Owner return of non-functional components (Advance Replacement).

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 warranty period as an 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.

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. 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. 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. Contractor shall have offices or primary work locations for related personnel in physical proximity to sites of work that can reasonably be expected to allow service response times required for warranty and as described herein.

E. The Contractor shall have a proven track record. This must be shown by the inclusion of references of at least three (3) projects involving 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. Cisco Systems

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 Individual switches shall be capable of being fully administered from any web browser attached to the network.

2.05 Administration access shall be protected by unique and secure log on (User ID and Password).

2.06 System administrator shall be capable of complete switch back-up and full switch restoration from a previously saved configuration.

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 All necessary supporting materials, including, but not limited to, optics (SFP+, QSFP+), optical patch cables, mounting kits, power supplies, brackets, etcetera, for a fully compliant, supported, and operational system.

2.09 BUILDING DISTRIBUTION SWITCH

A. One (1) Building Distribution Switch shall be provided at building MDF. Switch shall be installed to facilitate building connection to existing District Core Switch in the Middle School over Owner's existing SM fiber optic network.

B. Switch shall contain a minimum of Eight (8) 10G SFP+ ports.

C. Switch shall be dual connected over Owner's existing single mode fiber plant to the district data center at Middle School.

D. Switch provided shall each meet or exceed the following:

1. One (1) 10GB Ethernet port in each unit with appropriate SFP+ packages for connection to Device Distribution Switch stack in the same room.

2. In addition, 10GB Ethernet based ports with appropriate SFP+ optics packages for connection to each distribution closets over Owner's OM-3/4 Multi-Mode Fiber Optic cable shall be provided in individual switches as identified in associated appendices and as described herein.

3. Wire speed performance (non-blocking) is required on ports

4. IEEE 802.1p QoS shall be available on all ports.

E. Switch shall be Cisco Catalyst 9300X-12Y or equal.

2.10 DEVICE DISTRIBUTION SWITCHES

A. Stackable Device Distribution Switches shall be provided. Switches shall be installed to facilitate cross connection of all station cables in the district connecting network devices.

B. Switches shall be installed in stacks for each closet as follows:

1. Eight (8) switches in the building MDF

2. Three (3) switches in IDF E

3. Eight (8) switches in IDF A

4. Nine (9) switches in IDF B

C. Switch shall be complete with associated optics, stacking cables and options for a fully functional and operation system.

D. Switches provided shall meet or exceed the following:

1. Forty-Eight (48) 10/100/1000 UTP Ethernet ports.

2. Two (2) 10GB Ethernet SFP+ based port per stack.

3. Adequate stacking cables and/or ports to facilitate configuration of stack with up to 384 ports per stack and as described in associated appendices and described herein.

4. Switches shall be stackable and support 384 ports per stack with a single IP address

5. Switches shall support uplink trunking across the stack

6. IEEE 802.1p QoS with 4 ques per port.

7. SNMPv1/v2c/v3

8. 802.1X and Protocol based VLAN support.

9. IEEE 802.3ad Link Aggregation (LACP).

10. Broadcast, Unicast and Multicast traffic suppression.

11. IGMP Snooping

12. DHCP Helper

13. IEEE 802.1X Port Based Network Access Control

14. Power over Ethernet Plus (PoE+)

a. All Device Distribution switches provided shall be 802.3at PoE+ compliant.

b. Each switch shall support twenty-four (24) connections requesting 25.5w 802.3at PoE+.

E. Switches shall be Cisco Catalyst 9200-48P or equal.

2.11 ALLOWANCES

A. Contractor shall include allowances for contract service reimbursements as required below in base bid lump sum amount(s).

1. Allowance shall be made in the amount of $10,000 for contract services requested by owner.

B. Contract services shall be provided and sourced at Owner's discretion, direction and convenience with full cooperation by Contractor, and paid for from successful bidder's contract in the amount(s) provided for herein.

C. 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.

D. No material or labor charges and/or mark-ups or margins will be permitted on allowance expenditures approved by Owner and Designer.

PART 3 - EXECUTION

3.01 PREPARATION

A. Contractor shall conduct a detailed walk through of all facilities to verify mounting and physical installation requirements.

B. Contractor shall conduct a preliminary installation and configuration meeting at the convenience of the Owner to discuss Owner plans for network applications and device attachments to insure proper final configuration for all parameters including, but not limited to:

1. VLAN and routing configuration

2. Security configuration

3. Physical layout and connection schemes and configurations

4. PoE applications intended devices.

5. Confirm switch and device naming and identification scheme.

a. Physical labeling

b. Electronic / configuration management information.

6. Management and problem diagnostic options.

C. Contractor shall insure all submittals and shop drawings have been provided to, and approval has been obtained from Designer prior to commencement of any final installation activities.

1. Additionally, a detailed installation plan shall be provided for Owner and Designer approval prior to the commencement of any final installation activities. This plan shall include, but not be limited to the following:

a. Switch software configuration(s).

b. Physical layout and connection schemes and configurations

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. All equipment provided by contractor shall be fully configured and installed for the Owner's applications based on an installation plan provided by Contractor and meeting approval of Owner and Designer prior to the commencement of work.

C. 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.

D. All equipment and materials shall be installed in a neat and workmanlike manner. Best practices installation principles shall be used throughout the project.

E. Work shall be conducted during hours when network disruptions created by intentional or unintentional efforts by Contractor will not impact normal Owner operations.

    1. Work shall be conducted during second or third shift, weekends and other times the Owner is not conducting normal operations.

    2. Special provisions may be, at the Owner's sole discretion, made from time to time to allow work to be conducted during "normal" operational hours.

F. The Contractor shall furnish, set in place, and physically install all equipment necessary for a fully compliant and operational system as specified herein.

G. Contractor shall fully cooperate with Owner for detailed switch software/firmware configuration and system integration activities.

    1. Such integration activities Contractor shall be responsible for include, but are not limited to:

        a. Compatible connection to Owner's existing district core switch.

        b. Compatible programming of any/all 802.1p/Q VLAN and tags

        c. Complete compliance with existing Owner switch programing standards and functions.

H. 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 at Owner designated and provided until such time those items are installed according to the specifications.

    3. Transport equipment to the Owner's installation location(s).

4. Physically assemble, install, configure and test based on an approved test plan all equipment and components, maintaining accurate inventory records and status documents and discarding packaging as may be directed by Owner.

    a. No reuse of existing power cables, brackets or other used components will be permitted. Contractor shall provide all new cables, screws, brackets, and all other materials for a first class new installation at each site of work.

5. Label all system devices as may be appropriate and required by Owner and Designer using approved Brady labels.

6. Work includes extending connection and interconnection cables from equipment, as required, to Owner identified connection ports at all locations.

    a. Work includes supply and installation of new connection/patch cables to all devices for a fully functional and compliant system. Some devices may require special care and suitable tools to complete such connection or re-connection of cables.

    b. Patch cables shall not exceed ten (10) feet in length unless otherwise specified.

    c. Switch installation in cabinets shall be between patch panels to the greatest degree possible in order to facilitate short and direct patch cable connection. Contractor shall be responsible to adjust heights in cabinets of patch panels and switches to accommodate such an installation. Such adjustment shall include, but not be limited to extending existing service loops to facilitate vertical adjustment of components in cabinets.

7. Complete 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.

I. Sites of Work:

1. Western Elementary School
   1399 S. Dearing Road
   Parma, Michigan 49269

J. 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.

K. Contractor shall fully install and configure all network infrastructure for complete, compliant and final Owner applications and requirements including all physical labeling for asset management.

3.03 TESTING

A. In an effort to insure 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. Such request shall include a written proposed test plan for complete system functionality.

2. Within reasonable time after receipt of request and proposed test plan, Designer will provide amendment(s) to the proposed test plan, 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:

D. 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 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. Software release.

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. 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. Contractor shall provide training for the Owner designated system administrator(s). Owner shall designate up to Three (3) administrators to be trained. Training shall be a minimum of two (2), 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. 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. Component replacement procedure.

4. Review of system alerts, logs and monitoring of configuration parameters including, but not limited to, configuration changes, device and port status.

5. Complete review and administration review and training for network management application provided.

B. Contractor shall provide manufacturer authorized/certified training for Owner designated system administrator(s). Owner shall designate up to Two (2) administrators to be trained in use and administration for base bid configuration. Training provided shall be on-line and at the convenience of Owner personnel.

C. Contractor shall submit a written training plan, course description(s) and syllabus to Owner and Designer for approval. Owner and/or Designer may require amendments(s) to training plan, course description and syllabus prior to training being scheduled.

3.06 SCHEDULE, MEETINGS AND PLANS

A. Sequence of operations shall be established by the Contractor within the guidelines established by the Owner, documented herein, required by Designer, Architect and/or Construction Manager and as required to meet schedules.

B. Schedule

1. Post bid Interviews: Week of April 7, 2025

2. Contractor Chosen: Week of April 28, 2025

3. Work Commences: Week of October 6, 2025

4. Substantial Completion of Project: Week of November 24, 2025

5. Project Close-out: Week of January 19, 2026

C. Planed 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. 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 21 33
WIRELESS COMMUNICATION NETWORK

PART 1 - GENERAL

1.01 DESCRIPTION OF PROJECT

A. Work described in this specification section pertains to wireless system network for the new Western Elementary School.

B. Owner intends to install a new Wireless Communications Network System covering building. Contractor shall create, document and present full predictive and final installed WiFi RF propagation surveys for 5Ghz and 6Ghz at all sites of work.

1. Owner's applications may include, but not be limited to:

a. High density workstation connectivity. This may include 1:1 student initiatives as well as student provided device connections.

1. Thirty to sixty (30-60) connections are anticipated as typical per classroom in other buildings - many of which may be streaming latency sensitive information.

2. All other areas of facilities covered by system provided are anticipated to contain similar densities of connections, based on physical size and ability to contain persons equipped with connectable devices.

b. Student owned device connectivity.

c. Staff and/or administrator portable workstations.

d. Guest workstation connectivity.

C. Contractor shall propose a System to be deployed using IEEE 802.11ax wireless technology foundation. The system shall be installed and connected to Ethernet infrastructure by others. System shall be compliant with "wireless switch" architecture using "thin" or "fit" Access Points (APs) and centrally located Wireless Controllers.

1. Owner will provide adequate Ethernet PoE compliant switch ports for the number of devices specified herein.

D. Contractor shall advise, coordinate and work cooperatively with Owner representatives related to any configuration changes required and/or proposed for Owner's Ethernet infrastructure (VLAN configuration, QoS mapping, routing, RADIUS Services, Firewall security provisions etc.).

E. Power for all APs shall be provided by way of standard IEEE Power over Ethernet (PoE) installed in appropriate distribution frames by others throughout sites of work.

F. The Contractor shall design, engineer, configure, supply, connect, test, document and train Owner representatives and warrant a fully operational and compliant Wireless Communication System, complete and with full functionality as specified herein.

G. 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 free from defect and/or failure for a period of five (5) years. Any replacement, upgrade or fix, including labor for any non-conforming, unsupportable 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. Four (4) hours or less for matters that render twenty percent (20%) or more of the system users at Western Elementary 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 annual maintenance contract pricing for recommended maintenance programs for all equipment following the specified and included three (3) year period as a Voluntary Alternate. This information will be considered by Owner and/or Designer as part of the bid evaluation process.

F. System Warranty shall commence on date of substantial completion as certified by Owner and/or 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 Owner and/or 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 Owner and/or Designer.

2. No work constituting final installation shall be commenced until after approval of shop drawings by Owner and/or 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 Owner and/or 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 Wireless Communication Network 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 are provided for bidder reference related to Owners prior determination of an acceptable level of quality, performance and feature set expected. Bidders proposing products not listed herein, shall be subject to Owner review, at the Owner's sole discretion, which shall be final determination of product, service or other equivalency for project related matters.

B. Acceptable Manufacturer:

1. CISCO SYSTEMS

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 Owner and/or 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 centrally located Wireless Controllers, 802.11 Access Points, management software, antennae, power injectors/switches and battery/power conditioning equipment, integrated into a common working system.

2.05 CENTRAL WIRELESS CONTROL

A. Centralized Wireless Control shall be provided, if other equipment is proposed, all necessary licensing and installation shall be provided in base proposal.

B. Contractor shall supply all necessary licensing and labor to integrate new wireless access points with Owner's existing system.

C. Contractor shall include all necessary licensing and support for supplied management platform for the entire term of the system warranty.

D. All other features currently a part of the manufacturer's latest commercial release.

2.06 WIRELESS ACCESS POINTS (APs) - INDOOR

A. Eighty-one (81) indoor WiFi 6 compliant access points shall be provided.

B. APs shall properly and acceptably communicate over, and attach to, Owner's standard, installed Ethernet communications network provided by others.

C. AP units shall support the following features, standards and/or protocols:

1. IEEE 802.11ax
2. OFDMA
3. MU-MIMO
4. Ability to disable or limit connectivity of particular devices based on 802.11 version compliance and capability.
5. IEEE 802.3at
6. Multiple simultaneous BSSIDs
7. DHCP
8. SNMP

D. APs shall meet or exceed the following:

1. All antennae shall be integrated into Access Point enclosure or otherwise included with AP hardware cost.
2. Tri-radio 5GHz 802.11ax 4x4 MIMO and single 2.4GHz 802.11ax 2x2 MIMO.
3. Transmit and receive 2.4Ghz and 5Ghz bands simultaneously using a minimum of two independent radios.
4. 10/100/1000 PoE+ Compliant (802.3at).

E. All APs shall be firmly and securely mounted to finished ceiling, wall, or other surfaces to maximize wireless coverage and minimize tampering potential.

F. Owner has 2 data drops at each wireless access point location that **may** be utilized.

G. Contractor shall supply protective enclosures for wireless access points located in gymnasium spaces.

H. Contractor shall supply any necessary brackets, accessories or cables to properly mount wireless access points for optimal coverage including wall mounting where applicable.

I. AP units shall be Cisco Catalyst 9164.

2.07 WIRELESS ACCESS POINTS (APs) - Exterior

A. Seventeen (17) Exterior WiFi 6 compliant access points shall be provided.

B. APs shall properly and acceptably communicate over, and attach to, Owner's standard, installed Ethernet communications network provided by others.

C. AP units shall support the following features, standards and/or protocols:

1. IEEE 802.11ax
2. OFDMA
3. MU-MIMO
4. Ability to disable or limit connectivity of particular devices based on 802.11 version compliance and capability.
5. IEEE 802.3at
6. Multiple simultaneous BSSIDs
7. DHCP
8. SNMP

D. APs shall meet or exceed the following:

1. All antennae shall be integrated into Access Point enclosure or otherwise included with AP hardware cost.
2. Tri-radio 5GHz 802.11ax 4x4 MIMO and single 2.4GHz 802.11ax 2x2 MIMO.
3. Transmit and receive 2.4Ghz and 5Ghz bands simultaneously using a minimum of two independent radios.
4. 10/100/1000 PoE+ Compliant (802.3at).

E. All APs shall be firmly and securely mounted to finished ceiling, wall, or other surfaces to maximize wireless coverage and minimize tampering potential.

F. Owner has 2 data drops at each wireless access point location that **may** be utilized.

G. Contractor shall supply protective enclosures for wireless access points located in gymnasium spaces.

H. Contractor shall supply any necessary brackets, accessories or cables to properly mount wireless access points for optimal coverage including wall mounting where applicable.

I. AP units shall be Cisco Catalyst 9124AX.

2.08 CONNECTION AND POWER OVER ETHERNET (PoE+)

A. All equipment for system bid shall connect to Owner's Ethernet distribution system including standard IEEE 802.3at PoE+ by others. Proprietary power distribution shall not be acceptable.

B. All other features currently a part of the manufacturer's latest commercial release.

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 $15,000 for contract services related to Owner directed cabling or infrastructure upgrades.

PART 3 - EXECUTION

3.01 PREPARATION

A. Contractor shall conduct detailed walk-through examination with Owner and/or Designer verifying equipment and material locations as well as mounting and placement requirements prior to commencement of other installation activities.

B. Contractor shall insure all submittals and shop drawings have been provided to, and approval has been obtained from Owner and/or Designer prior to commencement of any final installation activities.

3.02 INSTALLATION

A. Contractor shall conduct complete RF Propagation Site Survey for all relevant IEEE 802.11 frequency bands throughout the Owner sites. Survey shall be to determine and verify specific and appropriate installation and programming standards for specific proposed AP units including, but not limited to mounting, final antennae orientation/selection and channel selection.

1. Contractor shall provide propagation survey utilizing planned WAP locations using proposed technology for Owner review.

2. RF Propagation Site Survey shall be fully documented (Report) by Contractor and submitted to Owner and/or Designer including, informational presentation, for written approval prior to any physical arrangement or accommodation for installation of system.

3. RF Propagation Site Survey shall include, but not be limited to:

a. Recommended physical AP placement.

b. Recommended physical AP mounting configurations.

c. Recommended AP channel selections.

d. Recommended AP antennae configuration.

4. Owner and/or Designer shall require up to two weeks to complete review(s) of RF Propagation Site Survey and provide written approval. Approval will be dependent upon acceptable and timely response to answers Owner and/or Designer may require of Contractor after the presentation of the RF Propagation Site Survey Report.

    a. If Owner and/or Designer are unable to approve Report, Contractor may be provided reasonable opportunity to amend, complete or correct Report.

    b. If Contractor is unable to provide Report acceptable to Owner and/or Designer after a reasonable duration is extended to do so, Owner reserves the right to terminate Contract.

B. Contractor shall supply a physical post installation survey to verify functionality of installed wireless access points.

C. 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 normal daily activities.

D. Work Areas shall be cleaned at the end of each day. All debris shall be cleared, removed and disposed of by Contractor off-site. No on-site disposal of any waste, packaging or related project materials will be permitted. 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.

E. All equipment and materials shall be installed in a neat and workmanlike manner. Best practices installation principles shall be used throughout the project.

F. 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. This may include, but not be limited to VLAN configuration recommendation, SSID(s) broadcast coordination, user authentication requirements and security/encryption initiation.

    6. Label all system devices as may be appropriate and required by Owner and/or 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.

9. Work includes extending Owner supplied Ethernet Category 6 compliant patch cables from installed equipment, as required, to Owner identified connection ports at all locations.

    a. Coordinate all work with Owner and other contractors prior to installation.

10. Labor to cross connect APs in communication closets to PoE switches shall be provided by Contractor using Owner provided Category 6 patch cables.

    a. Coordinate all work with Owner and other contractors prior to installation.

11. Contractor shall coordinate the installation of all patch cable colors with Owner in order to match existing standards for device and connection types.

12. All work shall be compliant with industry and manufacturer best practices and meet all applicable statutory codes and standards.

G. Sites of Work:

    1. Western Elementary School
    1399 S. Dearing Road
    Parma, Michigan 49269

H. 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 Owner and/or Designer.

    2. The building and work area shall be returned to its original condition prior to final sign off of the project.

I. 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 Owner and/or 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 Owner and/or Designer indicating they have completed full and final configuration of the system, and are ready to have system integrity and functionality tested. Such request shall include a written proposed test plan for complete system functionality.

2. Within reasonable time after receipt of request and proposed test plan, Owner and/or Designer will provide amendment(s) to the proposed test plan, a test schedule and coordinate testing date(s) with Owner and Contractor.

3. Should Owner and/or Designer determine the Work is not acceptably configured or not of adequate integrity:

a. Owner and/or 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 Owner and/or Designer in writing when ready for re-testing.

c. Owner and/or 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/or Owner concur the Work is configured properly, and system integrity is as required:

a. Owner and/or 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 provide Owner all necessary as-built drawings, owners manuals of all equipment installed, warranty and maintenance information and other information the Contractor, Designer and/or Owner deem necessary for final documentation package

1. All documentation shall be provided in both a physical and digital version.

2. Format of all provided documentation shall be coordinated with 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/or 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 Western Elementary building.

14. System Channel and Configuration Report.

15. Complete inventory of installed hardware and system software. Hardware inventory shall include, but not be limited to, AP and antenna types (model numbers), Ethernet MAC address, AP serial number, physical installation location and software options.

3.05 TRAINING

A. Contractor shall provide training for the Owner designated system administrator(s). Owner shall designate up to three (3) administrators to be trained. Training shall be a minimum of two (2), three (3) 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. Component replacement procedure.

4. Review of system alerts, logs and monitoring of configuration parameters including, but not limited to, configuration changes, device and port status.

5. Complete review and administration review and training for network management application provided.

3.06 SCHEDULE, MEETINGS AND PLANS

A. Sequence of operations shall be established by the Contractor within the guidelines established by the Owner, documented herein, required by Designer, Architect and/or Construction Manager and as required to meet schedules.

B. Schedule

1. Post bid Interviews: Week of April 7, 2025

2. Contractor Chosen: Week of April 28, 2025

3. Work Commences: Week of October 6, 2025

4. Substantial Completion of Project: Week of November 24, 2025

5. Project Close-out: Week of January 19, 2026

C. 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.

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 by Contractor as required by Owner and/or Designer.

END OF SECTION

SECTION 27 41 16
MULTIMEDIA SYSTEMS

PART 1 - GENERAL

1.01 DESCRIPTION OF PROJECT

A. Work described in this specification section pertains to new classroom, workrooms, and offices multimedia infrastructure and instructional equipment for Western School District's new elementary school.

B. Contractors shall propose Systems and/or components to be deployed using standard procedures and technology components and as specified herein. The system components shall be installed and connected to the owner's existing physical infrastructure and as specified herein.

C. 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 physical infrastructure.

D. Contractor shall work collaboratively with Owner and Designer. Work shall include but not be limited to installation of supplied equipment, removal of existing equipment and full operational capacity of system as specified herein.

E. The Contractor shall design, engineer, configure, supply, connect, test, document, train Owner representatives and warrant a fully operational and compliant system and/or component connection to the system complete and with full functionality as specified herein.

F. Contractor shall provide all transportation and delivery services in a timely manner to individual work location(s) at each site of work in preparation for installation activity.

G. 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 warranty. 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.

3. Standard manufacturer warranty duration and terms shall be identified for each component with bid as well as additional fee required for warranty duration election of each of the following terms:

    a. Three (3) year parts and labor warranty.

C. On site services provided under the warranty shall be performed by personnel or representatives of manufacturer of individual components and/or appropriately trained and certified Contractor representatives 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. 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. Bidder shall provide current annual maintenance contract pricing, terms and conditions for recommended maintenance programs for all equipment following the specified and included warranty periods 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 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, data sheets and diagrams shall be submitted by Bidder for approval by Designer with Bid Proposals.

   1. Shop drawings, data sheets 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, data sheets and diagrams 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 do 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. Applications that generate Microsoft Project compatible files shall be management tools of choice. 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. The district will rely on such schedules to coordinate and otherwise plan the work of the District, other separate contractors, or the District's routine daily work.

1.04 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. MIOSHA Safety Standards

1.05 CONTRACTOR

A. The Contractor shall accept complete responsibility for the installation, certification and support of the system and/or components as required herein. 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 specified equipment and perform related tests as recommended by the manufacturer and in accordance with the manufacturer’s best practices and methods and as required herein.

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 comparable system supply, configuration, and installation. This must be shown by the inclusion of references of at least three (3) projects involving the supply and/or installation of similar systems completed by the Contractor in the prior two (2) years with the sealed Bid Proposal as provided herein.

PART 2 - PRODUCTS

2.01 Acceptable Manufacturers

A. Acceptable manufacturers have been provided to comply with a standard for individual components associated with the specified system. Indicated components include particular models and makes currently installed and/or preferred by Owner.

B. Any system bid shall be based only on acceptable manufacturer's components.

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 AUDIO SPEAKERS

A. Four (4) classroom speakers shall be installed in/on finished ceiling surfaces in each room as indicated in Appendix C.

B. Acceptable Manufacturer:

1. LIGHTSPEED

C. Where classroom speakers are to be installed in drop ceilings, they shall be near flush mount and cleanly cut into available tiles for optimal and uniform audio fill of the relevant classroom space. Speakers shall meet or exceed the following minimum standard requirements:

1. 6" driver; 1" horn per speaker

2. Frequency response: 40 Hz – 20 kHz

3. Impedance of 8 Ohms

4. Power handling of 30 watts

5. Speakers shall be mounted in fully enclosed, acoustically appropriate, metallic back boxes and fully supported by appropriate tile bridges.

D. Where flush mounting is not possible or practical, Contractor shall install surface mounted speakers meeting or exceeding all requirements above.

E. Where specific speaker location is in question, obtain Owner approval prior to any final installation activity.

F. All speakers shall include attractive finished white grill.

G. All speaker wire shall be 16 AWG high quality cable.

H. All speaker cable shall be connected to audio amplifier at the projector location.

2.05 MULTIMEDIA INFRASTRUCTURE CABLE

A. All cable shall be factory manufactured with terminations and connector assemblies fully attached and integral to the cable to industry published quality standards and meet performance requirements specified herein.

B. Infrastructure cable to connect projector to a teacher station wall plate shall be provided.

C. Acceptable Cable:

1. HDBaseT Digital Video Cable shall be of commercial first-class quality manufacture and meet or exceed the following requirements:

a. Cable shall meet or exceed Category 6 certification.

b. Cable shall be constructed of solid 23 AWG conductors.

c. Cable shall be shielded.

d. All terminations and connector assemblies shall be shielded.

2. USB extension cable shall be of commercial first-class quality manufacture and meet or exceed the following requirements:

a. Cable shall meet or exceed Category 6 certification

3. Audio cable shall be of commercial first-class quality manufacture and meet or exceed the following requirements:

a. Two conductor shielded cable with drain wire.

D. HDBaseT Digital Video Cable shall be constructed using 23 AWG solid conductors and of a high-quality construction method for minimal loss characteristics, to maintain quality high resolution video image and include

support for 1080p video resolution for the installed distance plus a fifteen (15) foot extension for device attachment.

E. All cables originating from wall plate connectors shall terminate in a service loop eight (8) feet in length at projector location.

F. Cable shall terminate in the following connector gender:

1. HDBaseT Digital Video (Category 6 STP)

a. Category 6 Male Shielded Modular Plug, 8 Pin, RJ45

b. Terminate into an active HDBaseT transmitter wall plate at Teacher Station and include an HDMI Type A 19 pin plug connector to teacher's PC.

c. Terminate into an active HDBaseT receiver at Projector location and include an HDMI Type A 19 pin plug connector to Projector.

G. Projector Location Wall Plate

1. Wall plate provided shall be:

a. Constructed of commercial grade stainless steel

b. 1-gang, Split

c. Pass-Through Rubber Grommet, minimum 1" diameter

2. Wall plate shall be provided at each location indicated on drawings as Projector.

H. Teacher Station Wall Plate shall be provided.

I. EPSON Projector Remote input/switcher device.

1. Remote input/switcher device shall be mounted at the wall box available above the input plate.

2. Power for the device shall be routed to the projector receptacle and extended through the raceway.

3. Low voltage power shall be routed in the raceway with the transformer for the device located with other materials at the projector and the AC power plugged into the projector outlet.

2.06 MULTIMEDIA CONNECTION BUNDLES

A. Fully assembled infrastructure cable bundles shall be provided and installed in all locations.

B. Acceptable Manufacturer

1. Cable shall be of commercial first-class quality manufacture.

C. All Cable shall be fifteen feet (15') in length and terminate in the following connector genders:

1. HDMI High-Speed Patch Cable (M/M).

2. Classroom Multimedia Workstation USB Category 6 Patch Cable (M/M).

3. 3.5mm Audio Cable M/M

4. A single F6 Woven Wrap-Around Braided Sleeving to contain and protect all associated cable secure with Velcro straps.

a. Velcro straps shall be trimmed and flush with sleeving material.

b. Velcro straps shall be loose enough for cable movement.

c. Coordinate all color selections with Owner and Designer.

d. Braided sleeving should be cut and sealed cleanly using a hot knife or similar tool.

2.07 ULTRA SHORT-THROW INTERACTIVE VIDEO PROJECTORS

A. Ultra Short-Throw Interactive Video Projectors each with accompanying projector specific mounts shall be provided and installed in locations as indicated in Appendix C.

B. Acceptable Manufacturer(s):

1. EPSON

a. Brightlink 1485Fi

C. All features currently a part of the manufacturer's latest commercial release shall be included.

D. Contractor shall provide Extension Equipment to support connection to supplied remote input/switcher (Category 6 STP). Equipment should include all necessary parts to provide a fully functional and compliant system.

2.08 DOCUMENT CAMERA

A. A Document Camera shall be provided and installed in locations as indicated in Appendix C.

B. Acceptable Manufacturers

1. IPEVO

a. VZ-R HDMI/USB Dual Mode Document Camera

C. Document Camera shall provide for both HDMI connectivity to projector and USB connection to workstation.

D. All features currently a part of the manufacturer's latest commercial release shall be included.

2.09 VOICE AMPLIFICATION EQUIPMENT

A. Voice Amplification Systems shall be provided and installed in locations as indicated in Appendix C.

B. Acceptable Manufacturers

1. LIGHTSPEED

a. T25

C. Voice Amplification systems shall meet or exceed the following minimum standards:

1. DECT (1.9 GHz) communication for complete classroom coverage of two (2) microphones simultaneously.

2. Two (2) highly durable, rechargeable, battery powered, tamper resistant, impact resistant, lanyard based pendant microphones.

a. Lightspeed volume control Clearmikes

D. Voice Amplification systems shall include four (4) DRQ speakers (or equal) in each space containing an appropriate ceiling. Where lay-in ceilings are not installed, contractor shall provide WMQ (or equal) speakers.

1. Speakers shall be installed professionally following all manufacturer installation recommendations and industry best practices.

2. Contractor shall provide eleven (11) additional spare Clearmikes

3. All cable shall be routed in support (D-rings, S-hooks, bridle rings, etc.). Cable supported by the ceiling grid or directly by structural members will be acceptable. No exposed cable shall be visible. Any cable that would be exposed shall be protected in appropriate raceway material approved by designer.

E. In the event of a power failure, system shall automatically re-initialize and "become active" to the last configuration in use with no human intervention.

F. Contractor shall provide one (1) audio cable to connect input port on amplifier to 3.5mm jack at Teacher Station (TS) for auxiliary device connection at the instructor's discretion.

G. Contractor shall provide one (1) audio cable for connectivity from audio output of projector to amplifier to support a fully functional and compliant system.

H. Contractor shall supply all mounting hardware and materials to securely mount the audio amplifier on the top of the projector wall mount.

2.10 SPECIAL CONFIGURATION SPACES

A. SPECIAL CONFIGURATION A –
OFFICE / SMALL COLLABORATION DISPLAY

1. Special Configuration A shall be provided in Two (2) locations, C115, and C110.

2. Each space indicated shall be equipped with a SAMSUNG QET Series 65" display (or equal LG or Panasonic) and include, but not be limited to:

   a. Each display shall be mounted using a Peerless ST650 SmartMount Universal Tilt Mount (or equal).

   b. Each display shall include a Logitech MeetUp Video Conferencing device to provide a camera, microphone and audio output device for USB connectivity.

   c. Contractor shall provide HDMI cables connecting the display to a wall outlet in an input box and raceway (empty dual gang input box and raceway provided by others). All connectors, face plates and materials for a fully compliant, first class, functioning system shall remain the responsibility of the contractor.

3. Contractor shall supply all mounting hardware, integration components and labor and materials to securely mount all components and insure compliant, fully functional, first-class operation.

B. SPECIAL CONFIGURATION B –
OFFICE / SMALL COLLABORATION DISPLAY

1. Special Configuration B shall be provided in four (4) offices, C119, C118, C117, and C116.

2. Each space indicated shall be equipped with one (1) SAMSUNG QET Series 43" display (or equal LG or Panasonic), one (1) LG LR65 Series 32" display (or equal Panasonic or Samusung) and include, but not be limited to:

   a. Each display shall be mounted using a Peerless ST650 SmartMount Universal Tilt Mount (or equal).

   b. Contractor shall provide HDMI cables connecting the display to a wall outlet in an input box and raceway (empty dual gang input box and raceway provided by others). All connectors, face plates and materials for a fully compliant, first class, functioning system shall remain the responsibility of the contractor.

3. Contractor shall supply all mounting hardware, integration components and labor and materials to securely mount all components and insure compliant, fully functional, first-class operation.

C. SPECIAL CONFIGURATION C –
CAFETERIA PRESENTATION SYSTEM

1. Special Configuration C shall be provided in One (1) location.

2. A large venue presentation system for audio and video content shall be provided and installed in the Cafeteria. The system shall meet or exceed, but not be limited to the following:

   a. EPSON EB-PU1008B WUXGA 3LCD Laser Projector and any appropriate lens.

   b. Peerless (or equal) mounting brackets, down pipe and all necessary components for ceiling mounted installation.

   c. Eight (8) Biamp CM60DTD Speakers including back boxes/enclosures and mounting brackets as indicated.

   d. Biamp ALC-404D Combined DSP/Amplification system. Contractor shall reserve one input for connection to building public address system with override programming included.

   e. Lightspeed T25 voice amplification system with one each DECT hand held and lanyard microphones paired to and usable in the room system. Input shall be connected to the Amplifier.

   f. Apple TV. Audio from this connection shall be routed to the system.

   g. DA-LITE DL100118L Myriad Reveal Electrol Screen

1. 220” Diagonal

2. HD Progressive 1:0 surface

3. 120v electric motor with low voltage control

4. 16:9 aspect ratio

h. Contractor shall provide HDMI transport electronics and cables connecting the projector to a wall outlet in an input box and raceway (empty dual gang input box and raceway provided by others). All connectors, face plates and materials for a fully compliant, first class, functioning system shall remain the responsibility of the contractor. Audio input from this connection shall be routed to the system.

i. Crestron TSW-770-B-S or equal shall be provided with full programming and all supporting materials and labor, including but not limited to, control processor(s) and device connections for a fully functional, compliant, first class system providing, but not limited to the following functions:

1. Screen control

2. Projector control

3. Source selection

4. Audio Control

5. System reset on power on and off

6. System power control

7. System lock-out function

8. System automation for power on/off based on source sensing

j. Legrand CWR-18-26PD Wall Rack for equipment mounting. Rack shall include, but not be limited to locking doors and access, passive ventilation, in rack power management.

3. Contractor shall supply all mounting hardware, integration components and labor and materials to securely mount all components and insure compliant, fully functional, first-class operation.

D. SPECIAL CONFIGURATION D –
ELEMENTARY ACTIVITY ROOM
PRESENTATION SYSTEM

1. Special Configuration D shall be provided in One (1) location.

2. A large venue presentation system for audio and video content shall be provided and installed in the Activity Room. The system shall meet or exceed, but not be limited to the following:

    a. EPSON EB-PU1008B WUXGA 3LCD Laser Projector and any appropriate lens.

    b. Peerless (or equal) mounting brackets, down pipe and all necessary components for ceiling mounted installation.

    c. Eight (8) Biamp CM60DTD Speakers including back boxes/enclosures and mounting brackets as indicated.

    d. Biamp ALC-404D Combined DSP/Amplification system. Contractor shall reserve one input for connection to building public address system with override programming included.

    e. Lightspeed T25 voice amplification system with one each DECT hand held and lanyard microphones paired to and usable in the room system. Input shall be connected to the Amplifier.

    f. Apple TV Audio from this connection shall be routed to the system.

    g. DA-LITE DL100118L Myriad Reveal Electrol Screen

        1. 220” Diagonal

        2. HD Progressive 1:0 surface

        3. 120v electric motor with low voltage control

        4. 16:9 aspect ratio

    b. Contractor shall provide HDMI transport electronics and cables connecting the projector to a wall outlet in an input box and raceway (empty dual gang input box and raceway provided by others). All connectors, face plates and materials for a fully compliant, first class, functioning system shall remain the responsibility of the contractor. Audio input from this connection shall be routed to the system.

    c. Crestron TSW-770-B-S or equal shall be provided with full programming and all supporting materials and labor, including but not limited to, control processor(s) and device connections for a fully functional, compliant, first class system providing, but not limited to the following functions:

        1. Screen control

        2. Projector control

3. Source selection

4. Audio Control

5. System reset on power on and off

6. System power control

7. System lock-out function

8. System automation for power on/off based on source sensing

d. Legrand CWR-18-26PD Wall Rack for equipment mounting. Rack shall include, but not be limited to locking doors and access, drawer for storing wireless microphones, passive ventilation, in rack power management.

2. Contractor shall supply all mounting hardware, integration components and labor and materials to securely mount all components and insure compliant, fully functional, first-class operation.

B. SPECIAL CONFIGURATION E –
PERFORMANCE GYM AUDIO SYSTEM

1. Special Configuration E shall be provided in One (1) location.

2. A large venue audio and video system shall be provided and installed in the Performance Gym. The system shall meet or exceed, but not be limited to the following:

a. Two (2) EPSON EB-PU1008B WUXGA 3LCD Laser Projector including a protective enclosure and any appropriate lens.

b. Peerless (or equal) mounting brackets, down pipe and all necessary components for ceiling mounted installation.

c. Eight (8) Community R.25 94Z or JBL speakers. Speakers shall be permanently mounted to the exposed ceiling joists spaced and aimed to provide adequate coverage of the space.

d. Six (6) Community R.35 3896 or JBL speakers. Speakers shall be permanently mounted to the exposed ceiling joists spaced and aimed to provide adequate coverage of the bleacher space.

e. One (1) Community ALC-1604D Combined DSP/Amplification system. Contractor shall reserve one input for connection to building public address system with override programming included.

f. One (1) Community ALC-404D Combined DSP/Amplification

system. Contractor shall reserve one input for connection to building public address system with override programming included.

g. Audio Technica ATW-1312/L (Four [4] handheld and lavalier microphone / receiver combo package) or equal Shure or Sennheiser. Contractor shall provide four microphone stands.

h. Yamaha TF-RACK rack-mount digital mixer.

    1. Connect Wireless Audio Technica receiver specified herein.

i. Two (2) DA-LITE DL100118L Myriad Reveal Electrol Screen

    1. 220” Diagonal

    2. HD Progressive 1:0 surface

    3. 120v electric motor with low voltage control

    4. 16:9 aspect ratio

j. Contractor shall provide HDMI transport electronics and cables connecting the projector to a wall outlet in an input box and raceway (empty dual gang input box and raceway provided by others). All connectors, face plates and materials for a fully compliant, first class, functioning system shall remain the responsibility of the contractor. Audio input from this connection shall be routed to the system.

k. Crestron TSW-770-B-S or equal with protective cover shall be provided with full programming and all supporting materials and labor, including but not limited to, control processor(s) and device connections for a fully functional, compliant, first class system providing, but not limited to the following functions:

    1. Screen control

    2. Projector control

    3. Multi zone control

    4. Source selection

    5. Audio control

    6. System reset on power on and off

    7. System power control

    8. System lock-out function

9. System automation for power on/off based on source sensing

l. Legrand CWR-18-26PD Wall Rack for equipment mounting. Rack shall include, but not be limited to locking doors and access, drawer for storing wireless microphones, passive ventilation, in rack power management.

m. Contractor shall supply all mounting hardware, integration components and labor and materials to securely mount all components and insure compliant, fully functional, first-class operation.

C. SPECIAL CONFIGURATION F –
MEDIA CENTER PRESENTATION SYSTEM

1. Special Configuration F shall be provided in One (1) location.

2. A large venue presentation system for audio and video content shall be provided and installed in the Media Center. The system shall meet or exceed, but not be limited to the following:

a. One (1) EPSON EB-PU1008B WUXGA 3LCD Laser Projector and any appropriate lens.

b. Peerless (or equal) mounting brackets, down pipe and all necessary components for ceiling mounted installation.

c. Eight (8) Biamp CM60DTD Speakers including back boxes/enclosures and mounting brackets as indicated.

d. Biamp ALC-404D Combined DSP/Amplification system. Contractor shall reserve one input for connection to building public address system with override programming included.

e. Lightspeed T25voice amplification system with one each DECT hand held and lanyard microphones paired to and usable in the room system. Input shall be connected to the Amplifier.

f. Apple TV Audio from this connection shall be routed to the system.

g. DA-LITE 39157LS Tensioned Contour Electrol Screen

1. 133” Diagonal

2. HD Progressive 1:0 surface

3. 120v electric motor with low voltage control

4. 16:9 aspect ratio

h. Contractor shall provide HDMI transport electronics and cables

connecting the projector to a wall outlet in an input box and raceway (empty dual gang input box and raceway provided by others). All connectors, face plates and materials for a fully compliant, first class, functioning system shall remain the responsibility of the contractor. Audio input from this connection shall be routed to the system.

i. Crestron TSW-770-B-S or equal shall be provided with full programming and all supporting materials and labor, including but not limited to, control processor(s) and device connections for a fully functional, compliant, first class system providing, but not limited to the following functions:

1. Screen control
2. Projector control
3. Source selection
4. Audio Control
5. System reset on power on and off
6. System power control
7. System lock-out function
8. System automation for power on/off based on source sensing

j. Legrand CWR-18-26PD Wall Rack for equipment mounting. Rack shall include, but not be limited to locking doors and access, drawer for storing wireless microphones, passive ventilation, in rack power management.

k. Contractor shall supply all mounting hardware, integration components and labor and materials to securely mount all components and insure compliant, fully functional, first-class operation.

D. SPECIAL CONFIGURATION G –
MAIN OFFICE DISPLAY

1. Special Configuration G shall be provided in One (1) location, C111.

2. Each space indicated shall be equipped with a SAMSUNG QET Series 55” display (or equal LG or Panasonic) and include, but not be limited to:

a. Each display shall be mounted using a Peerless ST650 SmartMount Universal Tilt Mount (or equal).

b. Contractor shall provide HDMI cables connecting the display to a wall outlet in an input box and raceway (empty dual gang input box and

raceway provided by others). All connectors, face plates and materials for a fully compliant, first class, functioning system shall remain the responsibility of the contractor.

3. Contractor shall supply all mounting hardware, integration components and labor and materials to securely mount all components and insure compliant, fully functional, first-class operation.

2.11 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 $15,000 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, Construction Manager and Owner verifying equipment and material locations as well as mounting and placement requirements prior to commencement of other installation activities.

B. Contractor shall completely cooperate with Owner's Construction Manager for all site access, site safety and related matters. Contractor shall obtain current drawings, specifications and plans from Owner's Construction Manager and make field adjustments as required to correctly and reasonably coordinate with other trades. Contractor will attend all CM field coordination and schedule meetings and cooperate with project timelines as directed.

C. Contractor shall ensure all submittals and have been provided to, and approval has been obtained from Designer and Owner prior to commencement of any final installation activities. Submittals shall include, but not be limited to:

1. Shop drawings, data sheets and system diagrams including specific cable connectors and types proposed to be installed.

2. Asset tag format, composition, attachment method and location on each serialized component being provided.

3. Firmware configuration template to be used for each component provided.

4. Written installation, coordination, and test procedure to be followed by installing technicians and engineers.

5. Final documentation template.

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.

1. Appendices depicting general ceiling conditions for areas of buildings are included herein. Contractors shall field verify specific room conditions.

B. Work Areas shall be cleaned at the end of each day. All debris shall be cleared, removed, and disposed of off premise. All equipment and tools shall be removed from common areas and stored in approved, secure storage locations.

1. Owner shall not be responsible for disposal or transportation of any packaging materials or other waste items.

2. Owner's waste containers including site dumpsters shall not be used for material disposal.

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 with asset tags and other markings provided by Owner all system devices as may be appropriate and required by Owner and Designer.

7. Work shall be performed to meet local codes and industry standards including proper grounding and bonding of installed equipment. Work shall conform to “best practices” observed by industry professional installers and as required by Owner and Designer.

8. Work shall include careful coordination and cooperation with others to ensure a timely, cost effective and proper installation for Owner’s intended application. Such efforts shall include, but not be limited to, coordinating, and cooperating with other contractors, Owner, Designer and Engineer.

9. Where cables are to be routed through or on a finished wall, standard connectors must be used at the wall location to terminate call cables. All wall plates shall be stainless steel. Plastic or nylon plates shall not be acceptable. Cables routed out of a wall box on a finished wall without proper standard connection termination shall not be acceptable.

10. All cables shall be proper and adequately supported using hooks or rings no more than eight feet (6’) apart. Cables supported by structural steel, ceiling grid or hanger wires will not be acceptable. All cable routing shall be neat and orderly.

11. All cable connecting components mounted in/on Technology Cart, shall have adequate cable slack to provide for full system inspection and or service without the removal (intentional or inadvertent) of connecting cables, including items that will be placed on the keyboard tray of equipment carts.

12. Label all cable connections for intuitive user access and as directed by Owner and Designer.

13. Work may include extending cables from installed equipment, and as required and/or specified herein, to Owner identified connection outlets.

    a. Work includes supply, connection, and testing of any such cables.

    b. Work includes neatly routing all cables and securing cables with Velcro straps as may be reasonably required to keep cables in position during normal operating, service, and inspection operations.

    c. Cables for some devices may be routed in air plenum spaces, above finished ceilings, or in other ways require special care and suitable tools to complete. Where air plenum status is in question and/or may change, plenum rated cable shall be used.

E. All installation and configuration activity shall fully comply with both the manufacturer's recommended procedures as well as industry best practices.

F. VIDEO PROJECTORS

1. Install, configure, and test approved firmware configuration template including, but not limited to:

    a. Power on Image.

    b. Lamp setting.

    c. Firmware based Device ID (Including parameters such as: TCP/IP settings, Host Name, etc.).

    d. Default port selection.

2. Neatly configure all cables as directed by Owner.

3. Attach projector to mount using projector security mounting plate provided by others.

4. Connect AC power using cord provided to projector.

5. Align projector with screen.

6. Set keystone adjustment(s) as required.

7. Zoom and focus projector as required.

8. Properly and completely secure all adjustment points.

9. Provide for low voltage power from projector electrical outlet to the remote input/switcher mounted above the input plate. Securely mount transformer with the projector.

10. Coordinate with Owner and Designer markerboard location adjustments.

11. Remove and dispose of all excess materials, and packaging as directed by Owner.

G. DOCUMENT CAMERAS

1. Develop with Owner and Designer an approved firmware configuration template for all physical and programmatic settings available on the product.

2. Install, configure, and test approved firmware configuration template in all spaces as indicated on schedules herein.

H. WIRELESS PRESENTATION DEVICES

1. Develop with Owner and Designer an approved firmware configuration template for all physical and programmatic settings available on the

product.

2. Install, configure, and test approved firmware configuration template in all spaces as indicated on schedules herein.

I. VOICE AMPLIFICATION SYSTEM

1. Connect all audio input and output device cables.

2. Secure mounting location with mounting screws or Velcro pads to eliminate involuntary equipment movement.

3. Neatly route all cabling and secure slack.
4. Adjust balance levels for standard configuration.

5. Verify target volume level in space with sound meter and record level at installation.

J. 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. Repairs shall include, but not be limited to patching and painting.

2. 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.

3. The building and work area shall be returned to its original condition prior to final sign-off of the project.

K. 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.

L. All cable and device labels shall match existing standard.

M. Worksites include the following:

1. Western Elementary School
1399 S. Dearing Road
Parma, Michigan 49269

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 and proposed test plan 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 accept or revise the proposed test plan, 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. Location installed.
7. Manufacturer's warranty.
8. Maintenance contract terms.
9. Verification of maintenance contract engagement.
10. Telephone numbers for service and support.
11. Detailed technical support and service procedure instructions.
12. 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.
13. 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.
14. CAD or Visio as built drawings/diagrams for each building.
15. System Configuration Report.
16. Complete inventory of installed hardware and system software including, but not be limited to, model numbers, Ethernet MAC address, serial numbers, physical installation location and software options.

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 one (1), 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.

C. Contractor shall provide end user training for classroom instructors district wide via the development of video training segments to be posted on an internal website for distribution. Training shall be available prior to substantial completion. End user video training segments shall include, but not limited to the following:

1. System power up and power down.

2. Source selection.

3. Volume control.

4. Voice amplification use.

5. Document camera operation.

6. System care and classroom maintenance best practices.

7. Equipment cart relocation and adjustments.

8. Screen operation and care.

9. Problem reporting.

3.06 SCHEDULE, MEETINGS AND PLANS

A. Schedule

1. Post Bid Interviews: Week of April 7, 2025
2. Contractor Chosen: Week of April 7, 2025
3. Work Commences: Week of October 6, 2025
4. Substantial Completion: Week of November 24, 2025
5. Project Close Out: January 19, 2026

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 51 16
PUBLIC ADDRESS SYSTEM

PART 1 - GENERAL

1.01 DESCRIPTION OF PROJECT

A. Work described in this specification section pertains to a Public Address System component for Western Elementary School. Work shall include, but not be limited to public address devices, ceiling and/or wall speakers, interface units and all other components and services required for a full and operational system.

B. Contractor shall propose a system to be installed and connected to the owner's existing infrastructure.

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 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 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. 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.

F. Determination of acceptance of proposed equal equipment is at the sole discretion of the Designer/Owner.

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 provided Paging and Public Address 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 / Paging 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 (In alphabetical order):

    a. ADVANCED NETWORK DEVICES

    b. ATLASIED

    c. CYBERDATA

    d. VALCOM

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 SYSTEM HEAD END

A. Contractor shall supply, install and configure all necessary materials for a fully IP PoE Paging system. System shall fully integrate new speakers as specified herein for a fully working and compliant system

B. System shall be Valcom IP 6000 or equal

C. System shall reside on a contractor provided server that shall be installed in the building MDF. Virtualized solutions may be of interest to the Owner.

D. System shall provide for, but not limited to the following:

1. Building wide paging

2. Zone paging

3. Program bells and alerts for normal school operation, configurable by simple calendar based user interface.

4. Individual volume control of each IP speaker.

5. Full SIP compliance for communication between devices.

6. All other features that are part of the manufacturer’s current release of the product offering.

7. Contractor shall configure provided licensing to make Public Address System devices fully functional per Owner requirements and as specified herein.

E. INTERIOR POWER OVER ETHERNET (PoE) IN-CEILING SPEAKERS

1. Speakers shall be provided in locations identified on provided Appendix B – Public Address Diagrams as identified as S1.

2. Acceptable Manufacturer(s)

a. ADVANCED NETWORK DEVICES

1. IPSCM

b. VALCOM

c. Or Equal

3. Interior Speakers shall be provided in classrooms and other common areas as identified on provided drawings.

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.

4. Speakers shall meet or exceed the following requirements:

a. Square ceiling tile IP speaker (2'x 2')

b. Microphone for two-way communication

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.

F. INTERIOR/EXTERIOR POWER OVER ETHERNET (PoE) HORNS

1. Speakers shall be provided in locations identified on provided Appendix B – Public Address Diagrams as identified as S2.

2. Acceptable Manufacturers

    a. ADVANCED NETWORK DEVICES

    b. ATLASIED

    c. CYBERDATA

        1. 011472

    d. Or Equal

3. Horns shall meet or exceed the following requirements:

    a. Built-in 8 W Class D amplifier

    b. PoE IEEE 802.3at Class 3 (max 25 Watts)

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

    d. Horns shall be installed in recessed impact-resistant case.

    e. Horns shall be IP66 rated.

    f. Frequency response of 400Hz – 7.5 kHz.

    g. Each speaker installed in gymnasium shall include appropriate protective cage.

    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 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.

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

G. INTERIOR POWER OVER ETHERNET (PoE) IN-CEILING SPEAKERS

1. Speakers shall be provided in locations identified on provided Appendix B – Public Address Diagrams as identified as S6.

2. Acceptable Manufacturer(s)

    a. ADVANCED NETWORK DEVICES

    b. VALCOM

        1. VIP-415-GY

c. Or Equal

3. Interior Speakers shall be provided in classrooms and other common areas as identified on provided drawings.

   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.

4. Speakers shall meet or exceed the following requirements:

   a. Pendent Style Mounting

   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 adjustable at installation to accommodate specific acoustical properties of the intended coverage area.

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

   l. System shall produce audio at a peak level of approximately eighty-five (85) dBA at probable listener's positions.

H. COMPONENT INTERCONNECTION

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

2. No wiring installed shall be visible unless specifically and individually approved by Owner and Designer.

3. Wiring color shall remain the same throughout the system. Colors used for coding shall be as directed by the system manufacturer, Owner and Architect.

4. Wire shall be copper.

I. Owner shall provide adequate PoE ports in the designated MDF and IDF locations for the connection of all devices required for system operation. Contractor shall remain responsible for all connection to switches, including, but not limited to patch cables at both the closet and device location. All patch cable colors must be coordinated with Owner to match Owner site standards.

PART 3 - EXECUTION

3.01 PREPARATION

A. Contractor shall conduct detailed walk-through examination 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 includes extending cable bundles, as required, to Owner identified equipment installation locations at all locations.

E. Contractor shall program all bells, alerts, and schedules into the system to support initial operations. No Owner programming shall be required for successful system cut-over in any building.

F. Worksites include the following:

1. Western Elementary School
   1399 S. Dearing Road
   Parma, Michigan 49269

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 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.

I. 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 cut-over to 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:

1. 100% of all speakers

2. Paging and Public Address programming

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 cut-over, 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. As built drawings for each building.

14. Complete inventory of installed station hardware and system software. Hardware inventory shall include set type (model number), Ethernet MAC address, serial number, location, software groups.

3.05 SCHEDULE, MEETINGS AND PLANS

A. Schedule

1. Final Vendor Presentations:

2. Contractor Chosen:

3. Work Commences:

4. Substantial Completion:

5. Project Close-out:

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 Clock System expansion for Western School District. 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 one (1) 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. 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. Valcom

2. Or Equal

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 CLOCK SYSTEM

A. Contractor shall supply, install, and configure all necessary materials to install a fully compliant simple PoE Clock System attached to NTP server as directed by Owner to fully integrate new clock devices as specified herein.

2.07 SINGLE SIDED CLOCK

A. Single sided factory assembled digital clocks shall be provided and installed in classrooms and/or other instructional areas as indicated in associated drawings with symbol C1

B. Clocks shall meet or exceed the following:

1. Analog clock shall be Valcom VIP-D440A or equal.

2. 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. Western Elementary School
   1399 S. Dearing Road
   Parma, Michigan 49269

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. 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 April 7, 2025

2. Contractor Chosen: Week of April 28, 2025

3. Work Commences: Week of October 6, 2025

4. Substantial Completion: Week of November 24, 2025

5. Project Close-out: Week of January 19, 2026

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 specification section pertains to Building Access Control System expansion for Western School District (Owner). Work shall include, but not be limited to, head-end equipment, cabling, door control equipment, and all other components and services required for a full and operational system.

B. Work described in this specification section specification section pertains shall be conducted in two phases. The initial cutover to a new districtwide access control system. The second phase will be to bring the new Western Elementary Building online.

C. Contractor shall advise, coordinate, and work cooperatively with Owner representatives and/or owner's designee related to any installation or special security provisions.

D. 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.

E. 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) 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. 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. 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.

1. Acceptable Manufacturers:

a. On Guard (Lenel)

b. Genetec

c. Avigilon

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 BUILDING ACCESS CONTROL SYSTEM

A. Contractor shall supply, install, and configure all necessary materials to provide a new access control system as for both the existing buildings and new access devices as specified herein.

2.10 DOOR CONTROLLER

A. At Western Elementary School, contractor shall provide an adequate number of controllers to support the quantity of credential readers, door position indicators and integrated hardware shall be provided as detailed on appendix D, Western New Elementary Door Schedule. A dedicated door controller shall be provided and installed in a lockable enclosure

above/behind the finished surface on the secure side of each relevant opening. All power shall be from PoE switches provide by others. No local power at an opening will be permitted unless noted otherwise.

B. Controller(s) shall provide, but not be limited to:
   1. Capable of supporting multiple types and styles of credential readers.
   2. Two (2) inputs for credential readers.
   3. Two (2) outputs for door interface hardware.

C. Door Controller provided shall be:
   1. MERCURY
      a. Mercury MP1501 PoE Door Controller

D. At existing Western School District buildings, contractor shall provide an adequate number of controllers to support the quantity of credential readers shall be provided as detailed on appendix E. A centralized door control shall be provided and shall utilize existing access control cabling.

E. Controller(s) shall provide, but not be limited to:
   1. Capable of supporting multiple types and styles of credential readers.
   2. Four (4) inputs for credential readers.
   3. Four (4) outputs for door interface hardware.

F. Door Controller provided shall be:
   1. MERCURY
      a. Mercury MP4502 PoE Door Controller

2.11 CREDENTIAL READERS

A. Credential Readers shall be provided and installed as indicated herein. Credential Reader provided shall meet or exceed the following requirements:
   1. HID Corporation
      a. HID® MiniProx® 5365
      b. HID® Proximity ProxPoint® Plus 6005
      c. Reader model based on installation location (as shown on drawings) and space provided by other trades.
   2. Powered from associated Controller.

3. Response time for passage requests of 800ms.

4. Sealed weatherproof shell enclosure rated for outdoor operation.

5. Surface mounted on exterior surface of structure.

6. LED or other type of visual indicator indicating request status.

7. Audible status indicator upon user prompt.

8. Range of four inches (4”).

B. See associated schedule(s) and or Drawings herein for location and quantity.

2.12 DOOR POSITION INDICATORS (DPI)

A. Contractor shall provide, install and configure door position indicator(s) identified on associated schedule as provided by security contractor.

2.13 REQUEST TO EXIT DEVICE (REX)

A. Contractor shall provide, install and configure request to exit device(s) identified on associated schedule as provided by security contractor.

2.14 INTEGRATED HARDWARE

A. Assa Ablow IN220 Integrated Hardware shall be provided and installed as indicated on identified on associated schedule as provided by security contractor.

B. See associated schedule(s) and or Drawings herein for location and quantity.

2.15 DOOR STATIONS

A. A Door Station shall be provided, installed, provisioned, licensed and configured at each location as identified on door schedule as provided by security contractor.

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.

2.16 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 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. Two lockdown buttons in the Main Office shall be configured to activate locks for doors that provide entry into the building.
        4. 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.
        5. 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. Western Elementary School
   1399 S. Dearing Road
   Parma, Michigan 49269

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), 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. 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 April 7, 2025

2. Contractor Chosen: Week of April 28, 2025

3. Work Commences: Week of October 6, 2025

4. Substantial Completion of Project: Week of November 24, 2025

5. Project Close-out: Week of January 19, 2026

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 Western School District. The owner intends to migrate their existing Avigilon video monitoring system to a district wide system that includes the new Western Elementary School as shown on Appendix C and Appendix F.

B. Work described in this specification section specification section pertains shall be conducted in two phases. The initial cutover to a new districtwide video monitoring system. The second phase will be to bring the new Western Elementary Building online.

C. The contractor shall provide and install new cameras for the Western Elementary School as described herein.

D. Contractor shall provide but not limited to the necessary programing, equipment and labor to migrate the owners existing video management system to new video monitoring system as well as additional cameras as described herein.

E. 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 described herein.

F. The centralized server recording equipment shall be installed in the Owner's existing district Main Distribution Frame (MDF) at Western Middle School and as required.

G. 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.).

H. 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.

I. 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 listof 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. AVIGILON
2. AXIS COMMUNICATIONS
3. GENETEC
4. HANWHA
5. ON GUARD (Lenel)

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. System shall be capable of and licensed to support the specified configuration including the owner existing configuration and an additional twenty percent (20%) more cameras without additional software investment required (actual camera and mounting hardware cost excluded).

B. Central control software shall be installed on owner existing virtual server environment.

C. System shall be capable of being fully administered from any web browser attached to the network.

D. System shall provide full functionality of the following feature sets and/or standards either in the Central Control software and in conjunction with proposed camera equipment, and shall provide for all management, configuration and control of features and/or standards from Central Control software administrative interface:

1. Administration access shall be protected by unique and secure log on (User ID and Password).

2. System administrator shall be capable of complete system back-up and full system restoration from a previously saved configuration.

3. System reporting shall include, but not be limited to:

a. Real time camera status.

b. Historical camera utilization for administrator defined period.

c. Status of all system components.

d. Digital Zoom of streaming and stored images.

e. Ad hoc access to streaming and stored video from any properly authenticated device with network access.

f. H.264 Decoding.

g. Motion detection and alarm-based recording.

h. Video client support for the following:

1. Web Browser (Internet Explorer/Firefox/Safari/Chrome)

2. Apple Macintosh (OSX)

3. iOS

4. Android OS

5. Windows 10

E. System shall be configured to provide standard acceptable Ethernet Quality of Service (QoS) identification at both layer two (2) and layer three (3) to Owner's network infrastructure so as to ensure end-to-end priority delivery of video traffic across the network.
   1. IPSec

   2. IEEE 802.3p

F. In the event of a power failure, system shall automatically re-initialize and "become active" to the last configuration in use with no human intervention.

G. All other features currently a part of the manufacturer's latest commercial release.

2.06 CAMERAS

A. Ethernet cameras shall be provided as indicated herein. Cameras shall meet or exceed the following specified capabilities:
   1. Standard Camera (SC3)

      a. Axis M3205-LVE or equal

      b. Cameras shall be installed in mechanical flush mounted, integrated, tamper and impact resistant dome 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. Domes shall also meet or exceeding the following requirements:

         1. Optically correct polycarbonate lower dome with light loss not greater than 11.5 f-stops.

         2. Dust and water protection based.

         3. Puncture resistant with capability to withstand a pointed impact force of 35 foot-pounds without creating an internal depression greater than .2 inches.

         4. Impact resistant with capability to withstand repeated multiple blunt impact forces up to 100 foot-pounds.

         5. Camera shall include all necessary mounting hardware and accessories for a fully supported installation.

2. Interior Multidirectional – Dual Sensor (SC1)

    a. Axis P3715-PLVE or equal

    b. 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.

3. Exterior High Resolution (SC4)

    a. Axis P3719-PLE or equal

    b. 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.

4. Exterior 180° High Resolution (SC5)

a. Axis P3818-PVE or equal

b. 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.

5. Interior/Exterior Panoramic (SC2)

a. Axis M4308-PLE or equal

b. Availability of dewarped quad view mode

c. 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.

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 $15,000 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.

    b. In locations where new data cabling will be provided, low voltage cabling contractor shall be responsible for installing cabling to adjacent area for connection to camera device.

    c. 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. Western Elementary School
1399 S. Dearing Road
Parma, Michigan 49269

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 twenty (20) operators to be trained. Training shall be a minimum of two (2), one (1) 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 five (5) 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

A. Schedule

1. Post Bid Interviews: Week of April 7, 2025

2. Contractor Chosen: Week of April 28, 2025

3. Work Commences: October 6, 2025

4. Substantial Completion of Project: November 24, 2025

5. Project Close-out: January 19, 2026

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.

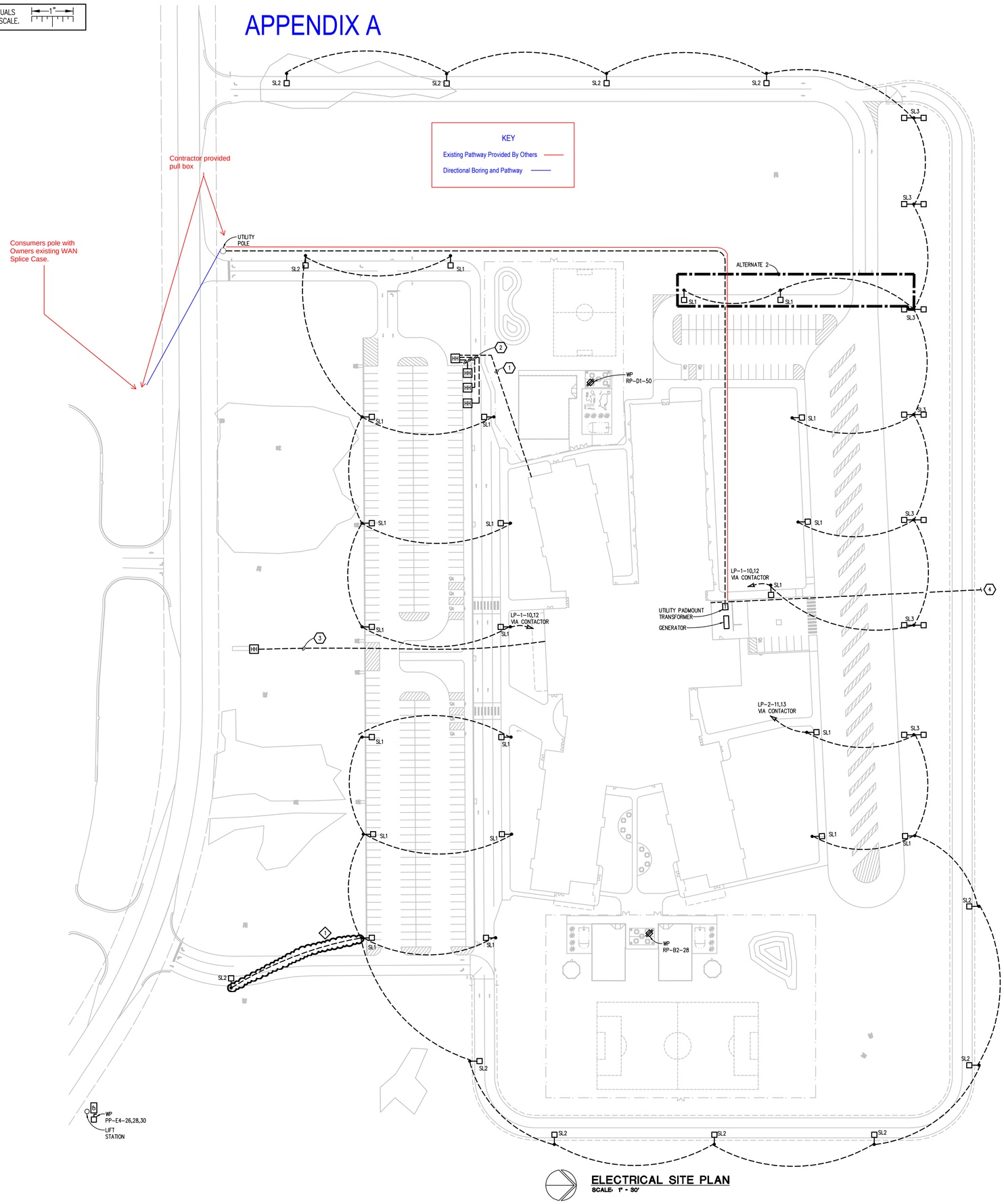
C. All work shall be coordinated with Owner's construction manager on site.

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

THE FOLLOWING DIMENSION EQUALS ONE INCH WHEN PRINTED TO SCALE. 1"

APPENDIX A



ELECTRICAL SITE PLAN
SCALE: 1" = 30'

SITE PLAN GENERAL NOTES:

1. THESE NOTES ARE GENERIC GUIDELINES ONLY. ELECTRICAL CONTRACTOR'S PERSONNEL ON SITE SHALL BE THOROUGHLY FAMILIAR WITH THE PUBLISHED SPECIFICATIONS FOR EXACT DESCRIPTIONS OF SCOPE, METHODS, AND MATERIAL.
2. THESE DRAWINGS REPRESENT THE GENERAL EXTENT AND ARRANGEMENT OF SYSTEMS. COORDINATE EXACT EQUIPMENT LOCATIONS, ELEVATIONS, AND FINAL CONNECTION REQUIREMENTS. PROVIDE EACH SYSTEM COMPLETE, INCLUDING ALL NECESSARY COMPONENTS, FITTINGS AND OFFSETS.
3. CONDUCT A SURVEY TO IDENTIFY ALL UNDERGROUND UTILITIES. CALL 811 PRIOR TO EXCAVATION.
4. UTILITIES SHOWN ON THESE DRAWINGS ARE FOR REFERENCE ONLY. COORDINATE EXACT LOCATION OF ALL EXISTING UTILITIES, AND ROUTING OF ALL NEW UNDERGROUND UTILITIES PRIOR TO EXCAVATION.
5. DEWATER TRENCHES PRIOR TO INSTALLATION OF CONDUITS. PROVIDE WATER TIGHT FITTINGS ON ALL UNDERGROUND CONDUITS.
6. COORDINATE DEMOLITION WORK, AND ELECTRICAL AND TELEPHONE SERVICES TO THE SITE, WITH THE RESPECTIVE LOCAL UTILITY COMPANY REPRESENTATIVES PRIOR TO COMMENCEMENT OF WORK. INCLUDE ALL ASSOCIATED COST/FEES BY THE UTILITY COMPANIES IN THE BID PRICE.
7. INSTALL UNDERGROUND CONDUITS 42" BELOW FINISHED GRADE, MINIMUM, UNLESS NOTED OTHERWISE.
8. COORDINATE SERVICE SHUT-DOWNS WITH ALL TRADES INVOLVED ON SITE AND OBTAIN WRITTEN AUTHORIZATION FROM OWNER 72 HOURS PRIOR TO ANY ELECTRICAL AND/OR TELEPHONE SHUT-DOWN.
9. REMOVE ALL DE-ENERGIZED CONDUCTORS FROM SITE AT COMPLETION OF THE PROJECT.
10. OUTDOOR LIGHTING BRANCH CIRCUIT WIRING SHALL BE MINIMUM #8 AWG CONDUCTORS (XHHW-2), IN MINIMUM 1" DIA. CONDUIT, UNLESS NOTED OTHERWISE.
11. SPARE CONDUITS SHALL INCLUDE PULL STRING AND SHALL BE TERMINATED WITH A CAP.
12. EXCAVATE THE ENTIRE LENGTH OF TRENCH TO PROPERLY SET DUCT ELEVATIONS.

(#) CONSTRUCTION KEY NOTES:

1. PROVIDE (4) 4" CONDUITS WITH PULL STRING AND BUSHINGS TO SERVE FUTURE ELECTRIC VEHICLE CHARGING STATIONS. ROUTE UNDER BUILDING AND STUB INTO ELECTRICAL ROOM D115 UNDER MAIN SWITCHBOARD.
2. PROVIDE (6) 1-1/2" CONDUIT WITH PULL STRING TO SERVE FUTURE ELECTRIC VEHICLE CHARGING STATIONS.
3. PROVIDE (2) 1 1/4" CONDUITS WITH PULL STRING AND BUSHINGS FOR ELECTRONIC SIGN.
4. PROVIDE (2) 4" CONDUITS WITH PULL STRING. CAP AND MARK CONDUITS AT END FOR FUTURE USE. STUB CONDUITS INTO ELECTRICAL D115.

Know what's below. Call before you dig.

TMP ARCHITECTURE

TMP ARCHITECTURE INC
1191 WEST SQUARE LAKE ROAD - BOX 289
BLOOMFIELD HILLS - MICHIGAN - 48302
PH - 248.338.4561 FX - 248.338.0223
EM - INFO@TMP-ARCHITECTURE.COM

REGISTRATION SEAL

CONSULTANT

Peter Basso Associates Inc
CONSULTING ENGINEERS
5145 Livernois, Suite 100
Troy, Michigan 48098-3276
Tel: 248-879-5666
Fax: 248-879-0007
www.PeterBassoAssociates.com
PBA Project No.: 2022.0365

PROJECT TITLE

WESTERN ELEMENTARY SCHOOL

WESTERN SCHOOL DISTRICT
PARMA, MI

DRAWING TITLE

ELECTRICAL SITE PLAN

ISSUE DATES

DATE:	ISSUED FOR:
10-30-2023	ADDENDUM 1
10-16-2023	CONSTRUCTION DOCUMENTS

DRAWN	SEB
CHECKED	STP
APPROVED	STP

PROJECT NO.
22054

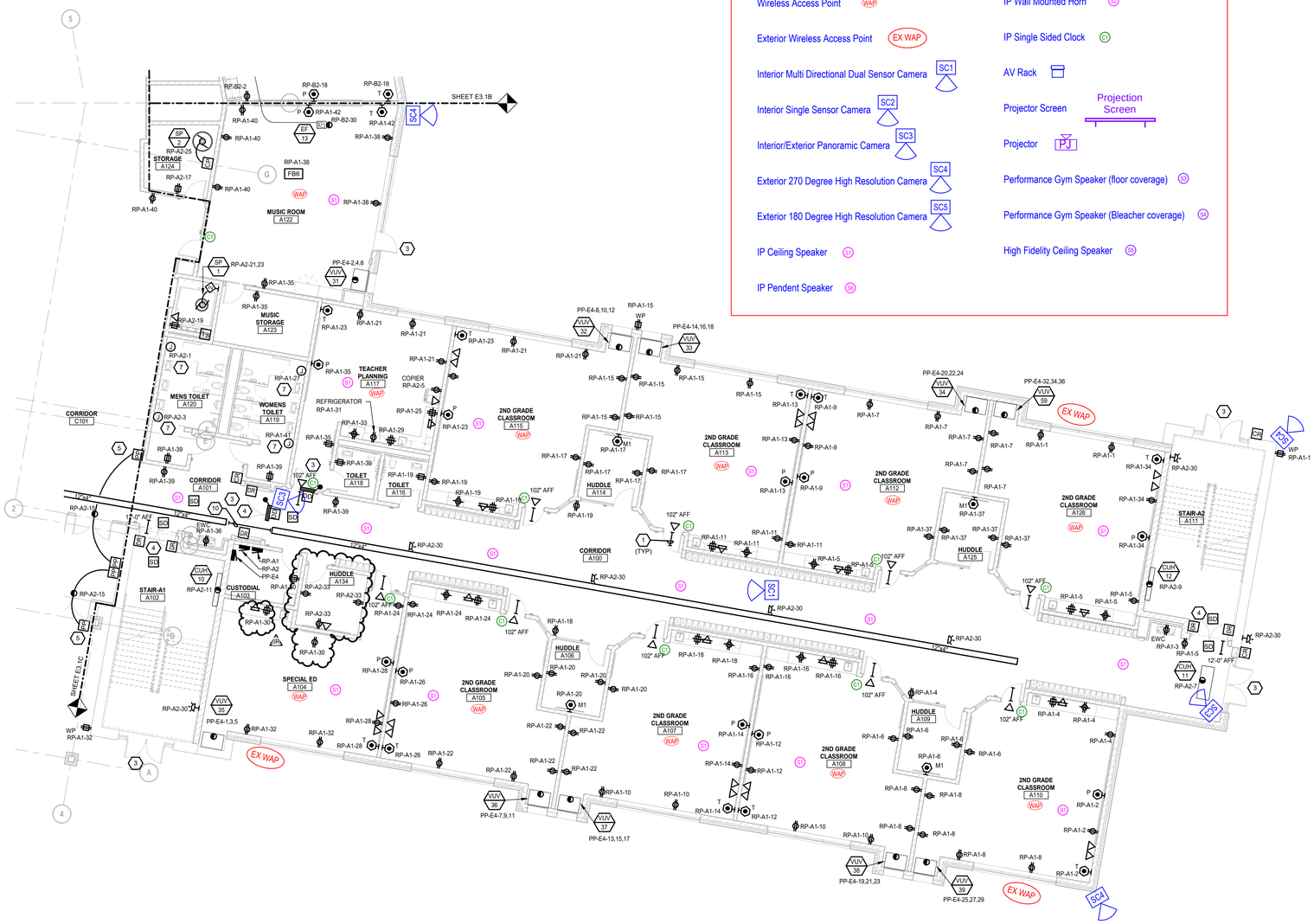
DRAWING NO.
E0.4

THE FOLLOWING DIMENSION EQUALS ONE INCH WHEN PRINTED TO SCALE. 1"

APPENDIX B

KEY

- Wireless Access Point (WAP)
- Exterior Wireless Access Point (EX WAP)
- Interior Multi Directional Dual Sensor Camera (SC1)
- Interior Single Sensor Camera (SC2)
- Interior/Exterior Panoramic Camera (SC3)
- Exterior 270 Degree High Resolution Camera (SC4)
- Exterior 180 Degree High Resolution Camera (SC5)
- IP Ceiling Speaker (S1)
- IP Pendent Speaker (S6)
- IP Wall Mounted Horn (S2)
- IP Single Sided Clock (C1)
- AV Rack
- Projector Screen (Projection Screen)
- Projector (PJ)
- Performance Gym Speaker (floor coverage) (S3)
- Performance Gym Speaker (Bleacher coverage) (S4)
- High Fidelity Ceiling Speaker (S5)



FIRST LEVEL POWER AND AUXILIARY SYSTEMS PLAN - ZONE 'A'

SCALE: 1/8" = 1'-0"

ELECTRICAL GENERAL NOTES:

1. THESE DRAWINGS REPRESENT THE GENERAL EXTENT AND ARRANGEMENT OF SYSTEMS. COORDINATE EXACT EQUIPMENT LOCATIONS, ELEVATIONS, AND FINAL CONNECTION REQUIREMENTS. PROVIDE EACH SYSTEM COMPLETE, INCLUDING ALL NECESSARY COMPONENTS, FITTINGS AND OFFSETS.
2. INSTALL SYSTEMS SUCH THAT REQUIRED CLEARANCE AND SERVICE ACCESS SPACE IS PROVIDED AROUND ALL MECHANICAL AND ELECTRICAL EQUIPMENT, AND AROUND ANY COMPONENTS WHICH REQUIRE SERVICE ACCESS.
3. COORDINATE AND PROVIDE ACCESS DOORS WITHIN INACCESSIBLE CEILING, SHAFT, AND CHASE AREAS FOR ALL COMPONENTS WHICH REQUIRE SERVICE ACCESS. REFER TO ARCHITECTURAL DRAWINGS FOR CEILING TYPES.
4. PROVIDE SUPPLEMENTARY STEEL AS REQUIRED FOR THE PROPER SUPPORT OF ALL SYSTEMS.
5. TRANSFORMER SECONDARY CONDUCTORS SHALL BE SIZED IN ACCORDANCE WITH TRANSFORMER CIRCUIT SIZING SCHEDULE SHOWN ON "ELECTRICAL STANDARD SCHEDULES DRAWING" UNLESS OTHERWISE NOTED.
6. MOTOR CIRCUIT PROTECTION SHALL BE SIZED IN ACCORDANCE WITH MOTOR CIRCUIT SIZING SCHEDULES SHOWN ON "ELECTRICAL STANDARD SCHEDULES DRAWING" UNLESS OTHERWISE NOTED.
7. COORDINATE THE MOUNTING HEIGHTS OF DEVICES WITH ARCHITECTURAL ELEVATIONS AND THE TRADES INSTALLING THE WORK.
8. COORDINATE EXACT LOCATIONS OF ALL FLOOR SERVICE FITTINGS AND POKE-THROUGH ASSEMBLIES WITH FINAL FURNITURE LAYOUT DRAWINGS.
9. REFER TO MECHANICAL SCHEDULE SHEETS FOR ELECTRICAL REQUIREMENTS FOR MECHANICAL EQUIPMENT. PROVIDE ALL CONNECTIONS, STARTERS, DISCONNECTS, ETC. AS REQUIRED BY SCHEDULES AND WHERE NOTED ELSEWHERE. VERIFY REQUIREMENTS OF ALL MECHANICAL EQUIPMENT WITH SHOP DRAWINGS SUBMITTALS. NOTIFY ENGINEER OF ANY CONFLICTS BETWEEN EQUIPMENT SUBMITTALS AND ELECTRICAL DRAWINGS. WHERE CIRCUIT SIZES ARE SHOWN ON THE ELECTRICAL DRAWINGS THAT DIFFER FROM WHAT IS INDICATED ON THE MECHANICAL SCHEDULES, PROVIDE THE CIRCUIT OF HIGHER AMPACITY.
10. REFER TO TEMPERATURE CONTROLS SHEETS FOR REQUIRED FIRE ALARM CONTROL MODULES, DUCT SMOKE DETECTORS, AND MOTOR CONTROLLERS. PROVIDE ALL ACCESSORIES INDICATED.
11. THE FIRE ALARM DEVICES SHOWN ON PLAN ARE A PARTIAL REPRESENTATION OF THE FIRE ALARM SYSTEM. PROVIDE THE DESIGN AND INSTALLATION OF A COMPLETE AND FUNCTIONAL FIRE ALARM SYSTEM IN ACCORDANCE WITH THE SPECIFICATIONS, DRAWINGS, AND ALL APPLICABLE CODES. THE FIRE ALARM VENDOR SHALL PROVIDE LAYOUT DRAWINGS INDICATING THE REQUIRED QUANTITIES AND LOCATIONS OF MANUAL PULL STATIONS, NOTIFICATION APPLIANCES, SMOKE AND HEAT DETECTORS, CONTROL MODULES, INTERFACE MODULES, MODULES FOR SPRINKLER FLOW AND TAMPER SWITCHES, ALL CONTROL PANELS, POWER SUPPLIES, AND ADDITIONAL DEVICES AND EQUIPMENT REQUIRED. COORDINATE LOCATIONS OF DEVICES WITH ARCHITECTURAL FINISHES AND REFLECTED CEILING PLANS, INCLUDING ADDITIONAL SMOKE AND HEAT DETECTORS REQUIRED FOR NON-SMOOTH CEILING APPLICATIONS. INCLUDE ALLOWANCES FOR ADJUSTMENT OF DEVICES BY THE ARCHITECT AT THE TIME OF SUBMITTAL TO COORDINATE WITH BUILDING FINISHES AND OTHER CEILING ELEMENTS.
12. REFER TO LIGHTING CONTROL SCHEDULE FOR ROOM CONTROL AND EMERGENCY LIGHTING CIRCUIT CONTROL REQUIREMENTS. DESIGNATION FOR ROOM IS INDICATED AS A LETTERED OVAL SYMBOL.
13. PROVIDE TAMPER-RESISTANT TYPE RECEPTACLES FOR ALL NEW RECEPTACLES UNLESS OTHERWISE NOTED.

CONSTRUCTION KEY NOTES:

1. THE ELECTRICAL CONTRACTOR SHALL PROVIDE 2-2"C U.O.N. CONDUITS FOR TECHNOLOGY AND AUXILIARY SYSTEM WIRE AS INDICATED. STUB CONDUITS FROM CEILING SPACE. PROVIDE PLASTIC BUSHINGS AT EACH END. PROVIDE REMOVABLE/RESEALABLE FIRE STOP PUTTY IN EACH CONDUIT AND FIRE STOP AROUND EACH CONDUIT. COORDINATE WITH TECHNOLOGY CONTRACTOR FOR EXACT LOCATION OF CONDUIT. PROVIDE MINIMUM OF 1" CONDUIT FOR ALL OTHER AREAS REQUIRING SLEEVES.
2. DUCT SMOKE DETECTOR SHALL BE FURNISHED AND INSTALLED BY THE ELECTRICAL CONTRACTOR. COORDINATE MOUNTING LOCATION AND QUANTITY WITH THE MECHANICAL DUCTWORK CONTRACTOR. ELECTRICAL CONTRACTOR SHALL WIRE DUCT SMOKE DETECTOR/RTU/AHU SUPPLY/RETURN FAN MOTOR STARTER SO THAT UPON DETECTION OF SMOKE, THE SUPPLY/RETURN FAN WILL SHUT DOWN. THIS SHALL BE ACCOMPLISHED VIA THE FIRE ALARM CONTROL PANEL. PROVIDE ALL REQUIRED CONTROL MODULES AND RELAYS. COORDINATE WITH THE TEMPERATURE CONTROL/FIRE ALARM CONTRACTOR. PROVIDE WEATHER PROOF ENCLOSURES AS REQUIRED.
3. REFER TO ARCHITECTURAL FLOOR PLANS, DOOR HARDWARE SCHEDULE ON ARCHITECTURAL DRAWINGS, ACCESS CONTROL SYSTEM SPECIFICATION SECTION AND ACCESS CONTROL DOOR DIAGRAM(S) ON E7 SERIES FOR RACEWAY AND BACK BOX REQUIREMENTS FOR DOOR OR BANK OF DOORS INDICATED. PROVIDE ALL RACEWAYS AND BACK BOXES REQUIRED. COORDINATE WITH DOOR HARDWARE AND ACCESS CONTROL CONTRACTORS.
4. ELECTRICAL CONTRACTOR SHALL PROVIDE FIRE ALARM CONTROL MODULES AND SMOKE DETECTORS FOR DOOR RELEASE. COORDINATE MOUNTING WITH DOOR CONTRACTOR. ALL RELATED DOOR HARDWARE IS PROVIDED BY OTHERS. WIRE TO FIRE ALARM PANEL SO THAT UPON SYSTEM ALARM, DOOR WILL CLOSE.
5. PUSH PAD FOR AUTOMATIC DOORS. ALL DOOR AND PUSH PAD HARDWARE IS PROVIDED BY DOOR CONTRACTOR. ELECTRICAL CONTRACTOR SHALL INSTALL PUSH PADS AND PROVIDE CONDUIT AND WIRE FOR COMPLETE OPERATION. COORDINATE WITH DOOR CONTRACTOR. PUSH PAD BACK BOX IS DOUBLE GANG.
6. HEAT TRACE. COORDINATE WITH MECHANICAL CONTRACTOR.
7. HAND DRYER FURNISHED BY ARCHITECT AND INSTALLED BY ELECTRICAL CONTRACTOR. COORDINATE MOUNTING HEIGHT WITH ARCHITECTURAL DRAWINGS.
8. SECURITY CAMERA, BY OTHERS. COORDINATE FINAL LOCATION WITH TECHNOLOGY CONTRACTOR PRIOR TO ROUGH IN. PROVIDE 3/4" C. TO ACCESSIBLE CEILING SPACE.
9. PA SPEAKER, BY OTHERS. COORDINATE FINAL LOCATION WITH TECHNOLOGY CONTRACTOR PRIOR TO ROUGH IN. PROVIDE 3/4" C. TO ACCESSIBLE CEILING SPACE.
10. THE ELECTRICAL CONTRACTOR SHALL PROVIDE 2-4"C U.O.N. CONDUITS FOR TECHNOLOGY AND AUXILIARY SYSTEM WIRE AS INDICATED. STUB CONDUITS FROM CEILING SPACE. PROVIDE PLASTIC BUSHINGS AT EACH END. PROVIDE REMOVABLE/RESEALABLE FIRE STOP PUTTY IN EACH CONDUIT AND FIRE STOP AROUND EACH CONDUIT. COORDINATE WITH TECHNOLOGY CONTRACTOR FOR EXACT LOCATION OF CONDUIT. PROVIDE MINIMUM OF 1" CONDUIT FOR ALL OTHER AREAS REQUIRING SLEEVES.
11. FIRE ALARM SUPPLIER SHALL COORDINATE EXACT LOCATIONS AND QUANTITIES WITH FIRE MARSHALL.
12. COORDINATE MOUNTING LOCATION WITH TECHNOLOGY CONTRACTOR.
13. ELECTRICAL CONTRACTOR SHALL INSTALL 4" SQUARE JUNCTION BOX WITHIN 3'0" OF ELECTRICAL BACKBOARD WINCH UP IN CEILING SPACE. ALSO INSTALL 4 POLE, TWIST LOCK, SINGLE RECEPTACLE, PROVIDE BY WINCH MANUFACTURERS, INTO THE JUNCTION BOX.
14. ELECTRICAL CONTRACTOR SHALL INSTALL ALL CONTROLS, PUSHBUTTONS, KEY SWITCHES ETC. (PROVIDE WITH EACH BASKETBALL BACKBOARD), FOR A COMPLETE OPERABLE SYSTEM. KEY SWITCHES GANGED IN PAIRS IN ONE COVER PLATE TO CONTROL THE BACKSTOP SWING AND HEIGHT ADJUSTER.

DRAWINGS HAVE BEEN UPDATED TO INCORPORATE ALTERNATE 1 CLASSROOM ADDITION AS APPROVED PROJECT SCOPE. ALL INFORMATION ORIGINALLY INCLUDED ON ALT SHEETS HAVE BEEN INCORPORATED INTO THE BASE PROJECT DRAWINGS FOR CONTRACTOR CLARIFICATION.

TMP ARCHITECTURE

TMP ARCHITECTURE INC

1191 WEST SQUARE LAKE ROAD - BOX 289
BLOOMFIELD HILLS - MICHIGAN - 48302
PH - 248.338.4561 FX - 248.338.0223
EM - INFO@TMP-ARCHITECTURE.COM

REGISTRATION SEAL

CONSULTANT

Peter Basso Associates Inc
CONSULTING ENGINEERS
5145 Livernois, Suite 100
Troy, Michigan 48098-3276
Tel: 248-879-5666
Fax: 248-879-0007
www.PeterBassoAssociates.com
PBA Project No.: 2022.0365

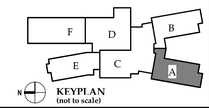
PROJECT TITLE

WESTERN ELEMENTARY SCHOOL

WESTERN SCHOOL DISTRICT
PARMA, MI

DRAWING TITLE

FIRST LEVEL POWER AND AUXILIARY SYSTEMS PLAN - ZONE 'A'



ISSUE DATES

08-12-2024	BULLETIN 5R
04-22-2024	BULLETIN 4
02-16-2024	ASI 2
01-09-2024	BULLETIN 1
11-08-2023	ADDENDUM 2
10-30-2023	ADDENDUM 1
10-16-2023	CONSTRUCTION DOCUMENTS

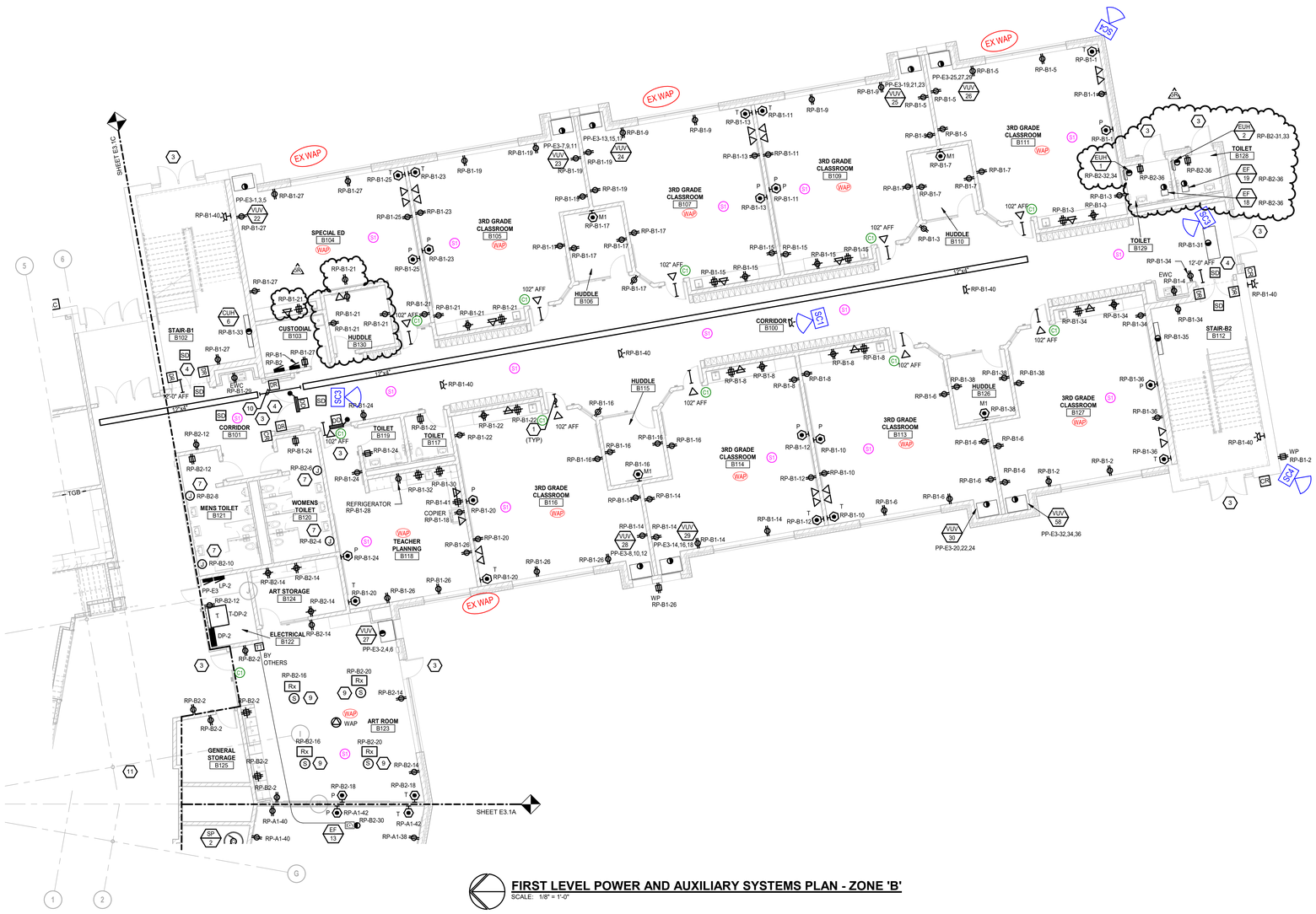
DATE:	ISSUED FOR:
DRAWN	SEB
CHECKED	STP
APPROVED	STP

PROJECT NO. 22054

Communications By Design New Elementary Technology Drawings Bid ID #3058

DRAWING NO. E3.1A

THE FOLLOWING DIMENSION EQUALS ONE INCH WHEN PRINTED TO SCALE. 1"



FIRST LEVEL POWER AND AUXILIARY SYSTEMS PLAN - ZONE 'B'

SCALE: 1/8" = 1'-0"

ELECTRICAL GENERAL NOTES:

1 THESE DRAWINGS REPRESENT THE GENERAL EXTENT AND ARRANGEMENT OF SYSTEMS. COORDINATE EXACT EQUIPMENT LOCATIONS, ELEVATIONS, AND FINAL CONNECTION REQUIREMENTS. PROVIDE EACH SYSTEM COMPLETE, INCLUDING ALL NECESSARY COMPONENTS, FITTINGS AND OFFSETS.

2 INSTALL SYSTEMS SUCH THAT REQUIRED CLEARANCE AND SERVICE ACCESS SPACE IS PROVIDED AROUND ALL MECHANICAL AND ELECTRICAL EQUIPMENT, AND AROUND ANY COMPONENTS WHICH REQUIRE SERVICE ACCESS.

3 COORDINATE AND PROVIDE ACCESS DOORS WITHIN INACCESSIBLE CEILING, SHAFT, AND CHASE AREAS FOR ALL COMPONENTS WHICH REQUIRE SERVICE ACCESS. REFER TO ARCHITECTURAL DRAWINGS FOR CEILING TYPES.

4 PROVIDE SUPPLEMENTARY STEEL AS REQUIRED FOR THE PROPER SUPPORT OF ALL SYSTEMS.

5 TRANSFORMER SECONDARY CONDUCTORS SHALL BE SIZED IN ACCORDANCE WITH TRANSFORMER CIRCUIT SIZING SCHEDULE SHOWN ON "ELECTRICAL STANDARD SCHEDULES DRAWING" UNLESS OTHERWISE NOTED.

6 MOTOR CIRCUIT PROTECTION SHALL BE SIZED IN ACCORDANCE WITH MOTOR CIRCUIT SIZING SCHEDULES SHOWN ON "ELECTRICAL STANDARD SCHEDULES DRAWING" UNLESS OTHERWISE NOTED.

7 COORDINATE THE MOUNTING HEIGHTS OF DEVICES WITH ARCHITECTURAL ELEVATIONS AND THE TRADES INSTALLING THE WORK.

8 COORDINATE EXACT LOCATIONS OF ALL FLOOR SERVICE FITTINGS AND POKE-THROUGH ASSEMBLIES WITH FINAL FURNITURE LAYOUT DRAWINGS.

9 REFER TO MECHANICAL SCHEDULE SHEETS FOR ELECTRICAL REQUIREMENTS FOR MECHANICAL EQUIPMENT. PROVIDE ALL CONNECTIONS, STARTERS, DISCONNECTS, ETC. AS REQUIRED BY SCHEDULES AND WHERE NOTED ELSEWHERE. VERIFY REQUIREMENTS OF ALL MECHANICAL EQUIPMENT WITH SHOP DRAWINGS SUBMITTALS. NOTIFY ENGINEER OF ANY CONFLICTS BETWEEN EQUIPMENT SUBMITTALS AND ELECTRICAL DRAWINGS. WHERE CIRCUIT SIZES ARE SHOWN ON THE ELECTRICAL DRAWINGS THAT DIFFER FROM WHAT IS INDICATED ON THE MECHANICAL SCHEDULES, PROVIDE THE CIRCUIT OF HIGHER AMPACITY.

10 REFER TO TEMPERATURE CONTROLS SHEETS FOR REQUIRED FIRE ALARM CONTROL MODULES, DUCT SMOKE DETECTORS, AND MOTOR CONTROLLERS. PROVIDE ALL ACCESSORIES INDICATED.

11 THE FIRE ALARM DEVICES SHOWN ON PLAN ARE A PARTIAL REPRESENTATION OF THE FIRE ALARM SYSTEM. PROVIDE THE DESIGN AND INSTALLATION OF A COMPLETE AND FUNCTIONAL FIRE ALARM SYSTEM IN ACCORDANCE WITH THE SPECIFICATIONS, DRAWINGS, AND ALL APPLICABLE CODES. THE FIRE ALARM VENDOR SHALL PROVIDE LAYOUT DRAWINGS INDICATING THE REQUIRED QUANTITIES AND LOCATIONS OF MANUAL PULL STATIONS, NOTIFICATION APPLIANCES, SMOKE AND HEAT DETECTORS, CONTROL MODULES, INTERFACE MODULES, MODULES FOR SPRINKLER FLOW AND TAMPER SWITCHES, ALL CONTROL PANELS, POWER SUPPLIES, AND ADDITIONAL DEVICES AND EQUIPMENT REQUIRED. COORDINATE LOCATIONS OF DEVICES WITH ARCHITECTURAL FINISHES AND REFLECTED CEILING PLANS, INCLUDING ADDITIONAL SMOKE AND HEAT DETECTORS REQUIRED FOR NON-SMOOTH CEILING APPLICATIONS. INCLUDE ALLOWANCES FOR ADJUSTMENT OF DEVICES BY THE ARCHITECT AT THE TIME OF SUBMITTAL TO COORDINATE WITH BUILDING FINISHES AND OTHER CEILING ELEMENTS.

12 REFER TO LIGHTING CONTROL SCHEDULE FOR ROOM CONTROL AND EMERGENCY LIGHTING CIRCUIT CONTROL REQUIREMENTS. DESIGNATION FOR ROOM IS INDICATED AS A LETTERED OVAL SYMBOL.

13 PROVIDE TAMPER-RESISTANT TYPE RECEPTACLES FOR ALL NEW RECEPTACLES UNLESS OTHERWISE NOTED.

CONSTRUCTION KEY NOTES:

1 THE ELECTRICAL CONTRACTOR SHALL PROVIDE 2-2"C U.O.N. CONDUITS FOR TECHNOLOGY AND AUXILIARY SYSTEM WIRE AS INDICATED. STUB CONDUITS FROM CEILING SPACE. PROVIDE PLASTIC BUSHINGS AT EACH END. PROVIDE REMOVABLE/RESEALABLE FIRE STOP PUTTY IN EACH CONDUIT AND FIRE STOP AROUND EACH CONDUIT. COORDINATE WITH TECHNOLOGY CONTRACTOR FOR EXACT LOCATION OF CONDUIT. PROVIDE MINIMUM OF 1" CONDUIT FOR ALL OTHER AREAS REQUIRING SLEEVES.

2 DUCT SMOKE DETECTOR SHALL BE FURNISHED AND INSTALLED BY THE ELECTRICAL CONTRACTOR. COORDINATE MOUNTING LOCATION AND QUANTITY WITH THE MECHANICAL DUCTWORK CONTRACTOR. ELECTRICAL CONTRACTOR SHALL WIRE DUCT SMOKE DETECTOR/RTU/AHU SUPPLY/RETURN FAN MOTOR STARTER SO THAT UPON DETECTION OF SMOKE, THE SUPPLY/RETURN FAN WILL SHUT DOWN. THIS SHALL BE ACCOMPLISHED VIA THE FIRE ALARM CONTROL PANEL. PROVIDE ALL REQUIRED CONTROL MODULES AND RELAYS. COORDINATE WITH THE TEMPERATURE CONTROL/FIRE ALARM CONTRACTOR. PROVIDE WEATHER PROOF ENCLOSURES AS REQUIRED.

3 REFER TO ARCHITECTURAL FLOOR PLANS, DOOR HARDWARE SCHEDULE ON ARCHITECTURAL DRAWINGS, ACCESS CONTROL SYSTEM SPECIFICATION SECTION AND ACCESS CONTROL DOOR DIAGRAM(S) ON E7 SERIES FOR RACEWAY AND BACK BOX REQUIREMENTS FOR DOOR OR BANK OF DOORS INDICATED. PROVIDE ALL RACEWAYS AND BACK BOXES REQUIRED. COORDINATE WITH DOOR HARDWARE AND ACCESS CONTROL CONTRACTORS.

4 ELECTRICAL CONTRACTOR SHALL PROVIDE FIRE ALARM CONTROL MODULES AND SMOKE DETECTORS FOR DOOR RELEASE. COORDINATE MOUNTING WITH DOOR CONTRACTOR. ALL RELATED DOOR HARDWARE IS PROVIDED BY OTHERS. WIRE TO FIRE ALARM PANEL SO THAT UPON SYSTEM ALARM, DOOR WILL CLOSE.

5 PUSH PAD FOR AUTOMATIC DOORS. ALL DOOR AND PUSH PAD HARDWARE IS PROVIDED BY DOOR CONTRACTOR. ELECTRICAL CONTRACTOR SHALL INSTALL PUSH PADS AND PROVIDE CONDUIT AND WIRE FOR COMPLETE OPERATION. COORDINATE WITH DOOR CONTRACTOR. PUSH PAD BACK BOX IS DOUBLE GANG.

6 HEAT TRACE. COORDINATE WITH MECHANICAL CONTRACTOR.

7 HAND DRYER FURNISHED BY ARCHITECT AND INSTALLED BY ELECTRICAL CONTRACTOR. COORDINATE MOUNTING HEIGHT WITH ARCHITECTURAL DRAWINGS.

8 SECURITY CAMERA, BY OTHERS. COORDINATE FINAL LOCATION WITH TECHNOLOGY CONTRACTOR PRIOR TO ROUGH IN. PROVIDE 3/4" C. TO ACCESSIBLE CEILING SPACE.

9 PA SPEAKER, BY OTHERS. COORDINATE FINAL LOCATION WITH TECHNOLOGY CONTRACTOR PRIOR TO ROUGH IN. PROVIDE 3/4" C. TO ACCESSIBLE CEILING SPACE.

10 THE ELECTRICAL CONTRACTOR SHALL PROVIDE 2-4"C U.O.N. CONDUITS FOR TECHNOLOGY AND AUXILIARY SYSTEM WIRE AS INDICATED. STUB CONDUITS FROM CEILING SPACE. PROVIDE PLASTIC BUSHINGS AT EACH END. PROVIDE REMOVABLE/RESEALABLE FIRE STOP PUTTY IN EACH CONDUIT AND FIRE STOP AROUND EACH CONDUIT. COORDINATE WITH TECHNOLOGY CONTRACTOR FOR EXACT LOCATION OF CONDUIT. PROVIDE MINIMUM OF 1" CONDUIT FOR ALL OTHER AREAS REQUIRING SLEEVES.

11 FIRE ALARM SUPPLIER SHALL COORDINATE EXACT LOCATIONS AND QUANTITIES WITH FIRE MARSHALL.

12 COORDINATE MOUNTING LOCATION WITH TECHNOLOGY CONTRACTOR.

13 ELECTRICAL CONTRACTOR SHALL INSTALL 4" SQUARE JUNCTION BOX WITHIN 3'0" OF ELECTRICAL BACKBOARD W/NCH UP IN CEILING SPACE. ALSO INSTALL 4 POLE, TWIST LOCK, SINGLE RECEPTACLE, PROVIDE BY WINCH MANUFACTURERS, INTO THE JUNCTION BOX.

14 ELECTRICAL CONTRACTOR SHALL INSTALL ALL CONTROLS, PUSHBUTTONS, KEY SWITCHES ETC. (PROVIDE WITH EACH BASKETBALL BACKBOARD), FOR A COMPLETE OPERABLE SYSTEM. KEY SWITCHES GANGED IN PAIRS IN ONE COVER PLATE TO CONTROL THE BACKSTOP SWING AND HEIGHT ADJUSTER.

DRAWINGS HAVE BEEN UPDATED TO INCORPORATE ALTERNATE 1 CLASSROOM ADDITION AS APPROVED PROJECT SCOPE. ALL INFORMATION ORIGINALLY INCLUDED ON ALT SHEETS HAVE BEEN INCORPORATED INTO THE BASE PROJECT DRAWINGS FOR CONTRACTOR CLARIFICATION.

TMP ARCHITECTURE

TMP ARCHITECTURE INC

1191 WEST SQUARE LAKE ROAD - BOX 299
BLOOMFIELD HILLS - MICHIGAN - 48302
PH - 248.338.4561 FX - 248.338.0223
EM - INFO@TMP-ARCHITECTURE.COM

REGISTRATION SEAL

CONSULTANT

Peter Basso Associates Inc
CONSULTING ENGINEERS
5145 Livernois, Suite 100
Troy, Michigan 48098-3276
Tel: 248-879-5666
Fax: 248-879-0007
www.PeterBassoAssociates.com
PBA Project No.: 2022.0365

PROJECT TITLE

WESTERN ELEMENTARY SCHOOL

WESTERN SCHOOL DISTRICT PARMA, MI

DRAWING TITLE

FIRST LEVEL POWER AND AUXILIARY SYSTEMS PLAN - ZONE 'B'

KEYPLAN (not to scale)

ISSUE DATES

08-12-2024	BULLETIN 5R
04-22-2024	BULLETIN 4
02-16-2024	ASI 2
01-09-2024	BULLETIN 1
11-08-2023	ADDENDUM 2
10-30-2023	ADDENDUM 1
10-16-2023	CONSTRUCTION DOCUMENTS

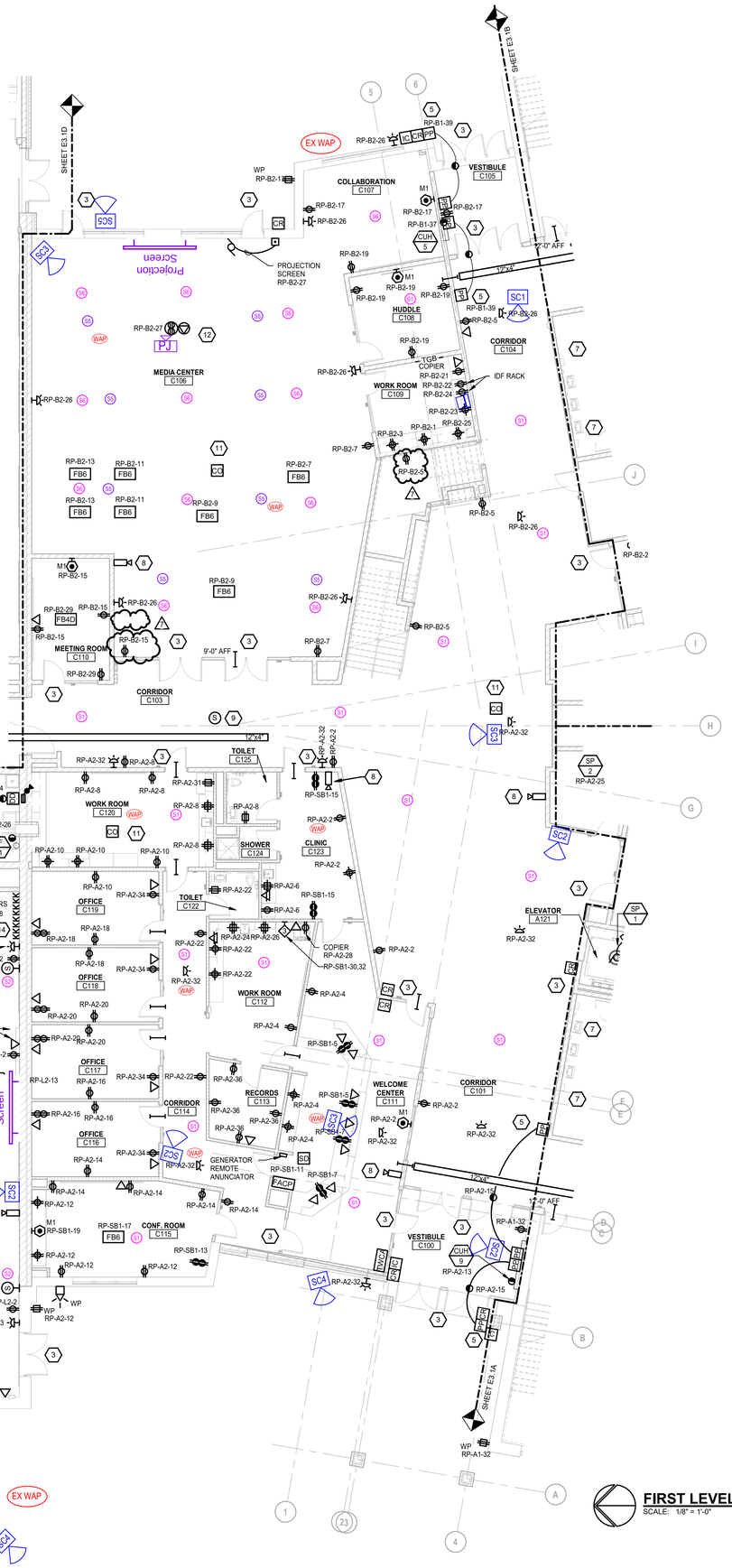
DATE: ISSUED FOR:

DRAWN	SEB
CHECKED	STP
APPROVED	STP

PROJECT NO. 22054

Communications By Design New Elementary Technology Drawings
Bid ID #3058
DRAFT 03/03/2025

DRAWING NO. E3.1B



THE FOLLOWING DIMENSION EQUALS ONE INCH WHEN PRINTED TO SCALE.

FIRST LEVEL POWER AND AUXILIARY SYSTEMS PLAN - ZONE 'C'

SCALE: 1/8" = 1'-0"

ELECTRICAL GENERAL NOTES:

1 THESE DRAWINGS REPRESENT THE GENERAL EXTENT AND ARRANGEMENT OF SYSTEMS. COORDINATE EXACT EQUIPMENT LOCATIONS, ELEVATIONS, AND FINAL CONNECTION REQUIREMENTS. PROVIDE EACH SYSTEM COMPLETE, INCLUDING ALL NECESSARY COMPONENTS, FITTINGS AND OFFSETS.

2 INSTALL SYSTEMS SUCH THAT REQUIRED CLEARANCE AND SERVICE ACCESS SPACE IS PROVIDED AROUND ALL MECHANICAL AND ELECTRICAL EQUIPMENT, AND AROUND ANY COMPONENTS WHICH REQUIRE SERVICE ACCESS.

3 COORDINATE AND PROVIDE ACCESS DOORS WITHIN INACCESSIBLE CEILING, SHAFT, AND CHASE AREAS FOR ALL COMPONENTS WHICH REQUIRE SERVICE ACCESS. REFER TO ARCHITECTURAL DRAWINGS FOR CEILING TYPES.

4 PROVIDE SUPPLEMENTARY STEEL AS REQUIRED FOR THE PROPER SUPPORT OF ALL SYSTEMS.

5 TRANSFORMER SECONDARY CONDUCTORS SHALL BE SIZED IN ACCORDANCE WITH TRANSFORMER CIRCUIT SIZING SCHEDULE SHOWN ON "ELECTRICAL STANDARD SCHEDULES DRAWING" UNLESS OTHERWISE NOTED.

6 MOTOR CIRCUIT PROTECTION SHALL BE SIZED IN ACCORDANCE WITH MOTOR CIRCUIT SIZING SCHEDULES SHOWN ON "ELECTRICAL STANDARD SCHEDULES DRAWING" UNLESS OTHERWISE NOTED.

7 COORDINATE THE MOUNTING HEIGHTS OF DEVICES WITH ARCHITECTURAL ELEVATIONS AND THE TRADES INSTALLING THE WORK.

8 COORDINATE EXACT LOCATIONS OF ALL FLOOR SERVICE FITTINGS AND POKE-THROUGH ASSEMBLIES WITH FINAL FURNITURE LAYOUT DRAWINGS.

9 REFER TO MECHANICAL SCHEDULE SHEETS FOR ELECTRICAL REQUIREMENTS FOR MECHANICAL EQUIPMENT. PROVIDE ALL CONNECTIONS, STARTERS, DISCONNECTS, ETC. AS REQUIRED BY SCHEDULES AND WHERE NOTED ELSEWHERE. VERIFY REQUIREMENTS OF ALL MECHANICAL EQUIPMENT WITH SHOP DRAWINGS SUBMITTALS. NOTIFY ENGINEER OF ANY CONFLICTS BETWEEN EQUIPMENT SUBMITTALS AND ELECTRICAL DRAWINGS. WHERE CIRCUIT SIZES ARE SHOWN ON THE ELECTRICAL DRAWINGS THAT DIFFER FROM WHAT IS INDICATED ON THE MECHANICAL SCHEDULES, PROVIDE THE CIRCUIT OF HIGHER AMPACITY.

10 REFER TO TEMPERATURE CONTROLS SHEETS FOR REQUIRED FIRE ALARM CONTROL MODULES, DUCT SMOKE DETECTORS, AND MOTOR CONTROLLERS. PROVIDE ALL ACCESSORIES INDICATED.

11 THE FIRE ALARM DEVICES SHOWN ON PLAN ARE A PARTIAL REPRESENTATION OF THE FIRE ALARM SYSTEM. PROVIDE THE DESIGN AND INSTALLATION OF A COMPLETE AND FUNCTIONAL FIRE ALARM SYSTEM IN ACCORDANCE WITH THE SPECIFICATIONS, DRAWINGS, AND ALL APPLICABLE CODES. THE FIRE ALARM VENDOR SHALL PROVIDE LAYOUT DRAWINGS INDICATING THE REQUIRED QUANTITIES AND LOCATIONS OF MANUAL PULL STATIONS, NOTIFICATION APPLIANCES, SMOKE AND HEAT DETECTORS, CONTROL MODULES, INTERFACE MODULES, MODULES FOR SPRINKLER FLOW AND TAMPER SWITCHES, ALL CONTROL PANELS, POWER SUPPLIES, AND ADDITIONAL DEVICES AND EQUIPMENT REQUIRED. COORDINATE LOCATIONS OF DEVICES WITH ARCHITECTURAL FINISHES AND REFLECTED CEILING PLANS, INCLUDING ADDITIONAL SMOKE AND HEAT DETECTORS REQUIRED FOR NON-SMOOTH CEILING APPLICATIONS. INCLUDE ALLOWANCES FOR ADJUSTMENT OF DEVICES BY THE ARCHITECT AT THE TIME OF SUBMITTAL TO COORDINATE WITH BUILDING FINISHES AND OTHER CEILING ELEMENTS.

12 REFER TO LIGHTING CONTROL SCHEDULE FOR ROOM CONTROL AND EMERGENCY LIGHTING CIRCUIT CONTROL REQUIREMENTS. DESIGNATION FOR ROOM IS INDICATED AS A LETTERED OVAL SYMBOL.

13 PROVIDE TAMPER-RESISTANT TYPE RECEPTACLES FOR ALL NEW RECEPTACLES UNLESS OTHERWISE NOTED.

CONSTRUCTION KEY NOTES:

1 THE ELECTRICAL CONTRACTOR SHALL PROVIDE 2-2"C U.O.N. CONDUITS FOR TECHNOLOGY AND AUXILIARY SYSTEM WIRE AS INDICATED. STUB CONDUITS FROM CEILING SPACE. PROVIDE PLASTIC BUSHINGS AT EACH END. PROVIDE REMOVABLE/RESEALABLE FIRE STOP PUTTY IN EACH CONDUIT AND FIRE STOP AROUND EACH CONDUIT. COORDINATE WITH TECHNOLOGY CONTRACTOR FOR EXACT LOCATION OF CONDUIT. PROVIDE MINIMUM OF 1" CONDUIT FOR ALL OTHER AREAS REQUIRING SLEEVES.

2 DUCT SMOKE DETECTOR SHALL BE FURNISHED AND INSTALLED BY THE ELECTRICAL CONTRACTOR. COORDINATE MOUNTING LOCATION AND QUANTITY WITH THE MECHANICAL DUCTWORK CONTRACTOR. ELECTRICAL CONTRACTOR SHALL WIRE DUCT SMOKE DETECTOR/RTU/AHU SUPPLY/RETURN FAN MOTOR STARTER SO THAT UPON DETECTION OF SMOKE, THE SUPPLY/RETURN FAN WILL SHUT DOWN. THIS SHALL BE ACCOMPLISHED VIA THE FIRE ALARM CONTROL PANEL. PROVIDE ALL REQUIRED CONTROL MODULES AND RELAYS. COORDINATE WITH THE TEMPERATURE CONTROL/FIRE ALARM CONTRACTOR. PROVIDE WEATHER PROOF ENCLOSURES AS REQUIRED.

3 REFER TO ARCHITECTURAL FLOOR PLANS, DOOR HARDWARE SCHEDULE ON ARCHITECTURAL DRAWINGS, ACCESS CONTROL SYSTEM SPECIFICATION SECTION AND ACCESS CONTROL DOOR DIAGRAM(S) ON E7 SERIES FOR RACEWAY AND BACK BOX REQUIREMENTS FOR DOOR OR BANK OF DOORS INDICATED. PROVIDE ALL RACEWAYS AND BACK BOXES REQUIRED. COORDINATE WITH DOOR HARDWARE AND ACCESS CONTROL CONTRACTORS.

4 ELECTRICAL CONTRACTOR SHALL PROVIDE FIRE ALARM CONTROL MODULES AND SMOKE DETECTORS FOR DOOR RELEASE. COORDINATE MOUNTING WITH DOOR CONTRACTOR. ALL RELATED DOOR HARDWARE IS PROVIDED BY OTHERS. WIRE TO FIRE ALARM PANEL SO THAT UPON SYSTEM ALARM, DOOR WILL CLOSE.

5 PUSH PAD FOR AUTOMATIC DOORS. ALL DOOR AND PUSH PAD HARDWARE IS PROVIDED BY DOOR CONTRACTOR. ELECTRICAL CONTRACTOR SHALL INSTALL PUSH PADS AND PROVIDE CONDUIT AND WIRE FOR COMPLETE OPERATION. COORDINATE WITH DOOR CONTRACTOR. PUSH PAD BACK BOX IS DOUBLE GANG.

6 HEAT TRACE. COORDINATE WITH MECHANICAL CONTRACTOR.

7 HAND DRYER FURNISHED BY ARCHITECT AND INSTALLED BY ELECTRICAL CONTRACTOR. COORDINATE MOUNTING HEIGHT WITH ARCHITECTURAL DRAWINGS.

8 SECURITY CAMERA, BY OTHERS. COORDINATE FINAL LOCATION WITH TECHNOLOGY CONTRACTOR PRIOR TO ROUGH IN. PROVIDE 3/4" C. TO ACCESSIBLE CEILING SPACE.

9 PA SPEAKER, BY OTHERS. COORDINATE FINAL LOCATION WITH TECHNOLOGY CONTRACTOR PRIOR TO ROUGH IN. PROVIDE 3/4" C. TO ACCESSIBLE CEILING SPACE.

10 THE ELECTRICAL CONTRACTOR SHALL PROVIDE 2-4"C U.O.N. CONDUITS FOR TECHNOLOGY AND AUXILIARY SYSTEM WIRE AS INDICATED. STUB CONDUITS FROM CEILING SPACE. PROVIDE PLASTIC BUSHINGS AT EACH END. PROVIDE REMOVABLE/RESEALABLE FIRE STOP PUTTY IN EACH CONDUIT AND FIRE STOP AROUND EACH CONDUIT. COORDINATE WITH TECHNOLOGY CONTRACTOR FOR EXACT LOCATION OF CONDUIT. PROVIDE MINIMUM OF 1" CONDUIT FOR ALL OTHER AREAS REQUIRING SLEEVES.

11 FIRE ALARM SUPPLIER SHALL COORDINATE EXACT LOCATIONS AND QUANTITIES WITH FIRE MARSHALL.

12 COORDINATE MOUNTING LOCATION WITH TECHNOLOGY CONTRACTOR.

13 ELECTRICAL CONTRACTOR SHALL INSTALL 4" SQUARE JUNCTION BOX WITHIN 3'0" OF ELECTRICAL BACKBOARD WINCH UP IN CEILING SPACE. ALSO INSTALL 4 POLE, TWIST LOCK, SINGLE RECEPTACLE, PROVIDE BY WINCH MANUFACTURERS, INTO THE JUNCTION BOX.

14 ELECTRICAL CONTRACTOR SHALL INSTALL ALL CONTROLS, PUSHBUTTONS, KEY SWITCHES ETC. (PROVIDE WITH EACH BASKETBALL BACKBOARD), FOR A COMPLETE OPERABLE SYSTEM. KEY SWITCHES GANGED IN PAIRS IN ONE COVER PLATE TO CONTROL THE BACKSTOP SWING AND HEIGHT ADJUSTER.

TMP ARCHITECTURE
TMP ARCHITECTURE INC
1191 WEST SQUARE LAKE ROAD · BOX 289
BLOOMFIELD HILLS · MICHIGAN · 48302
PH · 248.338.4561 FX · 248.338.0223
EM · INFO@TMP-ARCHITECTURE.COM

REGISTRATION SEAL

CONSULTANT

Peter Basso Associates Inc
CONSULTING ENGINEERS
5145 Livernois, Suite 100
Troy, Michigan 48098-3276
Tel: 248-879-5666
Fax: 248-879-0007
www.PeterBassoAssociates.com
PBA Project No.: 2022.0365

PROJECT TITLE

WESTERN ELEMENTARY SCHOOL

WESTERN SCHOOL DISTRICT
PARMA, MI

DRAWING TITLE

FIRST LEVEL POWER AND AUXILIARY SYSTEMS PLAN - ZONE 'C'

KEYPLAN
(not to scale)

ISSUE DATES

DATE:	ISSUED FOR:
09-13-2024	BULLETIN 7
08-12-2024	BULLETIN 5R
06-26-2024	BULLETIN 6
04-22-2024	BULLETIN 4
01-09-2024	BULLETIN 1
11-21-2023	ADDENDUM 4
11-08-2023	ADDENDUM 2
10-30-2023	ADDENDUM 1
10-16-2023	CONSTRUCTION DOCUMENTS

DRAWN SEB
CHECKED STP
APPROVED STP

PROJECT NO.
22054

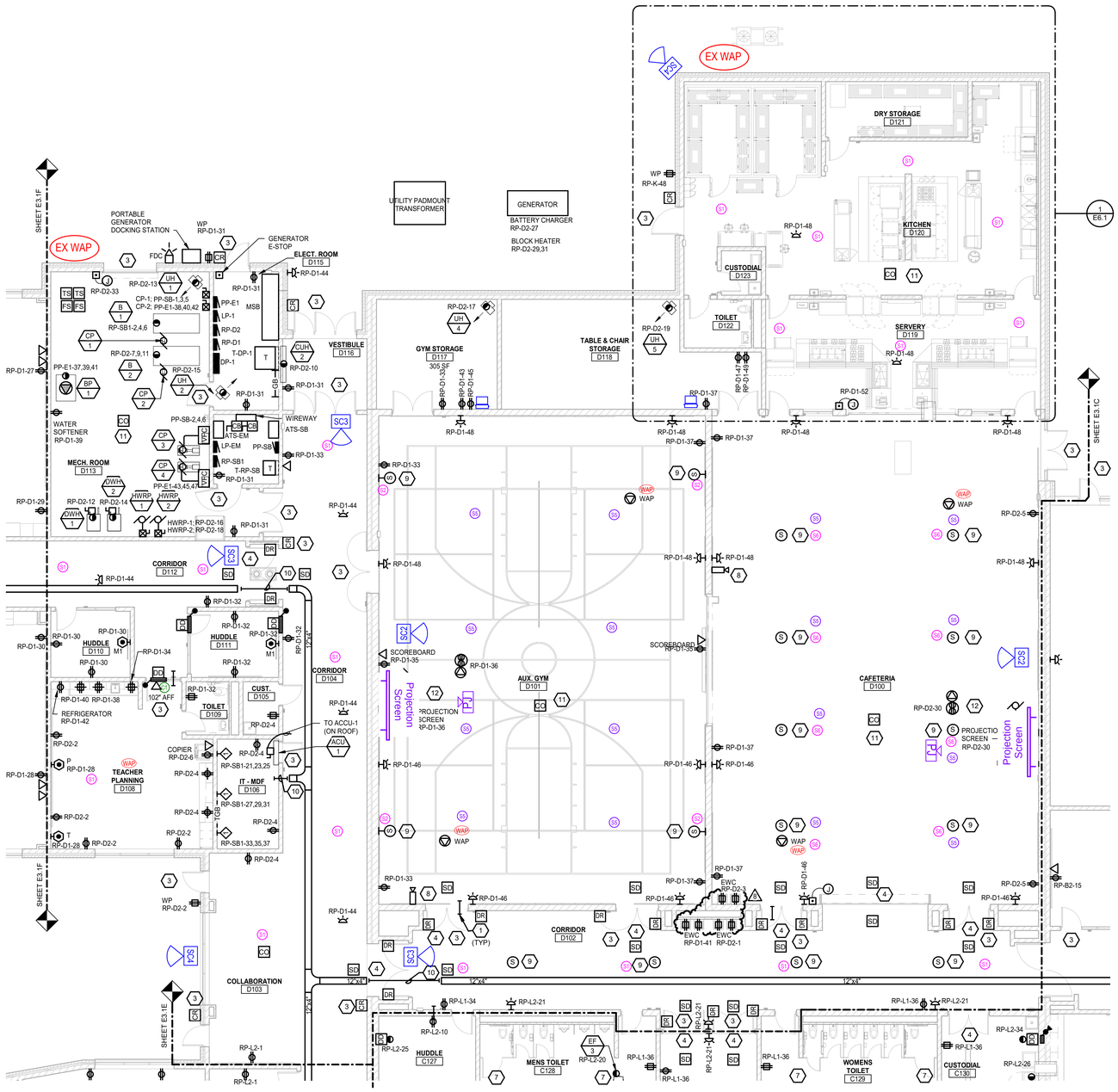
Communications By Design New Elementary Technology Drawings
Bid ID #3058
DRAFT 03/03/2025

DRAWING NO.
E3.1C

Autodesk Docs://WSD New Elementary School_Western/2022-0365_MEP_WSD_ES_v22.rvt

9/18/2024 1:39:54 PM

THE FOLLOWING DIMENSION EQUALS ONE INCH WHEN PRINTED TO SCALE. 1"



FIRST LEVEL POWER AND AUXILIARY SYSTEMS PLAN - ZONE 'D'

SCALE: 1/8" = 1'-0"

ELECTRICAL GENERAL NOTES:

1 THESE DRAWINGS REPRESENT THE GENERAL EXTENT AND ARRANGEMENT OF SYSTEMS. COORDINATE EXACT EQUIPMENT LOCATIONS, ELEVATIONS, AND FINAL CONNECTION REQUIREMENTS. PROVIDE EACH SYSTEM COMPLETE, INCLUDING ALL NECESSARY COMPONENTS, FITTINGS AND OFFSETS.

2 INSTALL SYSTEMS SUCH THAT REQUIRED CLEARANCE AND SERVICE ACCESS SPACE IS PROVIDED AROUND ALL MECHANICAL AND ELECTRICAL EQUIPMENT, AND AROUND ANY COMPONENTS WHICH REQUIRE SERVICE ACCESS.

3 COORDINATE AND PROVIDE ACCESS DOORS WITHIN INACCESSIBLE CEILING, SHAFT, AND CHASE AREAS FOR ALL COMPONENTS WHICH REQUIRE SERVICE ACCESS. REFER TO ARCHITECTURAL DRAWINGS FOR CEILING TYPES.

4 PROVIDE SUPPLEMENTARY STEEL AS REQUIRED FOR THE PROPER SUPPORT OF ALL SYSTEMS.

5 TRANSFORMER SECONDARY CONDUCTORS SHALL BE SIZED IN ACCORDANCE WITH TRANSFORMER CIRCUIT SIZING SCHEDULE SHOWN ON "ELECTRICAL STANDARD SCHEDULES DRAWING" UNLESS OTHERWISE NOTED.

6 MOTOR CIRCUIT PROTECTION SHALL BE SIZED IN ACCORDANCE WITH MOTOR CIRCUIT SIZING SCHEDULES SHOWN ON "ELECTRICAL STANDARD SCHEDULES DRAWING" UNLESS OTHERWISE NOTED.

7 COORDINATE THE MOUNTING HEIGHTS OF DEVICES WITH ARCHITECTURAL ELEVATIONS AND THE TRADES INSTALLING THE WORK.

8 COORDINATE EXACT LOCATIONS OF ALL FLOOR SERVICE FITTINGS AND POKE-THROUGH ASSEMBLIES WITH FINAL FURNITURE LAYOUT DRAWINGS.

9 REFER TO MECHANICAL SCHEDULE SHEETS FOR ELECTRICAL REQUIREMENTS FOR MECHANICAL EQUIPMENT. PROVIDE ALL CONNECTIONS, STARTERS, DISCONNECTS, ETC. AS REQUIRED BY SCHEDULES AND WHERE NOTED ELSEWHERE. VERIFY REQUIREMENTS OF ALL MECHANICAL EQUIPMENT WITH SHOP DRAWINGS SUBMITTALS. NOTIFY ENGINEER OF ANY CONFLICTS BETWEEN EQUIPMENT SUBMITTALS AND ELECTRICAL DRAWINGS. WHERE CIRCUIT SIZES ARE SHOWN ON THE ELECTRICAL DRAWINGS THAT DIFFER FROM WHAT IS INDICATED ON THE MECHANICAL SCHEDULES, PROVIDE THE CIRCUIT OF HIGHER AMPACITY.

10 REFER TO TEMPERATURE CONTROLS SHEETS FOR REQUIRED FIRE ALARM CONTROL MODULES, DUCT SMOKE DETECTORS, AND MOTOR CONTROLLERS. PROVIDE ALL ACCESSORIES INDICATED.

11 THE FIRE ALARM DEVICES SHOWN ON PLAN ARE A PARTIAL REPRESENTATION OF THE FIRE ALARM SYSTEM. PROVIDE THE DESIGN AND INSTALLATION OF A COMPLETE AND FUNCTIONAL FIRE ALARM SYSTEM IN ACCORDANCE WITH THE SPECIFICATIONS, DRAWINGS, AND ALL APPLICABLE CODES. THE FIRE ALARM VENDOR SHALL PROVIDE LAYOUT DRAWINGS INDICATING THE REQUIRED QUANTITIES AND LOCATIONS OF MANUAL PULL STATIONS, NOTIFICATION APPLIANCES, SMOKE AND HEAT DETECTORS, CONTROL MODULES, INTERFACE MODULES, MODULES FOR SPRINKLER FLOW AND TAMPER SWITCHES, ALL CONTROL PANELS, POWER SUPPLIES, AND ADDITIONAL DEVICES AND EQUIPMENT REQUIRED. COORDINATE LOCATIONS OF DEVICES WITH ARCHITECTURAL FINISHES AND REFLECTED CEILING PLANS, INCLUDING ADDITIONAL SMOKE AND HEAT DETECTORS REQUIRED FOR NON-SMOOTH CEILING APPLICATIONS. INCLUDE ALLOWANCES FOR ADJUSTMENT OF DEVICES BY THE ARCHITECT AT THE TIME OF SUBMITTAL TO COORDINATE WITH BUILDING FINISHES AND OTHER CEILING ELEMENTS.

12 REFER TO LIGHTING CONTROL SCHEDULE FOR ROOM CONTROL AND EMERGENCY LIGHTING CIRCUIT CONTROL REQUIREMENTS. DESIGNATION FOR ROOM IS INDICATED AS A LETTERED OVAL SYMBOL.

13 PROVIDE TAMPER-RESISTANT TYPE RECEPTACLES FOR ALL NEW RECEPTACLES UNLESS OTHERWISE NOTED.

CONSTRUCTION KEY NOTES:

1 THE ELECTRICAL CONTRACTOR SHALL PROVIDE 2-2"C U.O.N. CONDUITS FOR TECHNOLOGY AND AUXILIARY SYSTEM WIRE AS INDICATED. STUB CONDUITS FROM CEILING SPACE. PROVIDE PLASTIC BUSHINGS AT EACH END. PROVIDE REMOVABLE/RESEALABLE FIRE STOP PUTTY IN EACH CONDUIT AND FIRE STOP AROUND EACH CONDUIT. COORDINATE WITH TECHNOLOGY CONTRACTOR FOR EXACT LOCATION OF CONDUIT. PROVIDE MINIMUM OF 1" CONDUIT FOR ALL OTHER AREAS REQUIRING SLEEVES.

2 DUCT SMOKE DETECTOR SHALL BE FURNISHED AND INSTALLED BY THE ELECTRICAL CONTRACTOR. COORDINATE MOUNTING LOCATION AND QUANTITY WITH THE MECHANICAL DUCTWORK CONTRACTOR. ELECTRICAL CONTRACTOR SHALL WIRE DUCT SMOKE DETECTOR/RTU/AHU SUPPLY/RETURN FAN MOTOR STARTER SO THAT UPON DETECTION OF SMOKE, THE SUPPLY/RETURN FAN WILL SHUT DOWN. THIS SHALL BE ACCOMPLISHED VIA THE FIRE ALARM CONTROL PANEL. PROVIDE ALL REQUIRED CONTROL MODULES AND RELAYS. COORDINATE WITH THE TEMPERATURE CONTROL/FIRE ALARM CONTRACTOR. PROVIDE WEATHER PROOF ENCLOSURES AS REQUIRED.

3 REFER TO ARCHITECTURAL FLOOR PLANS, DOOR HARDWARE SCHEDULE ON ARCHITECTURAL DRAWINGS, ACCESS CONTROL SYSTEM SPECIFICATION SECTION AND ACCESS CONTROL DOOR DIAGRAM(S) ON E7 SERIES FOR RACEWAY AND BACK BOX REQUIREMENTS FOR DOOR OR BANK OF DOORS INDICATED. PROVIDE ALL RACEWAYS AND BACK BOXES REQUIRED. COORDINATE WITH DOOR HARDWARE AND ACCESS CONTROL CONTRACTORS.

4 ELECTRICAL CONTRACTOR SHALL PROVIDE FIRE ALARM CONTROL MODULES AND SMOKE DETECTORS FOR DOOR RELEASE. COORDINATE MOUNTING WITH DOOR CONTRACTOR. ALL RELATED DOOR HARDWARE IS PROVIDED BY OTHERS. WIRE TO FIRE ALARM PANEL SO THAT UPON SYSTEM ALARM, DOOR WILL CLOSE.

5 PUSH PAD FOR AUTOMATIC DOORS. ALL DOOR AND PUSH PAD HARDWARE IS PROVIDED BY DOOR CONTRACTOR. ELECTRICAL CONTRACTOR SHALL INSTALL PUSH PADS AND PROVIDE CONDUIT AND WIRE FOR COMPLETE OPERATION. COORDINATE WITH DOOR CONTRACTOR. PUSH PAD BACK BOX IS DOUBLE GANG.

6 HEAT TRACE. COORDINATE WITH MECHANICAL CONTRACTOR.

7 HAND DRYER FURNISHED BY ARCHITECT AND INSTALLED BY ELECTRICAL CONTRACTOR. COORDINATE MOUNTING HEIGHT WITH ARCHITECTURAL DRAWINGS.

8 SECURITY CAMERA, BY OTHERS. COORDINATE FINAL LOCATION WITH TECHNOLOGY CONTRACTOR PRIOR TO ROUGH IN. PROVIDE 3/4" C. TO ACCESSIBLE CEILING SPACE.

9 PA SPEAKER, BY OTHERS. COORDINATE FINAL LOCATION WITH TECHNOLOGY CONTRACTOR PRIOR TO ROUGH IN. PROVIDE 3/4" C. TO ACCESSIBLE CEILING SPACE.

10 THE ELECTRICAL CONTRACTOR SHALL PROVIDE 2-4"C U.O.N. CONDUITS FOR TECHNOLOGY AND AUXILIARY SYSTEM WIRE AS INDICATED. STUB CONDUITS FROM CEILING SPACE. PROVIDE PLASTIC BUSHINGS AT EACH END. PROVIDE REMOVABLE/RESEALABLE FIRE STOP PUTTY IN EACH CONDUIT AND FIRE STOP AROUND EACH CONDUIT. COORDINATE WITH TECHNOLOGY CONTRACTOR FOR EXACT LOCATION OF CONDUIT. PROVIDE MINIMUM OF 1" CONDUIT FOR ALL OTHER AREAS REQUIRING SLEEVES.

11 FIRE ALARM SUPPLIER SHALL COORDINATE EXACT LOCATIONS AND QUANTITIES WITH FIRE MARSHALL.

12 COORDINATE MOUNTING LOCATION WITH TECHNOLOGY CONTRACTOR.

13 ELECTRICAL CONTRACTOR SHALL INSTALL 4" SQUARE JUNCTION BOX WITHIN 3'0" OF ELECTRICAL BACKBOARD WINCH UP IN CEILING SPACE. ALSO INSTALL 4 POLE, TWIST LOCK, SINGLE RECEPTACLE, PROVIDE BY WINCH MANUFACTURERS, INTO THE JUNCTION BOX.

14 ELECTRICAL CONTRACTOR SHALL INSTALL ALL CONTROLS, PUSHBUTTONS, KEY SWITCHES ETC. (PROVIDE WITH EACH BASKETBALL BACKBOARD), FOR A COMPLETE OPERABLE SYSTEM. KEY SWITCHES GANGED IN PAIRS IN ONE COVER PLATE TO CONTROL THE BACKSTOP SWING AND HEIGHT ADJUSTER.

TMP ARCHITECTURE

TMP ARCHITECTURE INC

1191 WEST SQUARE LAKE ROAD - BOX 289
BLOOMFIELD HILLS - MICHIGAN - 48302
PH - 248.338.4561 FX - 248.338.0223
EM - INFO@TMP-ARCHITECTURE.COM

REGISTRATION SEAL

CONSULTANT

Peter Basso Associates Inc
CONSULTING ENGINEERS
5145 Livernois, Suite 100
Troy, Michigan 48098-3276
Tel: 248-879-5666
Fax: 248-879-0007
www.PeterBassoAssociates.com
PBA Project No: 2022.0365

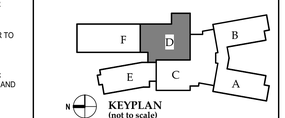
PROJECT TITLE

WESTERN ELEMENTARY SCHOOL

WESTERN SCHOOL DISTRICT
PARMA, MI

DRAWING TITLE

FIRST LEVEL POWER AND AUXILIARY SYSTEMS PLAN - ZONE 'D'



KEYPLAN (not to scale)

ISSUE DATES

DATE:	ISSUED FOR:
11-05-2024	BULLETIN 8
05-26-2024	BULLETIN 6
04-22-2024	BULLETIN 4
04-12-2024	BULLETIN 3
01-09-2024	BULLETIN 1
11-21-2023	ADDENDUM 4
11-08-2023	ADDENDUM 2
10-30-2023	ADDENDUM 1
10-16-2023	CONSTRUCTION DOCUMENTS

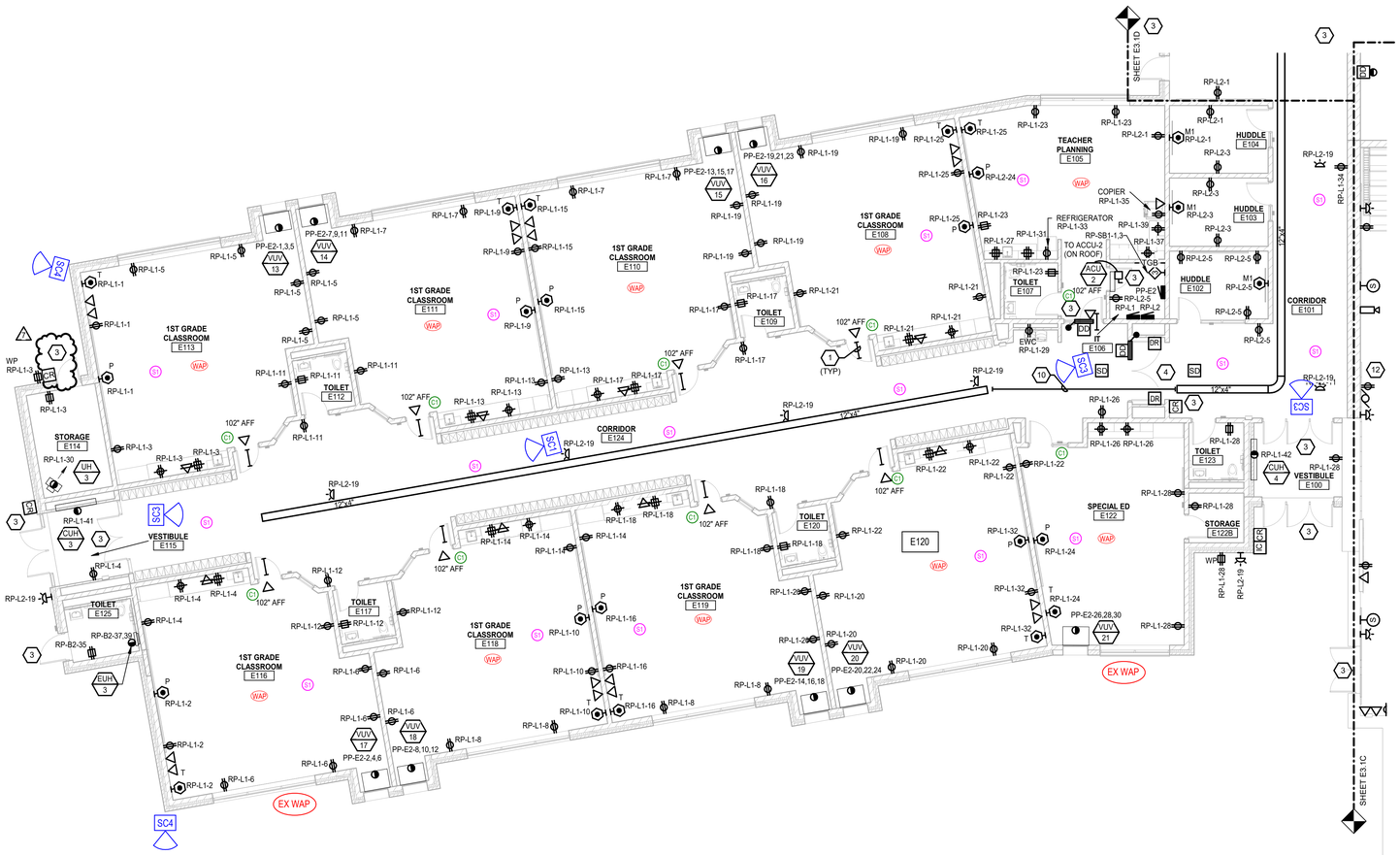
DRAWN	SEB
CHECKED	STP
APPROVED	STP

PROJECT NO. 22054

Communications By Design New Elementary Technology Drawings
Bid ID #3058
DRAFT 03/03/2025

DRAWING NO. E3.1D

THE FOLLOWING DIMENSION EQUALS ONE INCH WHEN PRINTED TO SCALE. 1"



FIRST LEVEL POWER AND AUXILIARY SYSTEMS PLAN - ZONE 'E'

SCALE: 1/8" = 1'-0"

ELECTRICAL GENERAL NOTES:

1 THESE DRAWINGS REPRESENT THE GENERAL EXTENT AND ARRANGEMENT OF SYSTEMS. COORDINATE EXACT EQUIPMENT LOCATIONS, ELEVATIONS, AND FINAL CONNECTION REQUIREMENTS. PROVIDE EACH SYSTEM COMPLETE, INCLUDING ALL NECESSARY COMPONENTS, FITTINGS AND OFFSETS.

2 INSTALL SYSTEMS SUCH THAT REQUIRED CLEARANCE AND SERVICE ACCESS SPACE IS PROVIDED AROUND ALL MECHANICAL AND ELECTRICAL EQUIPMENT, AND AROUND ANY COMPONENTS WHICH REQUIRE SERVICE ACCESS.

3 COORDINATE AND PROVIDE ACCESS DOORS WITHIN INACCESSIBLE CEILING, SHAFT, AND CHASE AREAS FOR ALL COMPONENTS WHICH REQUIRE SERVICE ACCESS. REFER TO ARCHITECTURAL DRAWINGS FOR CEILING TYPES.

4 PROVIDE SUPPLEMENTARY STEEL AS REQUIRED FOR THE PROPER SUPPORT OF ALL SYSTEMS.

5 TRANSFORMER SECONDARY CONDUCTORS SHALL BE SIZED IN ACCORDANCE WITH TRANSFORMER CIRCUIT SIZING SCHEDULE SHOWN ON "ELECTRICAL STANDARD SCHEDULES DRAWING" UNLESS OTHERWISE NOTED.

6 MOTOR CIRCUIT PROTECTION SHALL BE SIZED IN ACCORDANCE WITH MOTOR CIRCUIT SIZING SCHEDULES SHOWN ON "ELECTRICAL STANDARD SCHEDULES DRAWING" UNLESS OTHERWISE NOTED.

7 COORDINATE THE MOUNTING HEIGHTS OF DEVICES WITH ARCHITECTURAL ELEVATIONS AND THE TRADES INSTALLING THE WORK.

8 COORDINATE EXACT LOCATIONS OF ALL FLOOR SERVICE FITTINGS AND POKE-THROUGH ASSEMBLIES WITH FINAL FURNITURE LAYOUT DRAWINGS.

9 REFER TO MECHANICAL SCHEDULE SHEETS FOR ELECTRICAL REQUIREMENTS FOR MECHANICAL EQUIPMENT. PROVIDE ALL CONNECTIONS, STARTERS, DISCONNECTS, ETC. AS REQUIRED BY SCHEDULES AND WHERE NOTED ELSEWHERE. VERIFY REQUIREMENTS OF ALL MECHANICAL EQUIPMENT WITH SHOP DRAWINGS SUBMITTALS. NOTIFY ENGINEER OF ANY CONFLICTS BETWEEN EQUIPMENT SUBMITTALS AND ELECTRICAL DRAWINGS. WHERE CIRCUIT SIZES ARE SHOWN ON THE ELECTRICAL DRAWINGS THAT DIFFER FROM WHAT IS INDICATED ON THE MECHANICAL SCHEDULES, PROVIDE THE CIRCUIT OF HIGHER AMPACITY.

10 REFER TO TEMPERATURE CONTROLS SHEETS FOR REQUIRED FIRE ALARM CONTROL MODULES, DUCT SMOKE DETECTORS, AND MOTOR CONTROLLERS. PROVIDE ALL ACCESSORIES INDICATED.

11 THE FIRE ALARM DEVICES SHOWN ON PLAN ARE A PARTIAL REPRESENTATION OF THE FIRE ALARM SYSTEM. PROVIDE THE DESIGN AND INSTALLATION OF A COMPLETE AND FUNCTIONAL FIRE ALARM SYSTEM IN ACCORDANCE WITH THE SPECIFICATIONS, DRAWINGS, AND ALL APPLICABLE CODES. THE FIRE ALARM VENDOR SHALL PROVIDE LAYOUT DRAWINGS INDICATING THE REQUIRED QUANTITIES AND LOCATIONS OF MANUAL PULL STATIONS, NOTIFICATION APPLIANCES, SMOKE AND HEAT DETECTORS, CONTROL MODULES, INTERFACE MODULES, MODULES FOR SPRINKLER FLOW AND TAMPER SWITCHES, ALL CONTROL PANELS, POWER SUPPLIES, AND ADDITIONAL DEVICES AND EQUIPMENT REQUIRED. COORDINATE LOCATIONS OF DEVICES WITH ARCHITECTURAL FINISHES AND REFLECTED CEILING PLANS, INCLUDING ADDITIONAL SMOKE AND HEAT DETECTORS REQUIRED FOR NON-SMOOTH CEILING APPLICATIONS. INCLUDE ALLOWANCES FOR ADJUSTMENT OF DEVICES BY THE ARCHITECT AT THE TIME OF SUBMITTAL TO COORDINATE WITH BUILDING FINISHES AND OTHER CEILING ELEMENTS.

12 REFER TO LIGHTING CONTROL SCHEDULE FOR ROOM CONTROL AND EMERGENCY LIGHTING CIRCUIT CONTROL REQUIREMENTS. DESIGNATION FOR ROOM IS INDICATED AS A LETTERED OVAL SYMBOL.

13 PROVIDE TAMPER-RESISTANT TYPE RECEPTACLES FOR ALL NEW RECEPTACLES UNLESS OTHERWISE NOTED.

CONSTRUCTION KEY NOTES:

1 THE ELECTRICAL CONTRACTOR SHALL PROVIDE 2-2"C U.O.N. CONDUITS FOR TECHNOLOGY AND AUXILIARY SYSTEM WIRE AS INDICATED. STUB CONDUITS FROM CEILING SPACE. PROVIDE PLASTIC BUSHINGS AT EACH END. PROVIDE REMOVABLE/RESEALABLE FIRE STOP PUTTY IN EACH CONDUIT AND FIRE STOP AROUND EACH CONDUIT. COORDINATE WITH TECHNOLOGY CONTRACTOR FOR EXACT LOCATION OF CONDUIT. PROVIDE MINIMUM OF 1" CONDUIT FOR ALL OTHER AREAS REQUIRING SLEEVES.

2 DUCT SMOKE DETECTOR SHALL BE FURNISHED AND INSTALLED BY THE ELECTRICAL CONTRACTOR. COORDINATE MOUNTING LOCATION AND QUANTITY WITH THE MECHANICAL DUCTWORK CONTRACTOR. ELECTRICAL CONTRACTOR SHALL WIRE DUCT SMOKE DETECTOR/RTU/AHU SUPPLY/RETURN FAN MOTOR STARTER SO THAT UPON DETECTION OF SMOKE, THE SUPPLY/RETURN FAN WILL SHUT DOWN. THIS SHALL BE ACCOMPLISHED VIA THE FIRE ALARM CONTROL PANEL. PROVIDE ALL REQUIRED CONTROL MODULES AND RELAYS. COORDINATE WITH THE TEMPERATURE CONTROL/FIRE ALARM CONTRACTOR. PROVIDE WEATHER PROOF ENCLOSURES AS REQUIRED.

3 REFER TO ARCHITECTURAL FLOOR PLANS, DOOR HARDWARE SCHEDULE ON ARCHITECTURAL DRAWINGS, ACCESS CONTROL SYSTEM SPECIFICATION SECTION AND ACCESS CONTROL DOOR DIAGRAM(S) ON E7 SERIES FOR RACEWAY AND BACK BOX REQUIREMENTS FOR DOOR OR BANK OF DOORS INDICATED. PROVIDE ALL RACEWAYS AND BACK BOXES REQUIRED. COORDINATE WITH DOOR HARDWARE AND ACCESS CONTROL CONTRACTORS.

4 ELECTRICAL CONTRACTOR SHALL PROVIDE FIRE ALARM CONTROL MODULES AND SMOKE DETECTORS FOR DOOR RELEASE. COORDINATE MOUNTING WITH DOOR CONTRACTOR. ALL RELATED DOOR HARDWARE IS PROVIDED BY OTHERS. WIRE TO FIRE ALARM PANEL SO THAT UPON SYSTEM ALARM, DOOR WILL CLOSE.

5 PUSH PAD FOR AUTOMATIC DOORS. ALL DOOR AND PUSH PAD HARDWARE IS PROVIDED BY DOOR CONTRACTOR. ELECTRICAL CONTRACTOR SHALL INSTALL PUSH PADS AND PROVIDE CONDUIT AND WIRE FOR COMPLETE OPERATION. COORDINATE WITH DOOR CONTRACTOR. PUSH PAD BACK BOX IS DOUBLE GANG.

6 HEAT TRACE. COORDINATE WITH MECHANICAL CONTRACTOR.

7 HAND DRYER FURNISHED BY ARCHITECT AND INSTALLED BY ELECTRICAL CONTRACTOR. COORDINATE MOUNTING HEIGHT WITH ARCHITECTURAL DRAWINGS.

8 SECURITY CAMERA, BY OTHERS. COORDINATE FINAL LOCATION WITH TECHNOLOGY CONTRACTOR PRIOR TO ROUGH IN. PROVIDE 3/4" C. TO ACCESSIBLE CEILING SPACE.

9 PA SPEAKER, BY OTHERS. COORDINATE FINAL LOCATION WITH TECHNOLOGY CONTRACTOR PRIOR TO ROUGH IN. PROVIDE 3/4" C. TO ACCESSIBLE CEILING SPACE.

10 THE ELECTRICAL CONTRACTOR SHALL PROVIDE 2-4"C U.O.N. CONDUITS FOR TECHNOLOGY AND AUXILIARY SYSTEM WIRE AS INDICATED. STUB CONDUITS FROM CEILING SPACE. PROVIDE PLASTIC BUSHINGS AT EACH END. PROVIDE REMOVABLE/RESEALABLE FIRE STOP PUTTY IN EACH CONDUIT AND FIRE STOP AROUND EACH CONDUIT. COORDINATE WITH TECHNOLOGY CONTRACTOR FOR EXACT LOCATION OF CONDUIT. PROVIDE MINIMUM OF 1" CONDUIT FOR ALL OTHER AREAS REQUIRING SLEEVES.

11 FIRE ALARM SUPPLIER SHALL COORDINATE EXACT LOCATIONS AND QUANTITIES WITH FIRE MARSHALL.

12 COORDINATE MOUNTING LOCATION WITH TECHNOLOGY CONTRACTOR.

13 ELECTRICAL CONTRACTOR SHALL INSTALL 4" SQUARE JUNCTION BOX WITHIN 3'0" OF ELECTRICAL BACKBOARD WINCH UP IN CEILING SPACE. ALSO INSTALL 4 POLE, TWIST LOCK, SINGLE RECEPTACLE, PROVIDE BY WINCH MANUFACTURERS, INTO THE JUNCTION BOX.

14 ELECTRICAL CONTRACTOR SHALL INSTALL ALL CONTROLS, PUSHBUTTONS, KEY SWITCHES ETC. (PROVIDE WITH EACH BASKETBALL BACKBOARD), FOR A COMPLETE OPERABLE SYSTEM. KEY SWITCHES GANGED IN PAIRS IN ONE COVER PLATE TO CONTROL THE BACKSTOP SWING AND HEIGHT ADJUSTER.

TMP ARCHITECTURE

TMP ARCHITECTURE INC
1191 WEST SQUARE LAKE ROAD - BOX 289
BLOOMFIELD HILLS - MICHIGAN - 48302
PH - 248.338.4561 FX - 248.338.0223
EM - INFO@TMP-ARCHITECTURE.COM

REGISTRATION SEAL

CONSULTANT

Peter Basso Associates Inc
CONSULTING ENGINEERS
5145 Livernois, Suite 100
Troy, Michigan 48098-3276
Tel: 248-879-5666
Fax: 248-879-0007
www.PeterBassoAssociates.com
PBA Project No.: 2022.0365

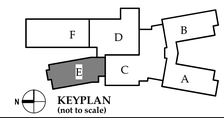
PROJECT TITLE

WESTERN ELEMENTARY SCHOOL

WESTERN SCHOOL DISTRICT PARMA, MI

DRAWING TITLE

FIRST LEVEL POWER AND AUXILIARY SYSTEMS PLAN - ZONE 'E'



ISSUE DATES

DATE:	ISSUED FOR:
09-13-2024	BULLETIN 7
08-12-2024	BULLETIN 5R
06-26-2024	BULLETIN 6
04-22-2024	BULLETIN 4
04-12-2024	BULLETIN 3
01-09-2024	BULLETIN 1
11-08-2023	ADDENDUM 2
10-30-2023	ADDENDUM 1
10-16-2023	CONSTRUCTION DOCUMENTS

DRAWN	SEB
CHECKED	STP
APPROVED	STP

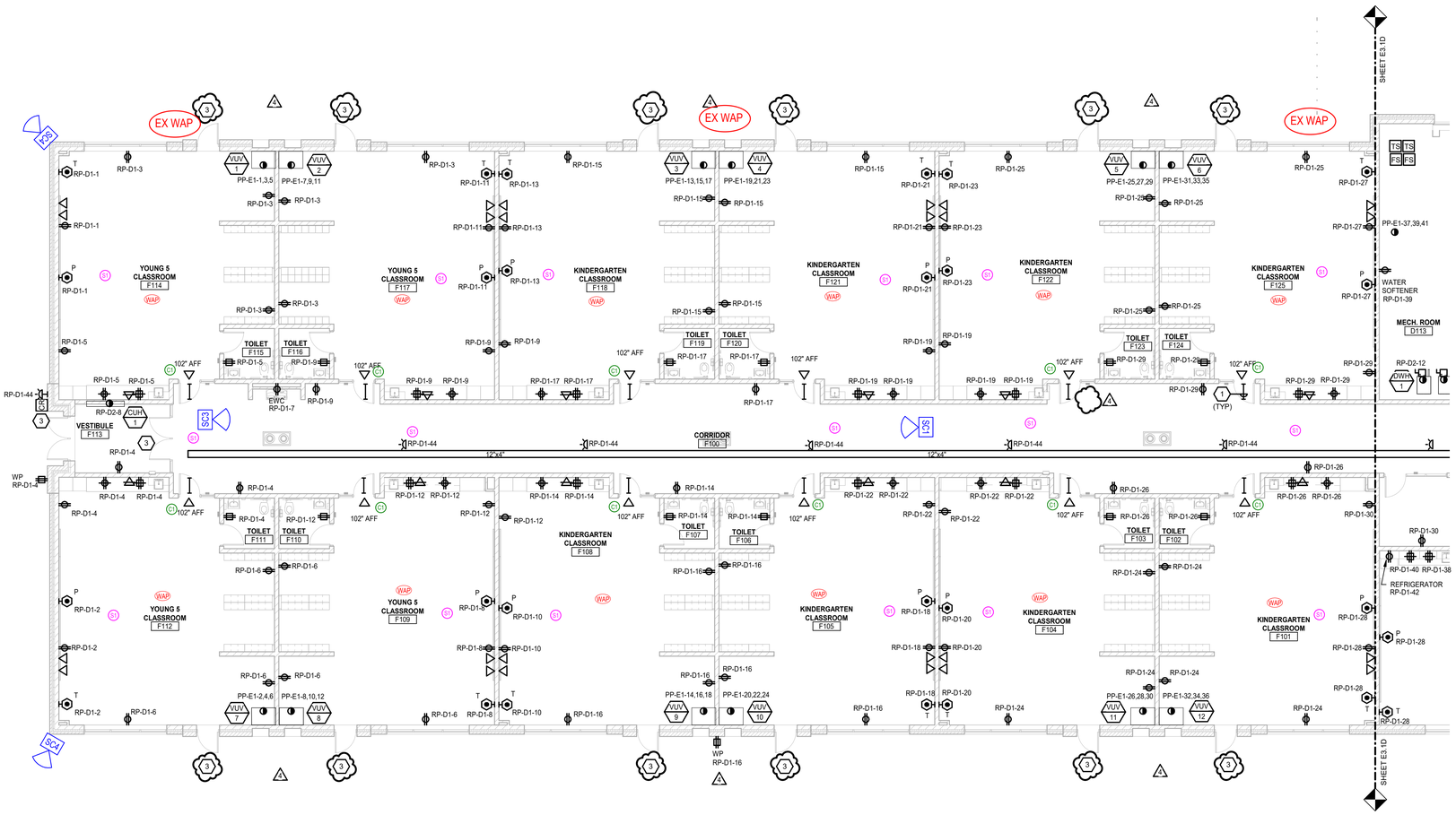
PROJECT NO. 22054

Communications By Design New Elementary Technology Drawings
Bid ID #3058
DRAFT 03/03/2025

DRAWING NO. E3.1E

9/18/2024 1:39:59 PM Autodesk Docs://WSD New Elementary School_Western/2022-0365_MEP_WSD_ES_v22.rvt

THE FOLLOWING DIMENSION EQUALS ONE INCH WHEN PRINTED TO SCALE. 1"



FIRST LEVEL POWER AND AUXILIARY SYSTEMS PLAN - ZONE 'F'

SCALE: 1/8" = 1'-0"

ELECTRICAL GENERAL NOTES:

1. THESE DRAWINGS REPRESENT THE GENERAL EXTENT AND ARRANGEMENT OF SYSTEMS. COORDINATE EXACT EQUIPMENT LOCATIONS, ELEVATIONS, AND FINAL CONNECTION REQUIREMENTS. PROVIDE EACH SYSTEM COMPLETE, INCLUDING ALL NECESSARY COMPONENTS, FITTINGS AND OFFSETS.
2. INSTALL SYSTEMS SUCH THAT REQUIRED CLEARANCE AND SERVICE ACCESS SPACE IS PROVIDED AROUND ALL MECHANICAL AND ELECTRICAL EQUIPMENT, AND AROUND ANY COMPONENTS WHICH REQUIRE SERVICE ACCESS.
3. COORDINATE AND PROVIDE ACCESS DOORS WITHIN INACCESSIBLE CEILING, SHAFT, AND CHASE AREAS FOR ALL COMPONENTS WHICH REQUIRE SERVICE ACCESS. REFER TO ARCHITECTURAL DRAWINGS FOR CEILING TYPES.
4. PROVIDE SUPPLEMENTARY STEEL AS REQUIRED FOR THE PROPER SUPPORT OF ALL SYSTEMS.
5. TRANSFORMER SECONDARY CONDUCTORS SHALL BE SIZED IN ACCORDANCE WITH TRANSFORMER CIRCUIT SIZING SCHEDULE SHOWN ON "ELECTRICAL STANDARD SCHEDULES DRAWING" UNLESS OTHERWISE NOTED.
6. MOTOR CIRCUIT PROTECTION SHALL BE SIZED IN ACCORDANCE WITH MOTOR CIRCUIT SIZING SCHEDULES SHOWN ON "ELECTRICAL STANDARD SCHEDULES DRAWING" UNLESS OTHERWISE NOTED.
7. COORDINATE THE MOUNTING HEIGHTS OF DEVICES WITH ARCHITECTURAL ELEVATIONS AND THE TRADES INSTALLING THE WORK.
8. COORDINATE EXACT LOCATIONS OF ALL FLOOR SERVICE FITTINGS AND POKE-THROUGH ASSEMBLIES WITH FINAL FURNITURE LAYOUT DRAWINGS.
9. REFER TO MECHANICAL SCHEDULE SHEETS FOR ELECTRICAL REQUIREMENTS FOR MECHANICAL EQUIPMENT. PROVIDE ALL CONNECTIONS, STARTERS, DISCONNECTS, ETC. AS REQUIRED BY SCHEDULES AND WHERE NOTED ELSEWHERE. VERIFY REQUIREMENTS OF ALL MECHANICAL EQUIPMENT WITH SHOP DRAWINGS SUBMITTALS. NOTIFY ENGINEER OF ANY CONFLICTS BETWEEN EQUIPMENT SUBMITTALS AND ELECTRICAL DRAWINGS. WHERE CIRCUIT SIZES ARE SHOWN ON THE ELECTRICAL DRAWINGS THAT DIFFER FROM WHAT IS INDICATED ON THE MECHANICAL SCHEDULES, PROVIDE THE CIRCUIT OF HIGHER AMPACITY.
10. REFER TO TEMPERATURE CONTROLS SHEETS FOR REQUIRED FIRE ALARM CONTROL MODULES, DUCT SMOKE DETECTORS, AND MOTOR CONTROLLERS. PROVIDE ALL ACCESSORIES INDICATED.
11. THE FIRE ALARM DEVICES SHOWN ON PLAN ARE A PARTIAL REPRESENTATION OF THE FIRE ALARM SYSTEM. PROVIDE THE DESIGN AND INSTALLATION OF A COMPLETE AND FUNCTIONAL FIRE ALARM SYSTEM IN ACCORDANCE WITH THE SPECIFICATIONS, DRAWINGS, AND ALL APPLICABLE CODES. THE FIRE ALARM VENDOR SHALL PROVIDE LAYOUT DRAWINGS INDICATING THE REQUIRED QUANTITIES AND LOCATIONS OF MANUAL PULL STATIONS, NOTIFICATION APPLIANCES, SMOKE AND HEAT DETECTORS, CONTROL MODULES, INTERFACE MODULES, MODULES FOR SPRINKLER FLOW AND TAMPER SWITCHES, ALL CONTROL PANELS, POWER SUPPLIES, AND ADDITIONAL DEVICES AND EQUIPMENT REQUIRED. COORDINATE LOCATIONS OF DEVICES WITH ARCHITECTURAL FINISHES AND REFLECTED CEILING PLANS, INCLUDING ADDITIONAL SMOKE AND HEAT DETECTORS REQUIRED FOR NON-SMOOTH CEILING APPLICATIONS. INCLUDE ALLOWANCES FOR ADJUSTMENT OF DEVICES BY THE ARCHITECT AT THE TIME OF SUBMITTAL TO COORDINATE WITH BUILDING FINISHES AND OTHER CEILING ELEMENTS.
12. REFER TO LIGHTING CONTROL SCHEDULE FOR ROOM CONTROL AND EMERGENCY LIGHTING CIRCUIT CONTROL REQUIREMENTS. DESIGNATION FOR ROOM IS INDICATED AS A LETTERED OVAL SYMBOL.
13. PROVIDE TAMPER-RESISTANT TYPE RECEPTACLES FOR ALL NEW RECEPTACLES UNLESS OTHERWISE NOTED.

CONSTRUCTION KEY NOTES:

1. THE ELECTRICAL CONTRACTOR SHALL PROVIDE 2-2"C U.O.N. CONDUITS FOR TECHNOLOGY AND AUXILIARY SYSTEM WIRE AS INDICATED. STUB CONDUITS FROM CEILING SPACE. PROVIDE PLASTIC BUSHINGS AT EACH END. PROVIDE REMOVABLE/RESEALABLE FIRE STOP PUTTY IN EACH CONDUIT AND FIRE STOP AROUND EACH CONDUIT. COORDINATE WITH TECHNOLOGY CONTRACTOR FOR EXACT LOCATION OF CONDUIT. PROVIDE MINIMUM OF 1" CONDUIT FOR ALL OTHER AREAS REQUIRING SLEEVES.
2. DUCT SMOKE DETECTOR SHALL BE FURNISHED AND INSTALLED BY THE ELECTRICAL CONTRACTOR. COORDINATE MOUNTING LOCATION AND QUANTITY WITH THE MECHANICAL DUCTWORK CONTRACTOR. ELECTRICAL CONTRACTOR SHALL WIRE DUCT SMOKE DETECTOR/RTU/AHU SUPPLY/RETURN FAN MOTOR STARTER SO THAT UPON DETECTION OF SMOKE, THE SUPPLY/RETURN FAN WILL SHUT DOWN. THIS SHALL BE ACCOMPLISHED VIA THE FIRE ALARM CONTROL PANEL. PROVIDE ALL REQUIRED CONTROL MODULES AND RELAYS. COORDINATE WITH THE TEMPERATURE CONTROLS/FIRE ALARM CONTRACTOR. PROVIDE WEATHER PROOF ENCLOSURES AS REQUIRED.
3. REFER TO ARCHITECTURAL FLOOR PLANS, DOOR HARDWARE SCHEDULE ON ARCHITECTURAL DRAWINGS, ACCESS CONTROL SYSTEM SPECIFICATION SECTION AND ACCESS CONTROL DOOR DIAGRAM(S) ON E7 SERIES FOR RACEWAY AND BACK BOX REQUIREMENTS FOR DOOR OR BANK OF DOORS INDICATED. PROVIDE ALL RACEWAYS AND BACK BOXES REQUIRED. COORDINATE WITH DOOR HARDWARE AND ACCESS CONTROL CONTRACTORS.
4. ELECTRICAL CONTRACTOR SHALL PROVIDE FIRE ALARM CONTROL MODULES AND SMOKE DETECTORS FOR DOOR RELEASE. COORDINATE MOUNTING WITH DOOR CONTRACTOR. ALL RELATED DOOR HARDWARE IS PROVIDED BY OTHERS. WIRE TO FIRE ALARM PANEL SO THAT UPON SYSTEM ALARM, DOOR WILL CLOSE.
5. PUSH PAD FOR AUTOMATIC DOORS. ALL DOOR AND PUSH PAD HARDWARE IS PROVIDED BY DOOR CONTRACTOR. ELECTRICAL CONTRACTOR SHALL INSTALL PUSH PADS AND PROVIDE CONDUIT AND WIRE FOR COMPLETE OPERATION. COORDINATE WITH DOOR CONTRACTOR. PUSH PAD BACK BOX IS DOUBLE GANG.
6. HEAT TRACE. COORDINATE WITH MECHANICAL CONTRACTOR.
7. HAND DRYER FURNISHED BY ARCHITECT AND INSTALLED BY ELECTRICAL CONTRACTOR. COORDINATE MOUNTING HEIGHT WITH ARCHITECTURAL DRAWINGS.
8. SECURITY CAMERA, BY OTHERS. COORDINATE FINAL LOCATION WITH TECHNOLOGY CONTRACTOR PRIOR TO ROUGH IN. PROVIDE 3/4" C. TO ACCESSIBLE CEILING SPACE.
9. PA SPEAKER, BY OTHERS. COORDINATE FINAL LOCATION WITH TECHNOLOGY CONTRACTOR PRIOR TO ROUGH IN. PROVIDE 3/4" C. TO ACCESSIBLE CEILING SPACE.
10. THE ELECTRICAL CONTRACTOR SHALL PROVIDE 2-4"C U.O.N. CONDUITS FOR TECHNOLOGY AND AUXILIARY SYSTEM WIRE AS INDICATED. STUB CONDUITS FROM CEILING SPACE. PROVIDE PLASTIC BUSHINGS AT EACH END. PROVIDE REMOVABLE/RESEALABLE FIRE STOP PUTTY IN EACH CONDUIT AND FIRE STOP AROUND EACH CONDUIT. COORDINATE WITH TECHNOLOGY CONTRACTOR FOR EXACT LOCATION OF CONDUIT. PROVIDE MINIMUM OF 1" CONDUIT FOR ALL OTHER AREAS REQUIRING SLEEVES.
11. FIRE ALARM SUPPLIER SHALL COORDINATE EXACT LOCATIONS AND QUANTITIES WITH FIRE MARSHALL.
12. COORDINATE MOUNTING LOCATION WITH TECHNOLOGY CONTRACTOR.
13. ELECTRICAL CONTRACTOR SHALL INSTALL 4" SQUARE JUNCTION BOX WITHIN 3'0" OF ELECTRICAL BACKBOARD WINCH UP IN CEILING SPACE. ALSO INSTALL 4 POLE, TWIST LOCK, SINGLE RECEPTACLE, PROVIDE BY WINCH MANUFACTURERS, INTO THE JUNCTION BOX.
14. ELECTRICAL CONTRACTOR SHALL INSTALL ALL CONTROLS, PUSHBUTTONS, KEY SWITCHES ETC. (PROVIDE WITH EACH BASKETBALL BACKBOARD), FOR A COMPLETE OPERABLE SYSTEM. KEY SWITCHES GANGED IN PAIRS IN ONE COVER PLATE TO CONTROL THE BACKSTOP SWING AND HEIGHT ADJUSTER.

TMP ARCHITECTURE

TMP ARCHITECTURE INC
1191 WEST SQUARE LAKE ROAD - BOX 289
BLOOMFIELD HILLS - MICHIGAN - 48302
PH - 248.338.4561 FX - 248.338.0223
EM - INFO@TMP-ARCHITECTURE.COM

REGISTRATION SEAL

CONSULTANT

Peter Basso Associates Inc
CONSULTING ENGINEERS
5145 Livernois, Suite 100
Troy, Michigan 48098-3276
Tel: 248-879-5666
Fax: 248-879-0007
www.PeterBassoAssociates.com
PBA Project No.: 2022.0365

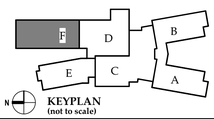
PROJECT TITLE

WESTERN ELEMENTARY SCHOOL

WESTERN SCHOOL DISTRICT PARMA, MI

DRAWING TITLE

FIRST LEVEL POWER AND AUXILIARY SYSTEMS PLAN - ZONE 'F'



ISSUE DATES

DATE:	ISSUED FOR:
04-22-2024	BULLETIN 4
11-08-2023	ADDENDUM 2
10-30-2023	ADDENDUM 1
10-16-2023	CONSTRUCTION DOCUMENTS

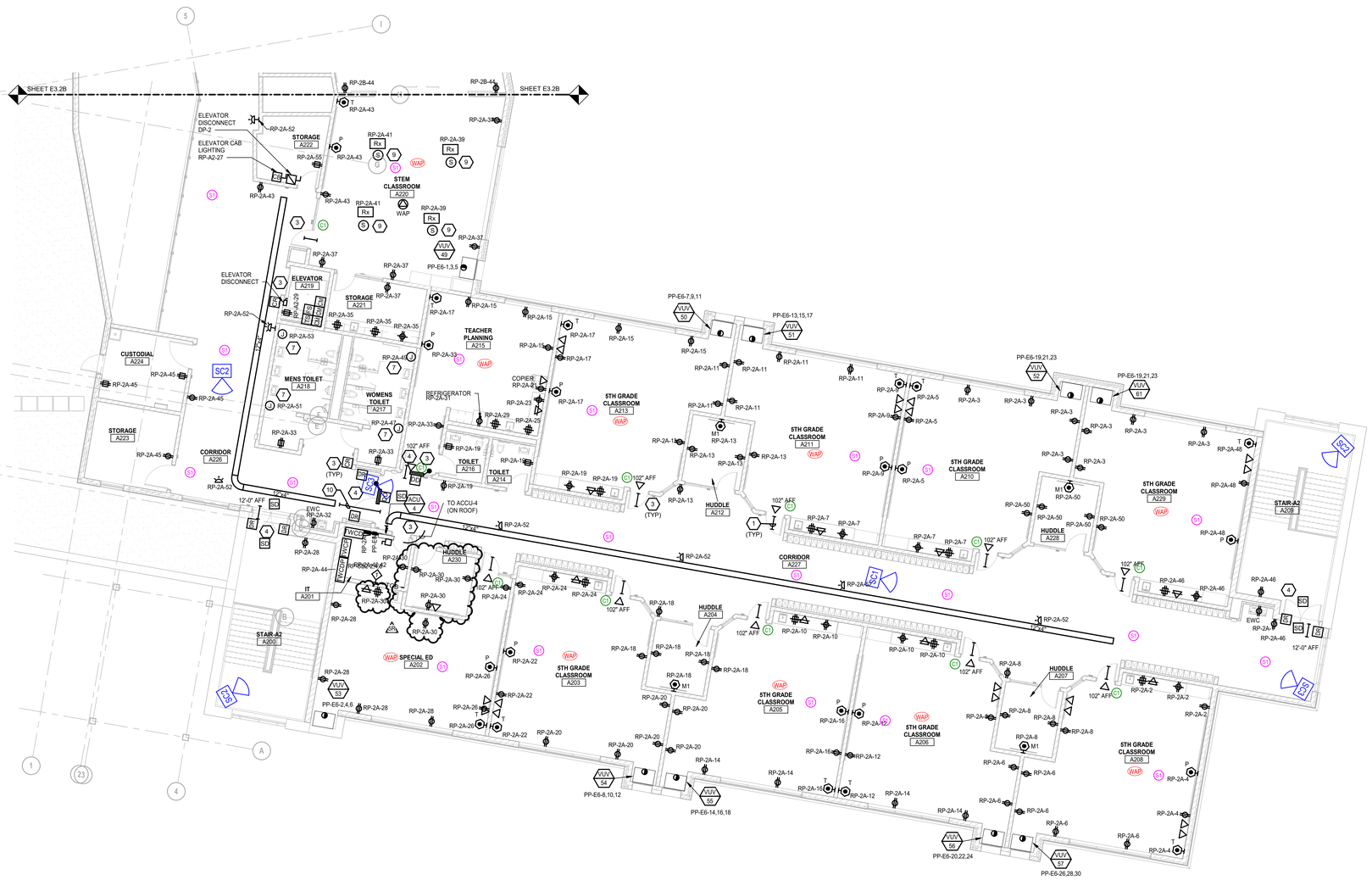
DRAWN	SEB
CHECKED	STP
APPROVED	STP

PROJECT NO. 22054

Communications By Design New Elementary Technology Drawings
Bid ID #3058
DRAFT 03/03/2025

DRAWING NO. E3.1F

THE FOLLOWING DIMENSION EQUALS ONE INCH WHEN PRINTED TO SCALE. 1"



SECOND LEVEL POWER AND AUXILIARY SYSTEMS PLAN - ZONE 'A'

SCALE: 1/8" = 1'-0"

ELECTRICAL GENERAL NOTES:

1 THESE DRAWINGS REPRESENT THE GENERAL EXTENT AND ARRANGEMENT OF SYSTEMS. COORDINATE EXACT EQUIPMENT LOCATIONS, ELEVATIONS, AND FINAL CONNECTION REQUIREMENTS. PROVIDE EACH SYSTEM COMPLETE, INCLUDING ALL NECESSARY COMPONENTS, FITTINGS AND OFFSETS.

2 INSTALL SYSTEMS SUCH THAT REQUIRED CLEARANCE AND SERVICE ACCESS SPACE IS PROVIDED AROUND ALL MECHANICAL AND ELECTRICAL EQUIPMENT, AND AROUND ANY COMPONENTS WHICH REQUIRE SERVICE ACCESS.

3 COORDINATE AND PROVIDE ACCESS DOORS WITHIN INACCESSIBLE CEILING, SHAFT, AND CHASE AREAS FOR ALL COMPONENTS WHICH REQUIRE SERVICE ACCESS. REFER TO ARCHITECTURAL DRAWINGS FOR CEILING TYPES.

4 PROVIDE SUPPLEMENTARY STEEL AS REQUIRED FOR THE PROPER SUPPORT OF ALL SYSTEMS.

5 TRANSFORMER SECONDARY CONDUCTORS SHALL BE SIZED IN ACCORDANCE WITH TRANSFORMER CIRCUIT SIZING SCHEDULE SHOWN ON "ELECTRICAL STANDARD SCHEDULES DRAWING" UNLESS OTHERWISE NOTED.

6 MOTOR CIRCUIT PROTECTION SHALL BE SIZED IN ACCORDANCE WITH MOTOR CIRCUIT SIZING SCHEDULES SHOWN ON "ELECTRICAL STANDARD SCHEDULES DRAWING" UNLESS OTHERWISE NOTED.

7 COORDINATE THE MOUNTING HEIGHTS OF DEVICES WITH ARCHITECTURAL ELEVATIONS AND THE TRADES INSTALLING THE WORK.

8 COORDINATE EXACT LOCATIONS OF ALL FLOOR SERVICE FITTINGS AND POKE-THROUGH ASSEMBLIES WITH FINAL FURNITURE LAYOUT DRAWINGS.

9 REFER TO MECHANICAL SCHEDULE SHEETS FOR ELECTRICAL REQUIREMENTS FOR MECHANICAL EQUIPMENT. PROVIDE ALL CONNECTIONS, STARTERS, DISCONNECTS, ETC. AS REQUIRED BY SCHEDULES AND WHERE NOTED ELSEWHERE. VERIFY REQUIREMENTS OF ALL MECHANICAL EQUIPMENT WITH SHOP DRAWINGS SUBMITTALS. NOTIFY ENGINEER OF ANY CONFLICTS BETWEEN EQUIPMENT SUBMITTALS AND ELECTRICAL DRAWINGS. WHERE CIRCUIT SIZES ARE SHOWN ON THE ELECTRICAL DRAWINGS THAT DIFFER FROM WHAT IS INDICATED ON THE MECHANICAL SCHEDULES, PROVIDE THE CIRCUIT OF HIGHER AMPACITY.

10 REFER TO TEMPERATURE CONTROLS SHEETS FOR REQUIRED FIRE ALARM CONTROL MODULES, DUCT SMOKE DETECTORS, AND MOTOR CONTROLLERS. PROVIDE ALL ACCESSORIES INDICATED.

11 THE FIRE ALARM DEVICES SHOWN ON PLAN ARE A PARTIAL REPRESENTATION OF THE FIRE ALARM SYSTEM. PROVIDE THE DESIGN AND INSTALLATION OF A COMPLETE AND FUNCTIONAL FIRE ALARM SYSTEM IN ACCORDANCE WITH THE SPECIFICATIONS, DRAWINGS, AND ALL APPLICABLE CODES. THE FIRE ALARM VENDOR SHALL PROVIDE LAYOUT DRAWINGS INDICATING THE REQUIRED QUANTITIES AND LOCATIONS OF MANUAL PULL STATIONS, NOTIFICATION APPLIANCES, SMOKE AND HEAT DETECTORS, CONTROL MODULES, INTERFACE MODULES, MODULES FOR SPRINKLER FLOW AND TAMPER SWITCHES, ALL CONTROL PANELS, POWER SUPPLIES, AND ADDITIONAL DEVICES AND EQUIPMENT REQUIRED. COORDINATE LOCATIONS OF DEVICES WITH ARCHITECTURAL FINISHES AND REFLECTED CEILING PLANS, INCLUDING ADDITIONAL SMOKE AND HEAT DETECTORS REQUIRED FOR NON-SMOOTH CEILING APPLICATIONS. INCLUDE ALLOWANCES FOR ADJUSTMENT OF DEVICES BY THE ARCHITECT AT THE TIME OF SUBMITTAL TO COORDINATE WITH BUILDING FINISHES AND OTHER CEILING ELEMENTS.

12 REFER TO LIGHTING CONTROL SCHEDULE FOR ROOM CONTROL AND EMERGENCY LIGHTING CIRCUIT CONTROL REQUIREMENTS. DESIGNATION FOR ROOM IS INDICATED AS A LETTERED OVAL SYMBOL.

13 PROVIDE TAMPER-RESISTANT TYPE RECEPTACLES FOR ALL NEW RECEPTACLES UNLESS OTHERWISE NOTED.

CONSTRUCTION KEY NOTES:

1 THE ELECTRICAL CONTRACTOR SHALL PROVIDE 2-2"C U.O.N. CONDUITS FOR TECHNOLOGY AND AUXILIARY SYSTEM WIRE AS INDICATED. STUB CONDUITS FROM CEILING SPACE. PROVIDE PLASTIC BUSHINGS AT EACH END. PROVIDE REMOVABLE/RESEALABLE FIRE STOP PUTTY IN EACH CONDUIT AND FIRE STOP AROUND EACH CONDUIT. COORDINATE WITH TECHNOLOGY CONTRACTOR FOR EXACT LOCATION OF CONDUIT. PROVIDE MINIMUM OF 1" CONDUIT FOR ALL OTHER AREAS REQUIRING SLEEVES.

2 DUCT SMOKE DETECTOR SHALL BE FURNISHED AND INSTALLED BY THE ELECTRICAL CONTRACTOR. COORDINATE MOUNTING LOCATION AND QUANTITY WITH THE MECHANICAL DUCTWORK CONTRACTOR. ELECTRICAL CONTRACTOR SHALL WIRE DUCT SMOKE DETECTOR/RTU/AHU SUPPLY/RETURN FAN MOTOR STARTER SO THAT UPON DETECTION OF SMOKE, THE SUPPLY/RETURN FAN WILL SHUT DOWN. THIS SHALL BE ACCOMPLISHED VIA THE FIRE ALARM CONTROL PANEL. PROVIDE ALL REQUIRED CONTROL MODULES AND RELAYS. COORDINATE WITH THE TEMPERATURE CONTROL/FIRE ALARM CONTRACTOR. PROVIDE WEATHER PROOF ENCLOSURES AS REQUIRED.

3 REFER TO ARCHITECTURAL FLOOR PLANS, DOOR HARDWARE SCHEDULE ON ARCHITECTURAL DRAWINGS, ACCESS CONTROL SYSTEM SPECIFICATION SECTION AND ACCESS CONTROL DOOR DIAGRAM(S) ON E7 SERIES FOR RACEWAY AND BACK BOX REQUIREMENTS FOR DOOR OR BANK OF DOORS INDICATED. PROVIDE ALL RACEWAYS AND BACK BOXES REQUIRED. COORDINATE WITH DOOR HARDWARE AND ACCESS CONTROL CONTRACTORS.

4 ELECTRICAL CONTRACTOR SHALL PROVIDE FIRE ALARM CONTROL MODULES AND SMOKE DETECTORS FOR DOOR RELEASE. COORDINATE MOUNTING WITH DOOR CONTRACTOR. ALL RELATED DOOR HARDWARE IS PROVIDED BY OTHERS. WIRE TO FIRE ALARM PANEL SO THAT UPON SYSTEM ALARM, DOOR WILL CLOSE.

5 PUSH PAD FOR AUTOMATIC DOORS. ALL DOOR AND PUSH PAD HARDWARE IS PROVIDED BY DOOR CONTRACTOR. ELECTRICAL CONTRACTOR SHALL INSTALL PUSH PADS AND PROVIDE CONDUIT AND WIRE FOR COMPLETE OPERATION. COORDINATE WITH DOOR CONTRACTOR. PUSH PAD BACK BOX IS DOUBLE GANG.

6 HEAT TRACE. COORDINATE WITH MECHANICAL CONTRACTOR.

7 HAND DRYER FURNISHED BY ARCHITECT AND INSTALLED BY ELECTRICAL CONTRACTOR. COORDINATE MOUNTING HEIGHT WITH ARCHITECTURAL DRAWINGS.

8 SECURITY CAMERA, BY OTHERS. COORDINATE FINAL LOCATION WITH TECHNOLOGY CONTRACTOR PRIOR TO ROUGH IN. PROVIDE 3/4" C. TO ACCESSIBLE CEILING SPACE.

9 PA SPEAKER, BY OTHERS. COORDINATE FINAL LOCATION WITH TECHNOLOGY CONTRACTOR PRIOR TO ROUGH IN. PROVIDE 3/4" C. TO ACCESSIBLE CEILING SPACE.

10 THE ELECTRICAL CONTRACTOR SHALL PROVIDE 2-4"C U.O.N. CONDUITS FOR TECHNOLOGY AND AUXILIARY SYSTEM WIRE AS INDICATED. STUB CONDUITS FROM CEILING SPACE. PROVIDE PLASTIC BUSHINGS AT EACH END. PROVIDE REMOVABLE/RESEALABLE FIRE STOP PUTTY IN EACH CONDUIT AND FIRE STOP AROUND EACH CONDUIT. COORDINATE WITH TECHNOLOGY CONTRACTOR FOR EXACT LOCATION OF CONDUIT. PROVIDE MINIMUM OF 1" CONDUIT FOR ALL OTHER AREAS REQUIRING SLEEVES.

11 FIRE ALARM SUPPLIER SHALL COORDINATE EXACT LOCATIONS AND QUANTITIES WITH FIRE MARSHALL.

12 COORDINATE MOUNTING LOCATION WITH TECHNOLOGY CONTRACTOR.

13 ELECTRICAL CONTRACTOR SHALL INSTALL 4" SQUARE JUNCTION BOX WITHIN 3'0" OF ELECTRICAL BACKBOARD WINCH UP IN CEILING SPACE. ALSO INSTALL 4 POLE, TWIST LOCK, SINGLE RECEPTACLE, PROVIDE BY WINCH MANUFACTURERS, INTO THE JUNCTION BOX.

14 ELECTRICAL CONTRACTOR SHALL INSTALL ALL CONTROLS, PUSHBUTTONS, KEY SWITCHES ETC. (PROVIDE WITH EACH BASKETBALL BACKBOARD), FOR A COMPLETE OPERABLE SYSTEM. KEY SWITCHES GANGED IN PAIRS IN ONE COVER PLATE TO CONTROL THE BACKSTOP SWING AND HEIGHT ADJUSTER.

DRAWINGS HAVE BEEN UPDATED TO INCORPORATE ALTERNATE 1 CLASSROOM ADDITION AS APPROVED PROJECT SCOPE. ALL INFORMATION ORIGINALLY INCLUDED ON ALT SHEETS HAVE BEEN INCORPORATED INTO THE BASE PROJECT DRAWINGS FOR CONTRACTOR CLARIFICATION.

TMP ARCHITECTURE

TMP ARCHITECTURE INC

1191 WEST SQUARE LAKE ROAD - BOX 299
BLOOMFIELD HILLS - MICHIGAN - 48302
PH - 248.338.4561 FX - 248.338.0223
EM - INFO@TMP-ARCHITECTURE.COM

REGISTRATION SEAL

CONSULTANT

Peter Basso Associates Inc
CONSULTING ENGINEERS
5145 Livernois, Suite 100
Troy, Michigan 48098-3276
Tel: 248-879-5666
Fax: 248-879-0007
www.PeterBassoAssociates.com
PBA Project No.: 2022.0365

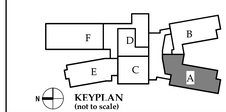
PROJECT TITLE

WESTERN ELEMENTARY SCHOOL

WESTERN SCHOOL DISTRICT
PARMA, MI

DRAWING TITLE

SECOND LEVEL POWER AND AUXILIARY SYSTEMS PLAN - ZONE 'A'



ISSUE DATES

08-12-2024	BULLETIN 5R
04-22-2024	BULLETIN 4
03-15-2024	BULLETIN 2
02-16-2024	ASI 2
01-09-2024	BULLETIN 1
11-08-2023	ADDENDUM 2
10-30-2023	ADDENDUM 1
10-16-2023	CONSTRUCTION DOCUMENTS

DATE: ISSUED FOR:

DRAWN	SEB
CHECKED	STP
APPROVED	STP

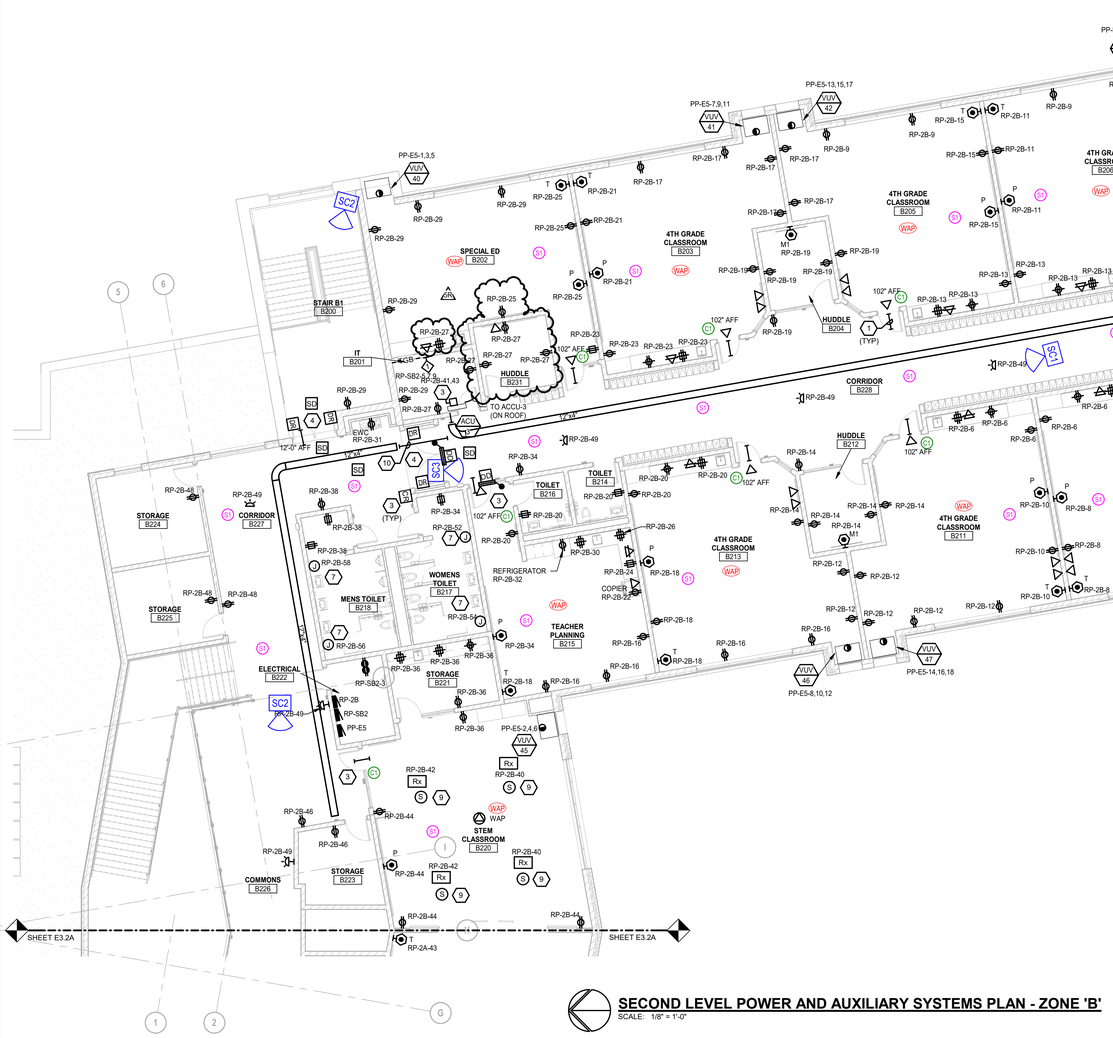
PROJECT NO. 22054

Communications By Design New Elementary Technology Drawings
Bid ID #3058
DRAFT 03/03/2025

DRAWING NO. E3.2A

8/7/2024 3:47:37 PM Autodesk Docs://WSD New Elementary School_Western/2022-0365_MEP_WSD_ES_v22.rvt

THE FOLLOWING DIMENSION EQUALS ONE INCH WHEN PRINTED TO SCALE. 1"



SECOND LEVEL POWER AND AUXILIARY SYSTEMS PLAN - ZONE 'B'

SCALE: 1/8" = 1'-0"

ELECTRICAL GENERAL NOTES:

1 THESE DRAWINGS REPRESENT THE GENERAL EXTENT AND ARRANGEMENT OF SYSTEMS. COORDINATE EXACT EQUIPMENT LOCATIONS, ELEVATIONS, AND FINAL CONNECTION REQUIREMENTS. PROVIDE EACH SYSTEM COMPLETE, INCLUDING ALL NECESSARY COMPONENTS, FITTINGS AND OFFSETS.

2 INSTALL SYSTEMS SUCH THAT REQUIRED CLEARANCE AND SERVICE ACCESS SPACE IS PROVIDED AROUND ALL MECHANICAL AND ELECTRICAL EQUIPMENT, AND AROUND ANY COMPONENTS WHICH REQUIRE SERVICE ACCESS.

3 COORDINATE AND PROVIDE ACCESS DOORS WITHIN INACCESSIBLE CEILING, SHAFT, AND CHASE AREAS FOR ALL COMPONENTS WHICH REQUIRE SERVICE ACCESS. REFER TO ARCHITECTURAL DRAWINGS FOR CEILING TYPES.

4 PROVIDE SUPPLEMENTARY STEEL AS REQUIRED FOR THE PROPER SUPPORT OF ALL SYSTEMS.

5 TRANSFORMER SECONDARY CONDUCTORS SHALL BE SIZED IN ACCORDANCE WITH TRANSFORMER CIRCUIT SIZING SCHEDULE SHOWN ON "ELECTRICAL STANDARD SCHEDULES DRAWING" UNLESS OTHERWISE NOTED.

6 MOTOR CIRCUIT PROTECTION SHALL BE SIZED IN ACCORDANCE WITH MOTOR CIRCUIT SIZING SCHEDULES SHOWN ON "ELECTRICAL STANDARD SCHEDULES DRAWING" UNLESS OTHERWISE NOTED.

7 COORDINATE THE MOUNTING HEIGHTS OF DEVICES WITH ARCHITECTURAL ELEVATIONS AND THE TRADES INSTALLING THE WORK.

8 COORDINATE EXACT LOCATIONS OF ALL FLOOR SERVICE FITTINGS AND POKE-THROUGH ASSEMBLIES WITH FINAL FURNITURE LAYOUT DRAWINGS.

9 REFER TO MECHANICAL SCHEDULE SHEETS FOR ELECTRICAL REQUIREMENTS FOR MECHANICAL EQUIPMENT. PROVIDE ALL CONNECTIONS, STARTERS, DISCONNECTS, ETC. AS REQUIRED BY SCHEDULES AND WHERE NOTED ELSEWHERE. VERIFY REQUIREMENTS OF ALL MECHANICAL EQUIPMENT WITH SHOP DRAWINGS SUBMITTALS. NOTIFY ENGINEER OF ANY CONFLICTS BETWEEN EQUIPMENT SUBMITTALS AND ELECTRICAL DRAWINGS. WHERE CIRCUIT SIZES ARE SHOWN ON THE ELECTRICAL DRAWINGS THAT DIFFER FROM WHAT IS INDICATED ON THE MECHANICAL SCHEDULES, PROVIDE THE CIRCUIT OF HIGHER AMPACITY.

10 REFER TO TEMPERATURE CONTROLS SHEETS FOR REQUIRED FIRE ALARM CONTROL MODULES, DUCT SMOKE DETECTORS, AND MOTOR CONTROLLERS. PROVIDE ALL ACCESSORIES INDICATED.

11 THE FIRE ALARM DEVICES SHOWN ON PLAN ARE A PARTIAL REPRESENTATION OF THE FIRE ALARM SYSTEM. PROVIDE THE DESIGN AND INSTALLATION OF A COMPLETE AND FUNCTIONAL FIRE ALARM SYSTEM IN ACCORDANCE WITH THE SPECIFICATIONS, DRAWINGS, AND ALL APPLICABLE CODES. THE FIRE ALARM VENDOR SHALL PROVIDE LAYOUT DRAWINGS INDICATING THE REQUIRED QUANTITIES AND LOCATIONS OF MANUAL PULL STATIONS, NOTIFICATION APPLIANCES, SMOKE AND HEAT DETECTORS, CONTROL MODULES, INTERFACE MODULES, MODULES FOR SPRINKLER FLOW AND TAMPER SWITCHES, ALL CONTROL PANELS, POWER SUPPLIES, AND ADDITIONAL DEVICES AND EQUIPMENT REQUIRED. COORDINATE LOCATIONS OF DEVICES WITH ARCHITECTURAL FINISHES AND REFLECTED CEILING PLANS, INCLUDING ADDITIONAL SMOKE AND HEAT DETECTORS REQUIRED FOR NON-SMOOTH CEILING APPLICATIONS. INCLUDE ALLOWANCES FOR ADJUSTMENT OF DEVICES BY THE ARCHITECT AT THE TIME OF SUBMITTAL TO COORDINATE WITH BUILDING FINISHES AND OTHER CEILING ELEMENTS.

12 REFER TO LIGHTING CONTROL SCHEDULE FOR ROOM CONTROL AND EMERGENCY LIGHTING CIRCUIT CONTROL REQUIREMENTS. DESIGNATION FOR ROOM IS INDICATED AS A LETTERED OVAL SYMBOL.

13 PROVIDE TAMPER-RESISTANT TYPE RECEPTACLES FOR ALL NEW RECEPTACLES UNLESS OTHERWISE NOTED.

CONSTRUCTION KEY NOTES:

1 THE ELECTRICAL CONTRACTOR SHALL PROVIDE 2-2"C U.O.N. CONDUITS FOR TECHNOLOGY AND AUXILIARY SYSTEM WIRE AS INDICATED. STUB CONDUITS FROM CEILING SPACE. PROVIDE PLASTIC BUSHINGS AT EACH END. PROVIDE REMOVABLE/RESEALABLE FIRE STOP PUTTY IN EACH CONDUIT AND FIRE STOP AROUND EACH CONDUIT. COORDINATE WITH TECHNOLOGY CONTRACTOR FOR EXACT LOCATION OF CONDUIT. PROVIDE MINIMUM OF 1" CONDUIT FOR ALL OTHER AREAS REQUIRING SLEEVES.

2 DUCT SMOKE DETECTOR SHALL BE FURNISHED AND INSTALLED BY THE ELECTRICAL CONTRACTOR. COORDINATE MOUNTING LOCATION AND QUANTITY WITH THE MECHANICAL DUCTWORK CONTRACTOR. ELECTRICAL CONTRACTOR SHALL WIRE DUCT SMOKE DETECTOR/RTU/AHU SUPPLY/RETURN FAN MOTOR STARTER SO THAT UPON DETECTION OF SMOKE, THE SUPPLY/RETURN FAN WILL SHUT DOWN. THIS SHALL BE ACCOMPLISHED VIA THE FIRE ALARM CONTROL PANEL. PROVIDE ALL REQUIRED CONTROL MODULES AND RELAYS. COORDINATE WITH THE TEMPERATURE CONTROL/FIRE ALARM CONTRACTOR. PROVIDE WEATHER PROOF ENCLOSURES AS REQUIRED.

3 REFER TO ARCHITECTURAL FLOOR PLANS, DOOR HARDWARE SCHEDULE ON ARCHITECTURAL DRAWINGS, ACCESS CONTROL SYSTEM SPECIFICATION SECTION AND ACCESS CONTROL DOOR DIAGRAM(S) ON E7 SERIES FOR RACEWAY AND BACK BOX REQUIREMENTS FOR DOOR OR BANK OF DOORS INDICATED. PROVIDE ALL RACEWAYS AND BACK BOXES REQUIRED. COORDINATE WITH DOOR HARDWARE AND ACCESS CONTROL CONTRACTORS.

4 ELECTRICAL CONTRACTOR SHALL PROVIDE FIRE ALARM CONTROL MODULES AND SMOKE DETECTORS FOR DOOR RELEASE. COORDINATE MOUNTING WITH DOOR CONTRACTOR. ALL RELATED DOOR HARDWARE IS PROVIDED BY OTHERS. WIRE TO FIRE ALARM PANEL SO THAT UPON SYSTEM ALARM, DOOR WILL CLOSE.

5 PUSH PAD FOR AUTOMATIC DOORS. ALL DOOR AND PUSH PAD HARDWARE IS PROVIDED BY DOOR CONTRACTOR. ELECTRICAL CONTRACTOR SHALL INSTALL PUSH PADS AND PROVIDE CONDUIT AND WIRE FOR COMPLETE OPERATION. COORDINATE WITH DOOR CONTRACTOR. PUSH PAD BACK BOX IS DOUBLE GANG.

6 HEAT TRACE. COORDINATE WITH MECHANICAL CONTRACTOR.

7 HAND DRYER FURNISHED BY ARCHITECT AND INSTALLED BY ELECTRICAL CONTRACTOR. COORDINATE MOUNTING HEIGHT WITH ARCHITECTURAL DRAWINGS.

8 SECURITY CAMERA, BY OTHERS. COORDINATE FINAL LOCATION WITH TECHNOLOGY CONTRACTOR PRIOR TO ROUGH IN. PROVIDE 3/4" C. TO ACCESSIBLE CEILING SPACE.

9 PA SPEAKER, BY OTHERS. COORDINATE FINAL LOCATION WITH TECHNOLOGY CONTRACTOR PRIOR TO ROUGH IN. PROVIDE 3/4" C. TO ACCESSIBLE CEILING SPACE.

10 THE ELECTRICAL CONTRACTOR SHALL PROVIDE 2-4"C U.O.N. CONDUITS FOR TECHNOLOGY AND AUXILIARY SYSTEM WIRE AS INDICATED. STUB CONDUITS FROM CEILING SPACE. PROVIDE PLASTIC BUSHINGS AT EACH END. PROVIDE REMOVABLE/RESEALABLE FIRE STOP PUTTY IN EACH CONDUIT AND FIRE STOP AROUND EACH CONDUIT. COORDINATE WITH TECHNOLOGY CONTRACTOR FOR EXACT LOCATION OF CONDUIT. PROVIDE MINIMUM OF 1" CONDUIT FOR ALL OTHER AREAS REQUIRING SLEEVES.

11 FIRE ALARM SUPPLIER SHALL COORDINATE EXACT LOCATIONS AND QUANTITIES WITH FIRE MARSHALL.

12 COORDINATE MOUNTING LOCATION WITH TECHNOLOGY CONTRACTOR.

13 ELECTRICAL CONTRACTOR SHALL INSTALL 4" SQUARE JUNCTION BOX WITHIN 3'0" OF ELECTRICAL BACKBOARD WINCH U/P IN CEILING SPACE. ALSO INSTALL 4 POLE, TWIST LOCK, SINGLE RECEPTACLE, PROVIDE BY WINCH MANUFACTURERS, INTO THE JUNCTION BOX.

14 ELECTRICAL CONTRACTOR SHALL INSTALL ALL CONTROLS, PUSHBUTTONS, KEY SWITCHES ETC. (PROVIDE WITH EACH BASKETBALL BACKBOARD). FOR A COMPLETE OPERABLE SYSTEM. KEY SWITCHES GANGED IN PAIRS IN ONE COVER PLATE TO CONTROL THE BACKSTOP SWING AND HEIGHT ADJUSTER.

DRAWINGS HAVE BEEN UPDATED TO INCORPORATE ALTERNATE 1 CLASSROOM ADDITION AS APPROVED PROJECT SCOPE. ALL INFORMATION ORIGINALLY INCLUDED ON ALT SHEETS HAVE BEEN INCORPORATED INTO THE BASE PROJECT DRAWINGS FOR CONTRACTOR CLARIFICATION.

TMP ARCHITECTURE

TMP ARCHITECTURE INC

1191 WEST SQUARE LAKE ROAD - BOX 299
BLOOMFIELD HILLS - MICHIGAN - 48302
PH - 248.338.4561 FX - 248.338.0223
EM - INFO@TMP-ARCHITECTURE.COM

REGISTRATION SEAL

CONSULTANT

Peter Basso Associates Inc
CONSULTING ENGINEERS
5145 Livernois, Suite 100
Troy, Michigan 48098-3276
Tel: 248-879-5666
Fax: 248-879-0007
www.PeterBassoAssociates.com
PBA Project No.: 2022.0365

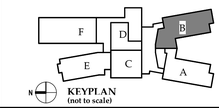
PROJECT TITLE

WESTERN ELEMENTARY SCHOOL

WESTERN SCHOOL DISTRICT PARMA, MI

DRAWING TITLE

SECOND LEVEL POWER AND AUXILIARY SYSTEMS PLAN - ZONE 'B'



KEYPLAN (not to scale)

ISSUE DATES

08-12-2024	BULLETIN 5R
04-22-2024	BULLETIN 4
02-16-2024	ASI 2
01-09-2024	BULLETIN 1
11-08-2023	ADDENDUM 2
10-30-2023	ADDENDUM 1
10-16-2023	CONSTRUCTION DOCUMENTS

DATE:	ISSUED FOR:
DRAWN	SEB
CHECKED	STP
APPROVED	STP

PROJECT NO. 22054

Communications By Design New Elementary Technology Drawings
Bid ID #3058
DRAFT 03/03/2025

DRAWING NO. E3.2B

8/7/2024 3:47:41 PM Autodesk Docs://WSD New Elementary School_Western/2022-0365_MEP_WSD_ES_v22.rvt

Classroom AV Appendix C				
Room Number	**Ultra Short-throw**	**Document Camera**	**Voice Amplification Equipment**	**Audio Speakers**
A110	1	1	1	1
A108	1	1	1	1
A107	1	1	1	1
A105	1	1	1	1
A104	1	1	1	1
A126	1	1	1	1
A112	1	1	1	1
A113	1	1	1	1
A115	1	1	1	1
A122	1	1	1	1
B111	1	1	1	1
B109	1	1	1	1
B107	1	1	1	1
B105	1	1	1	1
B104	1	1	1	1
B127	1	1	1	1
B113	1	1	1	1
B114	1	1	1	1
B116	1	1	1	1
B123	1	1	1	1
E113	1	1	1	1
E111	1	1	1	1
E110	1	1	1	1
E108	1	1	1	1
E116	1	1	1	1
E118	1	1	1	1
E119	1	1	1	1
E120	1	1	1	1
E122	1	1	1	1
F114	1	1	1	1
F117	1	1	1	1
F118	1	1	1	1
F121	1	1	1	1
F122	1	1	1	1
F125	1	1	1	1
F112	1	1	1	1
F109	1	1	1	1
F108	1	1	1	1
F105	1	1	1	1
F104	1	1	1	1
F101	1	1	1	1
A220	1	1	1	1
A213	1	1	1	1
A211	1	1	1	1
A210	1	1	1	1
A229	1	1	1	1
A202	1	1	1	1
A203	1	1	1	1
A205	1	1	1	1
A206	1	1	1	1
A208	1	1	1	1
B220	1	1	1	1
B202	1	1	1	1
B203	1	1	1	1
B205	1	1	1	1
B206	1	1	1	1
B208	1	1	1	1
B213	1	1	1	1
B211	1	1	1	1
B210	1	1	1	1
B230	1	1	1	1
A117	1		1	1
B118	1		1	1
D108	1		1	1
E105	1		1	1
A215	1		1	1
B215	1		1	1
Total	**67**	**61**	**67**	**67**

SECTION 080671 – DOOR HARDWARE SCHEDULE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. 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.

B. 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.

C. Related Sections:

1. Division 08 Section 087100 “Door Hardware”.
2. Division 28 Section 281500 “Integrated Access Control Hardware Devices”.

D. 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. Michigan Building Code 2015, Local Amendments.

E. Standards: Reference Related Sections for requirements regarding compliance with applicable industry standards.

1.3 SUBMITTALS

A. Product Data: Manufacturer's product data sheets including installation details, material descriptions, dimensions of individual components and profiles, operational descriptions and finishes.

B. 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.

C. 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.

D. 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.

E. 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.

F. Warranties and Maintenance: Special warranties and maintenance agreements specified in the Related Sections.

1.4 DELIVERY, STORAGE, AND HANDLING

A. 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.

B. 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.

C. 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".

1.5 WARRANTY

A. 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.

1.6 MAINTENANCE SERVICE

A. 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.

PART 2 - PRODUCTS

2.1 SCHEDULED DOOR HARDWARE

A. Refer to “PART 3 – EXECUTION” for required specification sections.

PART 3 - EXECUTION

3.1 DOOR HARDWARE SETS

A. 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.

B. 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 71 00 – Door Hardware.
2. Section 28 15 00 – Integrated Access Control Hardware Devices.

C. Manufacturer's Abbreviations:

1. MK - McKinney
2. PE - Pemko
3. SU - Securitron
4. RO - Rockwood
5. RU - Corbin Russwin
6. HS - HES
7. RF - Rixson
8. NO - Norton
9. OT - Other

Hardware Sets

Set: 1.0

Doors: A100, A111A, B100, B112A, E115A, F113A

1 Continuous Hinge	CFM__SLF-HD1 x PT		PE	087100
1 Electric Power Transfer	EL-CEPT	630	SU	087100
1 Removable Mullion	CR910BKM		RU	087100
1 Rim Exit Device, Exit Only	ED5200 EO M110 M92 M51 (less dogging)	630	RU	087100
1 Mort. Cylinder	CR1080 GMK	626	RU	087100

1 Surface Closer	DC6210 A4 M85 M77/M78 (-mounting plate if required)	689	RU	087100	
1 Weatherstrip	- integral within construction of door and frame assembly		00	08 4113	
1 Sweep	29326CNB x TKSP8		PE	087100	
1 Removable Mullion Seal	5110BL x height of mullion		PE	087100	
1 Threshold	279x292AFGPK x MSES25SS		PE	087100	
1 Position Switch	- Provided by Security Contractor		SU	087100	

Notes: Function: Door normally closed and locked. Exit only.
Exit device equipped with built-in signal switch in push rail for use to shunt door monitoring upon egress (REX).
Less dogging capability.
Free egress always permitted.

Set: 2.0

Doors: C101B, C105, C105A, D116A, D116B, E100, E100A

1 Continuous Hinge	CFM__SLF-HD1 x PT		PE	087100	
1 Electric Power Transfer	EL-CEPT	630	SU	087100	
1 Rim Exit Device, Exit Only	ED5200 EO M110 M92 MELR M52	630	RU	087100	
2 Mort. Cylinder	CR1080 GMK	626	RU	087100	
1 Surface Closer	DC6210 A4 M85 M77/M78 (-mounting plate if required)	689	RU	087100	
1 Weatherstrip	- integral within construction of door and frame assembly		00	08 4113	
1 Sweep	29326CNB x TKSP8		PE	087100	
1 Threshold	1715AK MSES25SS		PE	087100	
1 ElectroLynx Harness	QC-C1500P (power transfer or electric strike to junction box above)		MK	087100	
1 ElectroLynx Harness	QC-C (power transfer to exit device rail)		MK	087100	
1 Position Switch	- Provided by Security Contractor		SU	087100	
1 Power Supply	- Provided by Security Contractor		SU	087100	

Notes: Exit only. Dogging of latch bolt for push / pull operation controlled by use of key inside.
Door may be unlocked and used as push / pull doors as programmed by access control system and then relocked at scheduled times. Signal switch in push rail (request to exit) for use to shunt door monitoring upon egress.
Free egress always permitted.

Set: 3.0

Doors: C101A, C101C

1 Continuous Hinge	CFM__SLF-HD1 x PT		PE	087100	
1 Electric Power Transfer	EL-CEPT	630	SU	087100	⚡
1 Removable Mullion	CR910BKM		RU	087100	
1 Rim Exit Device, Exit Only	ED5200 EO M110 M92 MELR M52	630	RU	087100	⚡
2 Mort. Cylinder	CR1080 GMK	626	RU	087100	
1 Surface Closer	DC6210 A4 M85 M77/M78 (-mounting plate if required)	689	RU	087100	
1 Weatherstrip	- integral within construction of door and frame assembly		00	08 4113	
1 Sweep	29326CNB x TKSP8		PE	087100	
1 Removable Mullion Seal	5110BL x height of mullion		PE	087100	
1 Threshold	1715AK MSES25SS		PE	087100	
1 ElectroLynx Harness	QC-C1500P (power transfer to junction box above)		MK	087100	⚡
1 ElectroLynx Harness	QC-C (power transfer to exit device rail)		MK	087100	⚡
1 Position Switch	- Provided by Security Contractor		SU	087100	⚡
1 Power Supply	- Provided by Security Contractor		SU	087100	⚡

Notes: Exit only. Dogging of latch bolt for push / pull operation controlled by use of key inside.
Doors may be unlocked and used as push / pull doors as programmed by access control system and then relocked at scheduled times. Signal switch in push rail (request to exit) for use to shunt door monitoring upon egress.
Free egress always permitted.

Set: 4.0

Doors: C105B, D116

1 Continuous Hinge	CFM__SLF-HD1 x PT		PE	087100	
1 Electric Power Transfer	EL-CEPT	630	SU	087100	⚡
1 Rim Exit Device, Nightlatch	ED5200 K157ET M110 M92 MELR M52	630	RU	087100	⚡
1 Mort. Cylinder	CR1080 GMK	626	RU	087100	
1 Rim Cylinder	CR3080 GMK	626	RU	087100	
1 Vandal Resistant Trim	VRT22 C	US32D	RO	087100	
1 Surface Closer	DC6210 A4 M85 M77/M78 (-	689	RU	087100	

	mounting plate if required)			
1 Weatherstrip	- integral within construction of door and frame assembly	00	08 4113	
1 Sweep	29326CNB x TKSP8	PE	087100	
1 Threshold	1715AK MSES25SS	PE	087100	
1 ElectroLynx Harness	QC-C1500P (power transfer to junction box above)	MK	087100	⚡
1 ElectroLynx Harness	QC-C (power transfer to exit device rail)	MK	087100	⚡
1 Position Switch	- Provided by Security Contractor	SU	087100	⚡
1 Power Supply	- Provided by Security Contractor	SU	087100	⚡
1 Card Reader	- Provided by Security Contractor	00	281300	

Notes: Operation Description: Door normally closed and locked. Key override outside retracts latch bolt. Valid use of card reader outside retracts latch bolt of exit device. Keyed cylinder inside controls dogging of latch bolt for push / pull operation.
Door may be unlocked and used as push / pull doors as programmed by access control system and then relocked at scheduled times.
Exit device equipped with electric latch retraction and REX signal switch in push rail for shunting of door monitoring upon egress.
Free egress always permitted.

Set: 5.0

Doors: C101

1 Continuous Hinge	CFM__SLF-HD1 x PT		PE	087100	
1 Electric Power Transfer	EL-CEPT	630	SU	087100	⚡
1 Rim Exit Device, Nightlatch	ED5200 K157ET M110 M91 M92 MELR M52	630	RU	087100	⚡
1 Mort. Cylinder	CR1080 GMK	626	RU	087100	
1 Rim Cylinder	CR3080 GMK	626	RU	087100	
1 Door Pull	RM3311-24 Mtg-Type 12XHD	US32D-316	RO	087100	
1 Conc Overhead Stop	6-X36	630	RF	087100	
1 Automatic Opener	6021 (D) - confirm head detail	689	NO	087100	⚡
1 Weatherstrip	- integral within construction of door and frame assembly		00	08 4113	
1 Sweep	29326CNB x TKSP8		PE	087100	
1 Threshold	1715AK MSES25SS		PE	087100	
1 ElectroLynx Harness	QC-C1500P (power transfer to junction box above)		MK	087100	⚡

1 ElectroLynx Harness	QC-C (power transfer to exit device rail)		MK	087100
1 Intercom / Video Station	- Provided by Security Contractor		OT	
2 Door Switch	505 (6" x 6")		NO	087100
1 Position Switch	- Provided by Security Contractor		SU	087100
1 Power Supply	- Provided by Security Contractor		SU	087100
1 Card Reader	- Provided by Security Contractor		00	281300

Notes: Operation Description:
Door normally closed and locked. Valid use of card reader outside or activation of remote release within intercom system shall retract latch bolt permitting entry. Dogging of latch bolt controlled by use of key inside.
Doors may be unlocked and used as push / pull doors as programmed by access control system and then relocked at scheduled times. Signal switch in push rail (request to exit) for use to shunt door monitoring upon egress.
Activating actuator switch in vestibule retracts the latch bolt of the exit device, if locked, and initiates automatic operator cycle.
Activating exterior actuator switch will initiate cycle of automatic operator if the latch bolt is in the retracted position (push /pull operation). Utilize latch bolt monitor in exit device for this function.
After hours - access by valid use of card reader outside / automatic operator will only operate if card reader is authorized first.

Set: 6.0

Doors: A100A, A111B, B100A, B112B, C106E, D115A, D120B, E115, F113

1 Continuous Hinge	CFM__SLF-HD1 x PT		PE	087100
1 Electric Power Transfer	EL-CEPT	630	SU	087100
1 Rim Exit Device, Nightlatch	ED5200 K157ET M110 M92 MELR M51	630	RU	087100
1 Rim Cylinder	CR3080 GMK	626	RU	087100
1 Vandal Resistant Trim	VRT22 C	US32D	RO	087100
1 Surface Closer	DC6210 A4 M85 M77/M78 (- mounting plate if required)	689	RU	087100
1 Weatherstrip	- integral within construction of door and frame assembly		00	08 4113
1 Sweep	29326CNB x TKSP8		PE	087100
1 Threshold	1715AK MSES25SS		PE	087100
1 ElectroLynx Harness	QC-C1500P (power transfer to junction box above)		MK	087100
1 ElectroLynx Harness	QC-C (power transfer to exit device rail)		MK	087100
1 Position Switch	- Provided by Security Contractor		SU	087100

1 Power Supply	- Provided by Security Contractor		SU	087100
1 Card Reader	- Provided by Security Contractor		00	281300

Notes: Door normally closed and locked. Key override outside retracts latch bolt of exit device.
Valid use of card reader outside will electronically retract latch of exit device permitting entry. No keyed dogging of latch bolt.
Free egress always permitted.

Set: 6.1

Doors: E100B

1 Continuous Hinge	CFM__SLF-HD1 x PT		PE	087100
1 Electric Power Transfer	EL-CEPT	630	SU	087100
1 Rim Exit Device, Nightlatch	ED5200 K157ET M110 M92 MELR M51	630	RU	087100
1 Rim Cylinder	CR3080 GMK	626	RU	087100
1 Vandal Resistant Trim	VRT22 C	US32D	RO	087100
1 Surface Closer	DC6210 A4 M85 M77/M78 (- mounting plate if required)	689	RU	087100
1 Weatherstrip	- integral within construction of door and frame assembly		00	08 4113
1 Sweep	29326CNB x TKSP8		PE	087100
1 Threshold	1715AK MSES25SS		PE	087100
1 ElectroLynx Harness	QC-C1500P (power transfer to junction box above)		MK	087100
1 ElectroLynx Harness	QC-C (power transfer to exit device rail)		MK	087100
1 Intercom / Video Station	- Provided by Security Contractor		OT	
1 Position Switch	- Provided by Security Contractor		SU	087100
1 Power Supply	- Provided by Security Contractor		SU	087100
1 Card Reader	- Provided by Security Contractor		00	281300

Notes: Door normally closed and locked. Key override outside retracts latch bolt of exit device.
Valid use of card reader outside or activation of remote release button in intercom system will electronically retract latch of exit device permitting entry. No keyed dogging of latch bolt.
Door shall lock and unlock upon schedule as determined in access control system.
Free egress always permitted.

Set: 7.0

Doors: D100F

2 Continuous Hinge	CFM__SLF-HD1		PE	087100

1 Removable Mullion	CR910BKM		RU	087100
1 Rim Exit Device, Exit Only	ED5200 EO M110 M51 (less dogging)	630	RU	087100
1 Rim Exit Device, Nightlatch	ED5200 K157ET M110 M51 (less dogging)	630	RU	087100
1 Mort. Cylinder	CR1080 GMK	626	RU	087100
1 Rim Cylinder	CR3080 GMK	626	RU	087100
1 Vandal Resistant Trim	VRT22 C	US32D	RO	087100
2 Surface Closer	DC6210 A4 M85 M77/M78 (-mounting plate if required)	689	RU	087100
1 Weatherstrip	- integral within construction of door and frame assembly		00	08 4113
1 Sweep	29326CNB x TKSP8		PE	087100
1 Threshold	1715AK MSES25SS		PE	087100
2 Position Switch	- Provided by Security Contractor		SU	087100

Notes: Function: Doors normally closed and locked. Key outside active leaf retracts latch bolt. Exit devices equipped with keyed cylinder inside to control dogging of latch bolt (push / pull operation). Free egress always permitted.

Set: 8.0

Doors: C106D

1 Continuous Hinge	CFM__SLF-HD1		PE	087100
1 Rim Exit Device, Nightlatch	ED5200 K157ET M110 M51 (less dogging)	630	RU	087100
1 Rim Cylinder	CR3080 GMK	626	RU	087100
1 Vandal Resistant Trim	VRT22 C	US32D	RO	087100
1 Surface Closer	DC6210 A4 M85 M77/M78 (-mounting plate if required)	689	RU	087100
1 Weatherstrip	- integral within construction of door and frame assembly		00	08 4113
1 Sweep	29326CNB x TKSP8		PE	087100
1 Threshold	279x292AFGPK x MSES25SS		PE	087100
1 Position Switch	- Provided by Security Contractor		SU	087100

Notes: Function: Key outside retracts latch bolt. Keyed cylinder inside controls latch bolt dogging. Free egress always permitted.

Set: 9.0

Doors: A122A, B123A

1 Continuous Hinge	CFM__SLF-HD1		PE	087100	
1 Rim Exit Device, Exit Only	ED5200 EO M110 M52	630	RU	087100	
1 Mort. Cylinder	CR1080 GMK	626	RU	087100	
1 Vandal Resistant Trim	VRT22	US32D	RO	087100	
1 Surface Closer	DC6210 A4 M85 M77/M78 (-mounting plate if required)	689	RU	087100	
1 Weatherstrip	- integral within construction of door and frame assembly		00	08 4113	
1 Sweep	29326CNB x TKSP8		PE	087100	
1 Threshold	279x292AFGPK x MSES25SS		PE	087100	
1 Position Switch	- Provided by Security Contractor		SU	087100	

Notes: Exit only. Keyed cylinder inside controls dogging of latch bolt.
Free egress always permitted.

Set: 10.0

Doors: C126E, C126F

2 Continuous Hinge	CFM__SLF-HD1		PE	087100	
1 Removable Mullion	CR910BKM		RU	087100	
2 Rim Exit Device, Exit Only	ED5200 EO M110 M51 (less dogging)	630	RU	087100	
1 Mort. Cylinder	CR1080 GMK	626	RU	087100	
2 Surface Closer	DC6210 A4 M85 M77/M78 (-mounting plate if required)	689	RU	087100	
1 Weatherstrip	- integral within construction of door and frame assembly		00	08 4113	
2 Sweep	29326CNB x TKSP8		PE	087100	
1 Removable Mullion Seal	5110BL x height of mullion		PE	087100	
1 Threshold	279x292AFGPK x MSES25SS		PE	087100	
2 Position Switch	- Provided by Security Contractor		SU	087100	

Notes: Exit only. No dogging of latch bolt for push / pull operation.
Free egress always permitted.

Set: 11.0

Doors: A102D, B102B, D103, D103B, F101A, F104A, F105A, F108A, F109A, F112A, F114A, F117A, F118A, F121A, F122A, F125A

1 Continuous Hinge	CFM__SLF-HD1		PE	087100
1 Rim Exit Device, Exit Only	ED5200 EO M110 M51 (less dogging)	630	RU	087100
1 Surface Closer	DC6210 A4 M85 M77/M78 (- mounting plate if required)	689	RU	087100
1 Weatherstrip	- integral within construction of door and frame assembly		00	08 4113
1 Sweep	29326CNB x TKSP8		PE	087100
1 Threshold	279x292AFGPK x MSES25SS		PE	087100
1 Position Switch	- Provided by Security Contractor		SU	087100

Notes: Exit only. No dogging of latch bolt for push / pull operation.
Free egress always permitted.

Set: 12.0

Doors: A102C, B102A

1 Continuous Hinge	CFM__SLF-HD1		PE	087100
1 Removable Mullion	CR910BKM		RU	087100
1 Rim Exit Device, Exit Only	ED5200 EO M110 M51 (less dogging)	630	RU	087100
1 Mort. Cylinder	CR1080 GMK	626	RU	087100
1 Surface Closer	DC6210 A4 M85 M77/M78 (- mounting plate if required)	689	RU	087100
1 Weatherstrip	- integral within construction of door and frame assembly		00	08 4113
1 Sweep	29326CNB x TKSP8		PE	087100
1 Threshold	279x292AFGPK x MSES25SS		PE	087100
1 Position Switch	- Provided by Security Contractor		SU	087100

Notes: Exit only. No dogging of latch bolt for push / pull operation.
Free egress always permitted.

Set: 13.0

Doors: A224A, ~~E114~~ **Move to Set 13.1**

1 Continuous Hinge	CFM__SLF-HD1		PE	087100
1 Storeroom Lock	ML2049 NSA M34 C6 GMK	626	RU	087100
1 Surface Closer	DC6210 A4 M85 M77/M78 (- mounting plate if required)	689	RU	087100
1 Weatherstrip	- integral within construction of		00	08

	door and frame assembly		4113	
1 Sweep	29326CNB x TKSP8	PE	087100	
1 Threshold	279x292AFGPK x MSES25SS	PE	087100	
1 Position Switch	- Provided by Security Contractor	SU	087100	⚡

Notes: Latch bolt and deadbolt operated by lever either side. Inside lever simultaneously retracts latch bolt and deadbolt. Outside lever always rigid. Deadbolt projected or retracted by key outside or thumb turn inside. Inside lever always free for egress.

Set: 13.1

Doors: E114

1 Continuous Hinge	CFM__SLF-HD1 PT		PE	087100	
1 Electric Power Transfer	CEPT-C5E	630	SU	087100	⚡
1 Access Control Mort Lock	IN220-ML20234 MB NSA BIPS CL6	626	RU	281500	⚡
1 Interchangeable Core	CR8000 GMK	626	RU	087100	
~~1 Storeroom Lock~~	~~ML2049 NSA M34 C6 GMK~~	~~626~~	~~RU~~	~~087100~~	
1 Surface Closer	DC6210 A4 M85 M77/M78 (- mounting plate if required)	689	RU	087100	
1 Weatherstrip	- integral within construction of door and frame assembly		00	08 4113	
1 Sweep	29326CNB x TKSP8		PE	087100	
1 Threshold	279x292AFGPK x MSES25SS		PE	087100	
~~1 Position Switch~~	~~- Provided by Security Contractor~~		~~SU~~	~~087100~~	~~⚡~~
1 ElectroLynx Harness	PoE-C___PRJ (power transfer to lock location)		MK	087100	⚡
1 ElectroLynx Harness	PoE-C1300PRJ (power transfer to junction box above)		MK	087100	⚡

Notes: Door normally closed and locked. Fail secure lockset. Valid use of card reader outside temporarily unlocks outside lever permitting access. Lockset equipped with built in door monitoring and request to exit for shunting of door monitoring upon egress.
Key outside retracts latch bolt.
Free egress always permitted.

Set: 13.2

Doors: **B128, B129, E125**

1 Continuous Hinge	CFM__SLF-HD1 PT		PE 087100	
1 Electric Power Transfer	EL-CEPT	630	SU 087100	
1 Electric Mort Lock	ML20608 NSA PHR V21 CL6	626	RU 281500	
1 Interchangeable Core	CR8000 GMK	626	RU 087100	
1 Surface Closer	DC6210 A4 M85 M77/M78 (-mounting plate if required)	689	RU 087100	
1 Weatherstrip	- integral within construction of door and frame assembly		00 08 4113	
1 Sweep	29326CNB x TKSP8		PE 087100	
1 Threshold	279x292AFGPK x MSES25SS		PE 087100	
1 Position Switch	- Provided by Security Contractor		SU 087100	
1 ElectroLynx Harness	QC-C1500P (electric lock to j-box)		MK 087100	
1 ElectroLynx Harness	QC-Cxx (electric lock to power transfer)		MK 087100	

Notes:

Power off, outside lever is locked.
Presentation of valid credential at card reader unlocks lever allowing ingress.
Deadbolt privacy function (PHR).
-Thumbturn inside projects deadbolt, disables card reader and changes outside indictor to Occupied.
-Turning inside lever simultaneously retracts latch and deadbolt, outside indicator changes to Vacant.
-Inside indicator show outside status: Locked/Unlocked
Free egress at all times.
Fail-secure.

Set: 14.0

Doors: C101F

1 Continuous Hinge	CFM__HD1 x PT		PE 087100	
1 Electric Power Transfer	EL-CEPT	630	SU 087100	
1 Rim Exit Device, Exit Only	ED5200 EO M110 M92 MELR	630	RU 087100	

	M52			
1 Mort. Cylinder	CR1080 GMK	626	RU 087100	
1 Surface Closer	DC6210 A4 M85 M77/M78 (-mounting plate if required)	689	RU 087100	
1 ElectroLynx Harness	QC-C1500P (power transfer or electric strike to junction box above)		MK 087100	⚡
1 ElectroLynx Harness	QC-C (power transfer to exit device rail)		MK 087100	⚡
1 Position Switch	- Provided by Security Contractor		SU 087100	⚡
1 Power Supply	- Provided by Security Contractor		SU 087100	⚡

Notes: Exit only. Dogging of latch bolt for push / pull operation controlled by use of key inside.
Doors may be unlocked and used as push / pull doors as programmed by access control system and then relocked at scheduled times. Signal switch in push rail (request to exit) for use to shunt door monitoring upon egress.
Free egress always permitted.

Set: 15.0

Doors: C101E, C101G

1 Continuous Hinge	CFM__HD1 x PT		PE 087100	
1 Electric Power Transfer	EL-CEPT	630	SU 087100	⚡
1 Removable Mullion	CR910BKM		RU 087100	
1 Rim Exit Device, Exit Only	ED5200 EO M110 M92 MELR M52	630	RU 087100	⚡
2 Mort. Cylinder	CR1080 GMK	626	RU 087100	
1 Surface Closer	DC6210 A4 M85 M77/M78 (-mounting plate if required)	689	RU 087100	
1 Removable Mullion Seal	5110BL x height of mullion		PE 087100	
1 ElectroLynx Harness	QC-C1500P (power transfer to junction box above)		MK 087100	⚡
1 ElectroLynx Harness	QC-C (power transfer to exit device rail)		MK 087100	⚡
1 Position Switch	- Provided by Security Contractor		SU 087100	⚡
1 Power Supply	- Provided by Security Contractor		SU 087100	⚡

Notes: Exit only. Dogging of latch bolt for push / pull operation controlled by use of key inside.
Doors may be unlocked and used as push / pull doors as programmed by access control system and then relocked at scheduled times. Signal switch in push rail (request to exit) for use to shunt door monitoring upon egress.
Free egress always permitted.

Set: 16.0

Doors: C101D

1 Continuous Hinge	CFM__HD1 x PT		PE	087100	
1 Electric Power Transfer	EL-CEPT	630	SU	087100	⚡
1 Rim Exit Device, Exit Only	ED5200 EO M110 M91 M92 MELR M52	630	RU	087100	⚡
1 Mort. Cylinder	CR1080 GMK	626	RU	087100	
1 Door Pull	RM3311-24 Mtg-Type 12XHD	US32D-316	RO	087100	
1 Conc Overhead Stop	6-X36	630	RF	087100	
1 Automatic Opener	6021 (D) - confirm head detail	689	NO	087100	⚡
1 ElectroLynx Harness	QC-C1500P (power transfer strike to junction box above)		MK	087100	⚡
1 ElectroLynx Harness	QC-C (power transfer to exit device rail)		MK	087100	⚡
2 Door Switch	505 (6" x 6")		NO	087100	⚡
1 Position Switch	- Provided by Security Contractor		SU	087100	⚡
1 Power Supply	- Provided by Security Contractor		SU	087100	⚡

Notes: Operation Description:
Door normally closed and locked. Dogging of latch bolt controlled by use of key inside.
Doors may be unlocked and used as push / pull doors as programmed by access control system and then relocked at scheduled times. Signal switch in push rail (request to exit) for use to shunt door monitoring upon egress.
Activating actuator switch in corridor retracts the latch bolt of the exit device, if locked, and initiates automatic operator cycle.
Activating actuator switch in vestibule will initiate cycle of automatic operator if the latch bolt is in the retracted position (push /pull operation). Utilize latch bolt monitor in exit device for this function.
After hours - access by valid use of card reader outside / automatic operator will only operate if card reader is authorized first.

Set: 17.0

Doors: C111C

1 Continuous Hinge	CFM__HD1 x PT		PE	087100	
1 Rim Exit Device, Storeroom	ED5200 N959ET M110 M51	630	RU	087100	
1 Rim Cylinder	CR3080 GMK	626	RU	087100	
1 ElectroLynx Adaptor	2004M		HS	087100	⚡
1 Electric Strike	9600-LBSM	630	HS	087100	⚡

1 SMART Pac Bridge Rectifier	2005M3		HS	087100	⚡
1 Surf Overhead Stop	9-X36	652	RF	087100	
1 Automatic Opener	6021 (D) - confirm head detail	689	NO	087100	⚡
1 Kick Plate	K1050 10" high CSK BEV	US32D	RO	087100	
1 ElectroLynx Harness	QC-C1500P (electric strike to junction box above)		MK	087100	⚡
1 Intercom / Video Station	- Provided by Security Contractor		OT		
2 Door Switch	505 (6" x 6")		NO	087100	⚡
1 Power Supply	- Provided by Security Contractor		SU	087100	⚡
1 Card Reader	- Provided by Security Contractor		00	281300	

Notes: Valid use of card reader outside or activation of remote release button in intercom system unlocks electric strike to gain access. Key override outside lever retracts latch bolt. Electric strike shall unlock upon schedule as determined in access control system.
Free egress always permitted.

Activating actuator switch in Welcome Center unlocks electric strike, if locked, and initiates automatic operator cycle.
Activating actuator switch in Vestibule will initiate cycle of automatic operator if the electric strike is in the unlocked position. May utilize internal locking sensor switch in electric strike for this function.
After hours - access by valid use of card reader outside / automatic operator will only operate if card reader is authorized first.

Set: 18.0

Doors: D113

2 Continuous Hinge	CFM__HD1 x PT		PE	087100	
2 Electric Power Transfer	EL-CEPT	630	SU	087100	⚡
1 Electrified SVR Exit, Fail Secure	ED5470B N9905ET M55 M110 M92	630	RU	087100	⚡
1 Fire Rated Surf Vert Rod, Exit Only	ED5470B EO M55 M110 M92	630	RU	087100	⚡
1 Rim Cylinder	CR3080 GMK	626	RU	087100	
2 Surface Closer	DC6210 A3	689	RU	087100	
2 Kick Plate	K1050 10" high CSK BEV	US32D	RO	087100	
2 Wall Stop	RM860	US32D	RO	087100	
1 Meeting Edge Seal	S772C x height of door		PE	087100	
1 Smoke / Sound Seal	S88BL - head and jambs		PE	087100	
1 ElectroLynx Harness	QC-C (power transfer to lever		MK	087100	⚡

	trim)				
2 ElectroLynx Harness	QC-C1500P (power transfer to junction box above)		MK	087100	
2 ElectroLynx Harness	QC-C (power transfer to exit device rail)		MK	087100	
2 Position Switch	- Provided by Security Contractor		SU	087100	
1 Power Supply	- Provided by Security Contractor		SU	087100	
1 Card Reader	- Provided by Security Contractor		00	281300	

Notes: Door normally closed and locked. Valid use of card reader temporarily unlocks lever trim for access. Push rail equipped with built-in signal switch to be wired for request to exit.
Free egress always permitted.

Set: 19.0

Doors: D114

1 Continuous Hinge	CFM__HD1 x PT		PE	087100	
1 Electric Power Transfer	CEPT-C5E	630	SU	087100	
1 Fire Rated Access Control Rim Exit Device	ED5200AN MB N9134ET-IN220 BIPS C6	630	RU	281500	
1 Interchangeable Core	CR8000 GMK	626	RU	087100	
1 Surface Closer	DC6210 A3	689	RU	087100	
1 Kick Plate	K1050 10" high CSK BEV	US32D	RO	087100	
1 Wall Stop	RM860	US32D	RO	087100	
1 Smoke / Sound Seal	S88BL - head and jambs		PE	087100	
1 ElectroLynx Harness	PoE-C___PRJ (power transfer to exit device trim)		MK	087100	
1 ElectroLynx Harness	PoE-C1300PRJ (power transfer to junction box above)		MK	087100	

Notes: ** Size hinge accordingly for 180 degree swing.

Door normally closed and locked. Fail secure exit device lever trim. Valid use of card reader outside temporarily unlocks outside lever permitting access. Exit device equipped with built in door monitoring and request to exit for shunting of door monitoring upon egress.
Key outside retracts latch bolt.
Free egress always permitted.

Set: 20.0

Doors: D115

1 Continuous Hinge	CFM__HD1 x PT		PE	087100	

1	Electric Power Transfer	CEPT-C5E	630	SU	087100
1	Fire Rated Access Control Rim Exit Device	ED5200AN MB N9134ET-IN220 BIPS C6	630	RU	281500
1	Interchangeable Core	CR8000 GMK	626	RU	087100
1	Surface Closer	DC6210 A4	689	RU	087100
1	Kick Plate	K1050 10" high CSK BEV	US32D	RO	087100
1	Smoke / Sound Seal	S88BL - head and jambs		PE	087100
1	ElectroLynx Harness	PoE-C___PRJ (power transfer to exit device trim)		MK	087100
1	ElectroLynx Harness	PoE-C1300PRJ (power transfer to junction box above)		MK	087100

Notes: Door normally closed and locked. Fail secure exit device lever trim. Valid use of card reader outside temporarily unlocks outside lever permitting access. Exit device equipped with built in door monitoring and request to exit for shunting of door monitoring upon egress.
Key outside retracts latch bolt.
Free egress always permitted.

Set: 21.0

Doors: A100B, A227, B100B, B227, D102, D112, E101

2	Continuous Hinge	CFM__HD1 x PT		PE	087100
2	Electric Power Transfer	EL-CEPT	630	SU	087100
1	Electrified SVR Exit, Fail Secure	ED5470B N9905ET M55 M110 M92	630	RU	087100
1	Fire Rated Surf Vert Rod, Exit Only	ED5470B EO M55 M110 M92	630	RU	087100
1	Rim Cylinder	CR3080 GMK	626	RU	087100
2	Surface Closer	DC6200 - pull side mount	689	RU	087100
2	Kick Plate	K1050 10" high CSK BEV	US32D	RO	087100
2	Electromagnetic Holder	994	689	RF	087100
1	Meeting Edge Seal	S772C x height of door		PE	087100
1	Smoke / Sound Seal	S88BL - head and jambs		PE	087100
1	ElectroLynx Harness	QC-C (power transfer to lever trim)		MK	087100
2	ElectroLynx Harness	QC-C1500P (power transfer to junction box above)		MK	087100
2	ElectroLynx Harness	QC-C (power transfer to exit device rail)		MK	087100
2	Position Switch	- Provided by Security Contractor		SU	087100
1	Power Supply	- Provided by Security Contractor		SU	087100

1 Card Reader	- Provided by Security Contractor		00	281300	

Notes: Door normally closed and locked. Valid use of card reader temporarily unlocks lever trim for access. Push rail equipped with built-in signal switch to be wired for request to exit.
Free egress always permitted.

Doors held open by electromagnetic door holders on adjacent walls. Power for electromagnetic holders shall be connected to fire alarm system and lock down system in order that doors close immediately upon activation of fire alarm or lock down activation.

(Electromagnetic holder has tri-volt coils for field selectable power: 120VAC, 24VAC/DC, 12VDC)

Set: 22.0

Doors: A102A, A102B, A111C, A111D, A200A, A200B, A209A, A209B, B102C, B102D, B112C, B112D, B200A, B200B, B209A, B209B

1 Continuous Hinge	CFM__HD1		PE	087100	
1 Fire Rated Rim Exit, Passage	ED5200A N910ET M110	630	RU	087100	
1 Surface Closer	DC6200 - pull side mount	689	RU	087100	
1 Kick Plate	K1050 10" high CSK BEV	US32D	RO	087100	
1 Electromagnetic Holder	994	689	RF	087100	⚡
1 Smoke / Sound Seal	S88BL - head and jambs		PE	087100	

Notes: Passage lever trim. Free egress always permitted.

Doors held open by electromagnetic door holders on adjacent walls. Power for electromagnetic holders shall be connected to fire alarm system in order that doors close immediately upon activation of fire alarm.

(Electromagnetic holder has tri-volt coils for field selectable power: 120VAC, 24VAC/DC, 12VDC)

Set: 23.0

Doors: C106, C106B

1 Continuous Hinge	CFM__HD1 x PT		PE	087100	
1 Electric Power Transfer	CEPT-C5E	630	SU	087100	⚡
1 Access Control Rim Exit Device	ED5200N MB N9134ET-IN220 BIPS C6	630	RU	281500	⚡
1 Interchangeable Core	CR8000 GMK	626	RU	087100	
1 Surface Closer	DC6210 A4	689	RU	087100	
1 Kick Plate	K1050 10" high CSK BEV	US32D	RO	087100	
3 Silencer	608 / 609		RO	087100	

1 ElectroLynx Harness	PoE-C___PRJ (power transfer to exit device trim)		MK	087100
1 ElectroLynx Harness	PoE-C1300PRJ (power transfer to junction box above)		MK	087100

Notes: Door normally closed and locked. Fail secure exit device lever trim. Valid use of card reader outside temporarily unlocks outside lever permitting access. Exit device equipped with built in door monitoring and request to exit for shunting of door monitoring upon egress.
Key outside retracts latch bolt.
Free egress always permitted.

Set: 24.0

Doors: C106A, C106C

1 Continuous Hinge	CFM__HD1 x PT		PE	087100
1 Electric Power Transfer	CEPT-C5E	630	SU	087100
1 Removable Mullion	CR910BKM		RU	087100
1 Access Control Rim Exit Device	ED5200N MB N9134ET-IN220 BIPS C6	630	RU	281500
1 Interchangeable Core	CR8000 GMK	626	RU	087100
1 Surface Closer	DC6210 A4	689	RU	087100
1 Kick Plate	K1050 10" high CSK BEV	US32D	RO	087100
1 Removable Mullion Seal	5110BL x height of mullion		PE	087100
3 Silencer	608 / 609		RO	087100
1 ElectroLynx Harness	PoE-C___PRJ (power transfer to exit device trim)		MK	087100
1 ElectroLynx Harness	PoE-C1300PRJ (power transfer to junction box above)		MK	087100

Notes: Door normally closed and locked. Fail secure exit device lever trim. Valid use of card reader outside temporarily unlocks outside lever permitting access. Exit device equipped with built in door monitoring and request to exit for shunting of door monitoring upon egress.
Key outside retracts latch bolt.
Free egress always permitted.

Set: 25.0

Doors: D106

3 Hinge, Full Mortise, Hvy Wt	T4A3786 (NRP)	US26D	MK	087100
1 Electric Power Transfer	CEPT-C5E	630	SU	087100

1 Access Control Mort Lock	IN220-ML20234 MB NSA BIPS CL6	626	RU	281500	⚡
1 Interchangeable Core	CR8000 GMK	626	RU	087100	
1 Surface Closer	DC6210 A4	689	RU	087100	
1 Smoke / Sound Seal	S88BL - head and jambs		PE	087100	
1 ElectroLynx Harness	PoE-C___PRJ (power transfer to lock location)		MK	087100	⚡
1 ElectroLynx Harness	PoE-C1300PRJ (power transfer to junction box above)		MK	087100	⚡

Notes: Door normally closed and locked. Fail secure lockset. Valid use of card reader outside temporarily unlocks outside lever permitting access. Lockset equipped with built in door monitoring and request to exit for shunting of door monitoring upon egress.
Key outside retracts latch bolt.
Free egress always permitted.

Set: 26.0

Doors: D100B, D100D, D101B, D101C, D101E, D101F

1 Continuous Hinge	CFM__HD1 x PT		PE	087100	
1 Electric Power Transfer	CEPT-C5E	630	SU	087100	⚡
1 Access Control Rim Exit Device	ED5200N MB N9134ET-IN220 BIPS C6	630	RU	281500	⚡
1 Interchangeable Core	CR8000 GMK	626	RU	087100	
1 Surface Closer	DC6210 A3	689	RU	087100	
1 Kick Plate	K1050 10" high CSK BEV	US32D	RO	087100	
1 Meeting Edge Seal	S772C x height of door		PE	087100	
1 Smoke / Sound Seal	S88BL - head and jambs		PE	087100	
1 Removable Mullion Seal	5110BL x height of mullion		PE	087100	
1 ElectroLynx Harness	PoE-C___PRJ (power transfer to exit device trim)		MK	087100	⚡
1 ElectroLynx Harness	PoE-C1300PRJ (power transfer to junction box above)		MK	087100	⚡

Notes: ** Size hinge accordingly for 180 degree swing.

Door normally closed and locked. Fail secure exit device lever trim. Valid use of card reader outside temporarily unlocks outside lever permitting access. Exit device equipped with built in door monitoring and request to exit for shunting of door monitoring upon egress.
Key outside retracts latch bolt.
Free egress always permitted.

Set: 27.0

Doors: A122, A220, B123, B220, C111B

3 Hinge, Full Mortise, Hvy Wt	T4A3786 (NRP)	US26D	MK	087100	
1 Electric Power Transfer	CEPT-C5E	630	SU	087100	⚡
1 Access Control Mort Lock	IN220-ML20234 MB NSA BIPS CL6	626	RU	281500	⚡
1 Interchangeable Core	CR8000 GMK	626	RU	087100	
1 Surface Closer	DC6210 A3	689	RU	087100	
1 Wall Stop	RM860	US32D	RO	087100	
1 Smoke / Sound Seal	S88BL - head and jambs		PE	087100	
1 ElectroLynx Harness	PoE-C___PRJ (power transfer to lock location)		MK	087100	⚡
1 ElectroLynx Harness	PoE-C1300PRJ (power transfer to junction box above)		MK	087100	⚡

Notes: Door normally closed and locked. Fail secure lockset. Valid use of card reader outside temporarily unlocks outside lever permitting access. Lockset equipped with built in door monitoring and request to exit for shunting of door monitoring upon egress.
Key outside retracts latch bolt.
Free egress always permitted.

Set: 28.0

Doors: C126A, C126D, D100C, D100E, D101A, D101D

1 Continuous Hinge	CFM__HD1 x PT		PE	087100	
1 Electric Power Transfer	CEPT-C5E	630	SU	087100	⚡
1 Removable Mullion	CR910BKM		RU	087100	
1 Access Control Rim Exit Device	ED5200N MB N9134ET-IN220 BIPS C6	630	RU	281500	⚡
1 Interchangeable Core	CR8000 GMK	626	RU	087100	
1 Surface Closer	DC6210 A3	689	RU	087100	
1 Kick Plate	K1050 10" high CSK BEV	US32D	RO	087100	
1 Meeting Edge Seal	S772C x height of door		PE	087100	
1 Smoke / Sound Seal	S88BL - head and jambs		PE	087100	
1 Removable Mullion Seal	5110BL x height of mullion		PE	087100	
1 ElectroLynx Harness	PoE-C___PRJ (power transfer to exit device trim)		MK	087100	⚡
1 ElectroLynx Harness	PoE-C1300PRJ (power transfer to junction box above)		MK	087100	⚡

Notes: Door normally closed and locked. Fail secure exit device lever trim. Valid use of card reader outside temporarily unlocks outside lever permitting access. Exit device equipped with built in door monitoring and request to exit for shunting of door monitoring upon egress.
Key outside retracts latch bolt.
Free egress always permitted.

Set: 29.0

Doors: C126B, C126C

1 Continuous Hinge	CFM__HD1 x PT		PE	087100	
1 Electric Power Transfer	CEPT-C5E	630	SU	087100	⚡
1 Access Control Rim Exit Device	ED5200N MB N9134ET-IN220 BIPS C6	630	RU	281500	⚡
1 Interchangeable Core	CR8000 GMK	626	RU	087100	
1 Surf Overhead Stop	9-X36 x LS stop	652	RF	087100	
1 Surface Closer	DC6210 A3	689	RU	087100	⚡
1 Kick Plate	K1050 10" high CSK BEV	US32D	RO	087100	
1 Meeting Edge Seal	S772C x height of door		PE	087100	
1 Smoke / Sound Seal	S88BL - head and jambs		PE	087100	
1 ElectroLynx Harness	PoE-C___PRJ (power transfer to exit device trim)		MK	087100	⚡
1 ElectroLynx Harness	PoE-C1300PRJ (power transfer to junction box above)		MK	087100	⚡

Notes: Door normally closed and locked. Fail secure exit device lever trim. Valid use of card reader outside temporarily unlocks outside lever permitting access. Exit device equipped with built in door monitoring and request to exit for shunting of door monitoring upon egress.
Key outside retracts latch bolt.
Free egress always permitted.

Set: 30.0

Doors: A106, A109, A114, A125, A204, A207, A212, A228, B106, B110, B115, B126, B204, B207, B212, C108, D110, D111, E102, E103, E104, (~~E109, E112, E117, E120~~ Move to Set 53.0)

3 Hinge, Full Mortise	TA2714 (NRP)	US26D	MK	087100
1 Storeroom Lock	ML2057 NSA C6 GMK	626	RU	087100
1 Interchangeable Core	CR8000 GMK	626	RU	087100
1 Surface Closer	DC3200 - pull side mount	689	RU	087100

1 Door Stop & Holder	491R	US26D	RO	087100
3 Silencer	608 / 609		RO	087100

Notes: Function: Latch bolt operated by key outside or lever inside. Outside lever always rigid. Inside lever always free for egress.

Set: 31.0

Doors: A104, A105, A107, A108, A110, A112, A113, A115, A126, A202, A203, A205, A206, A208, A210, A211, A213, A229, B104, B105, B107, B109, B111, B113, B114, B116, B127, B202, B203, B205, B206, B208, B210, B211, B213, B229, C109, E108, E110, E111, E113, E116, E118, E119, E121, E122, F101, F104, F105, F108, F109, F112, F114, F117, F118, F121, F122, F125

3 Hinge, Full Mortise, Hvy Wt	T4A3786 (NRP)	US26D	MK	087100
1 Storeroom Lock	ML2057 NSA C6 GMK	626	RU	087100
1 Interchangeable Core	CR8000 GMK	626	RU	087100
1 Surface Closer	DC3210 A3	689	RU	087100
1 Door Stop & Holder	491R	US26D	RO	087100
3 Silencer	608 / 609		RO	087100

Notes: Function: Latch bolt operated by key outside or lever inside. Outside lever always rigid. Inside lever always free for egress.

Set: 32.0

Doors: A117, A201, A215, B118, B201, B215, C110A, D108, E105, E106

3 Hinge, Full Mortise, Hvy Wt	T4A3786 (NRP)	US26D	MK	087100
1 Electric Power Transfer	CEPT-C5E	630	SU	087100
1 Access Control Mort Lock	IN220-ML20234 MB NSA BIPS CL6	626	RU	281500
1 Interchangeable Core	CR8000 GMK	626	RU	087100
1 Surface Closer	DC6200 - pull side mount	689	RU	087100
1 Wall Stop	RM860	US32D	RO	087100
1 Smoke / Sound Seal	S88BL - head and jambs		PE	087100
1 ElectroLynx Harness	PoE-C___PRJ (power transfer to lock location)		MK	087100
1 ElectroLynx Harness	PoE-C1300PRJ (power transfer to junction box above)		MK	087100

Notes: Door normally closed and locked. Fail secure lockset. Valid use of card reader outside temporarily unlocks outside lever permitting access. Lockset equipped with built in door monitoring and request to exit for shunting of door monitoring upon egress.
Key outside retracts latch bolt.

Free egress always permitted.

Set: 33.0

Doors: C111

1 Continuous Hinge	CFM__HD1 x PT		PE	087100	
1 Electric Power Transfer	EL-CEPT	630	SU	087100	⚡
1 Fail Secure Lock	ML20932-SEC NSA C6 GMK	626	RU	087100	⚡
1 Magnetic Lock	M680EBD	630	SU	087100	⚡
1 Electric Strike	1500C-DLMS	630	HS	087100	⚡
1 ElectroLynx Adaptor	2004M		HS	087100	⚡
1 SMART Pac Bridge Rectifier	2005M3		HS	087100	⚡
1 Surface Closer	DC5230 - pull side mount, stop arm	689	RU	087100	
1 Kick Plate	K1050 10" high CSK BEV	US32D	RO	087100	
2 ElectroLynx Harness	QC-C1500P (power transfer to junction box above)		MK	087100	⚡
1 ElectroLynx Harness	QC-C (power transfer to lock location)		MK	087100	⚡
1 Power Supply	- Provided by Security Contractor		SU	087100	⚡
1 Remote Release Button	- Provided by Security Contractor		OT	281300	
1 Card Reader	- Provided by Security Contractor		00	281300	

Notes: Door normally closed and locked both sides.
Valid use of card reader on corridor C101 side of door or valid use of remote push button at reception desk shall unlock electric strike permitting passage through door (electromagnetic lock unlocked).
Electrified lock shall be unlocked both sides upon schedule from access control system.
Electromagnetic lock shall immediately lock upon activation of lockdown procedure.

Set: 34.0

Doors: C130

2 Continuous Hinge	CFM__HD1		PE	087100	
1 Comb. Flush Bolt Set	2845	US26D	RO	087100	
1 Dust Proof Strike	570	US26D	RO	087100	
1 Storeroom Lock	ML2057 NSA C6 GMK	626	RU	087100	
1 Surface Closer	DC6200 - pull side mount	689	RU	087100	
1 Surface Closer	DC6210 A3	689	RU	087100	
2 Kick Plate	K1050 10" high CSK BEV	US32D	RO	087100	
2 Electromagnetic Holder	994	689	RF	087100	⚡

1 Meeting Edge Seal	S772C x height of door		PE	087100
1 Smoke / Sound Seal	S88BL - head and jambs		PE	087100

Notes: ** Install DC6200 closer on RH leaf.
** Install DC6210 closer on LH leaf for 180 degree opening.
** Set frame to allow LH leaf to swing 180 degrees**.**

Function: Latch bolt operated by key outside or lever inside. Outside lever always rigid. Inside lever always free for egress.

Doors held open by electromagnetic door holders on adjacent walls. Power for electromagnetic holders shall be connected to fire alarm system in order that doors close immediately upon activation of fire alarm.

(Electromagnetic holder has tri-volt coils for field selectable power: 120VAC, 24VAC/DC, 12VDC)

Set: 35.0

Doors: A103, A128, B103

3 Hinge, Full Mortise, Hvy Wt	T4A3786 (NRP)	US26D	MK	087100
1 Storeroom Lock	ML2057 NSA C6 GMK	626	RU	087100
1 Surface Closer	DC6200 - pull side mount	689	RU	087100
1 Kick Plate	K1050 10" high CSK BEV	US32D	RO	087100
1 Wall Stop	RM860	US32D	RO	087100
3 Silencer	608 / 609		RO	087100

Notes: Function: Latch bolt operated by key outside or lever inside. Outside lever always rigid. Inside lever always free for egress.

Set: 36.0

Doors: D105, D107

3 Hinge, Full Mortise	TA2714 (NRP)	US26D	MK	087100
1 Storeroom Lock	ML2057 NSA C6 GMK	626	RU	087100
1 Surface Closer	DC6210 A4	689	RU	087100
1 Kick Plate	K1050 10" high CSK BEV	US32D	RO	087100
3 Silencer	608 / 609		RO	087100

Notes: Function: Latch bolt operated by key outside or lever inside. Outside lever always rigid. Inside lever always free for egress.

Set: 37.0

Doors: A124, **A134,** A222, A223, A224, **A230**, B124, B125, B222, B223, B224, B225, **B231**, D123, **D128A**

3 Hinge, Full Mortise, Hvy Wt	T4A3786 (NRP)	US26D	MK	087100
1 Storeroom Lock	ML2057 NSA C6 GMK	626	RU	087100
1 Surface Closer	DC6200 - pull side mount	689	RU	087100
1 Kick Plate	K1050 10" high CSK BEV	US32D	RO	087100
1 Wall Stop	RM860	US32D	RO	087100
1 Smoke / Sound Seal	S88BL - head and jambs		PE	087100

Notes: Function: Latch bolt operated by key outside or lever inside. Outside lever always rigid. Inside lever always free for egress.

Set: 38.0

Doors: B122

3 Hinge, Full Mortise, Hvy Wt	T4A3786 (NRP)	US26D	MK	087100
1 Storeroom Lock	ML2057 NSA C6 GMK	626	RU	087100
1 Surface Closer	DC6210 A4	689	RU	087100
1 Kick Plate	K1050 10" high CSK BEV	US32D	RO	087100
1 Smoke / Sound Seal	S88BL - head and jambs		PE	087100

Notes: Function: Latch bolt operated by key outside or lever inside. Outside lever always rigid. Inside lever always free for egress.

Set: 39.0

Doors: C113

3 Hinge, Full Mortise, Hvy Wt	T4A3786 (NRP)	US26D	MK	087100
1 Storeroom Lock	ML2057 NSA C6 GMK	626	RU	087100
1 Surface Closer	DC5230 - pull side mount, stop arm	689	RU	087100
1 Kick Plate	K1050 10" high CSK BEV	US32D	RO	087100
1 Wall Stop	RM860	US32D	RO	087100
1 Smoke / Sound Seal	S88BL - head and jambs		PE	087100

Notes: Function: Latch bolt operated by key outside or lever inside. Outside lever always rigid. Inside lever always free for egress.

Set: 40.0

Doors: F102, F103, F106, F107, F110, F111, F115, F116, F119, F120, F123, F124

3 Hinge, Full Mortise	TA2714 (NRP)	US26D	MK	087100
1 Passage Latch	ML2010 NSA	626	RU	087100
1 Surface Closer	DC6200 - pull side mount	689	RU	087100
1 Wall Stop	RM860	US32D	RO	087100
3 Silencer	608 / 609		RO	087100

Set: 41.0

Doors: D117, D118

6 Hinge, Full Mortise, Hvy Wt	T4A3786 (NRP)	US26D	MK	087100
1 Comb. Flush Bolt Set	2845	US26D	RO	087100
1 Dust Proof Strike	570	US26D	RO	087100
1 Classroom Lock	ML2055 NSA C6 GMK	626	RU	087100
1 Coordinator	1700	US28	RO	087100
2 Surface Closer	DC5230 - pull side mount, stop arm	689	RU	087100
2 Kick Plate	K1050 10"high CSK BEV	US32D	RO	087100
1 Meeting Edge Seal	S772C x height of door		PE	087100
1 Smoke / Sound Seal	S88BL - head and jambs		PE	087100

Notes: Function: Latch bolt by lever either side unless outside lever is locked by key outside. Outside lever remains locked unless unlocked by key. Inside lever always free for egress.

Set: 41.1

Doors: **C132**

6 Hinge, Full Mortise, Hvy Wt	T4A3786 (NRP)	US26D	MK	087100
1 Comb. Flush Bolt Set	2845	US26D	RO	087100
1 Dust Proof Strike	570	US26D	RO	087100
1 Storeroom Lock	ML2057 NSA C6 GMK	626	RU	087100
1 Coordinator	1700	US28	RO	087100
2 Surface Closer	6210 A11	689	RU	087100

2 Kick Plate	K1050 10"high CSK BEV	US32D	RO	087100
1 Meeting Edge Seal	S772C x height of door		PE	087100
1 Smoke / Sound Seal	S88BL - head and jambs		PE	087100

Notes: Function: Latch bolt by lever either side unless outside lever is locked by key outside. Outside lever remains locked unless unlocked by key. Inside lever always free for egress.

Set: 42.0

Doors: B221, C111A, C112, C115, C116, C117, C118, C119, C120A

3 Hinge, Full Mortise	TA2714 (NRP)	US26D	MK	087100
1 Classroom Lock	ML2055 NSA C6 GMK	626	RU	087100
1 Door Stop & Holder	491R	US26D	RO	087100
3 Silencer	608 / 609		RO	087100

Notes: Function: Latch bolt by lever either side unless outside lever is locked by key outside. Outside lever remains locked unless unlocked by key. Inside lever always free for egress.

Set: 43.0

Doors: D120, D120A

3 Hinge, Full Mortise, Hvy Wt	T4A3786 (NRP)	US26D	MK	087100
1 Classroom Lock	ML2055 NSA C6 GMK	626	RU	087100
1 Conc Overhead Hold Open	1-X26	652	RF	087100
1 Kick Plate	K1050 10" high CSK BEV	US32D	RO	087100
3 Silencer	608 / 609		RO	087100

Notes: Function: Latch bolt by lever either side unless outside lever is locked by key outside. Outside lever remains locked unless unlocked by key. Inside lever always free for egress.

Set: 44.0

Doors: D102A

2 Continuous Hinge	CFM__HD1		PE	087100

2	Exit Device (surface vertical rod, exit only)	ED5470B EO M110 M55	630	RU	087100
2	Surface Closer	DC6200 - pull side mount	689	RU	087100
2	Kick Plate	K1050 10" high CSK BEV	US32D	RO	087100
2	Electromagnetic Holder	994	689	RF	087100
1	Meeting Edge Seal	S772C x height of door		PE	087100
1	Smoke / Sound Seal	S88BL - head and jambs		PE	087100

Doors held open by electromagnetic door holders on adjacent walls. Power for electromagnetic holders shall be connected to fire alarm system and lock down system in order that doors close and latch immediately upon activation of fire alarm or lock down activation.

Electromagnetic locks are energized upon lock down activation.

Set: 45.0

1 Hardware Set	Not Used		OT

Set: 46.0

Doors: C123

3 Hinge, Full Mortise	TA2714 (NRP)	US26D	MK	087100
1 Classroom Lock	ML2055 NSA C6 GMK	626	RU	087100
1 Surface Closer	DC6210 A3	689	RU	087100
1 Kick Plate	K1050 10" high CSK BEV	US32D	RO	087100
1 Wall Stop	RM860	US32D	RO	087100
3 Silencer	608 / 609		RO	087100

Notes: Function: Latch bolt by lever either side unless outside lever is locked by key outside. Outside lever remains locked unless unlocked by key. Inside lever always free for egress.

Set: 47.0

1 Hardware Set	Not Used		OT

Set: 48.0

Notes: Function: Latch bolt by lever either side unless outside lever is locked by key outside. Outside lever remains locked unless unlocked by key. Inside lever always free for egress.

Set: 49.0

Doors: A123, A221

3 Hinge, Full Mortise, Hvy Wt	T4A3786 (NRP)	US26D	MK	087100
1 Classroom Lock	ML2055 NSA C6 GMK	626	RU	087100
1 Surface Closer	DC6200 - pull side mount	689	RU	087100
1 Kick Plate	K1050 10"high CSK BEV	US32D	RO	087100
1 Wall Stop	RM860	US32D	RO	087100
1 Smoke / Sound Seal	S88BL - head and jambs		PE	087100

Notes: Function: Latch bolt by lever either side unless outside lever is locked by key outside. Outside lever remains locked unless unlocked by key. Inside lever always free for egress.

Set: 50.0

Doors: D119, D119A

3 Hinge, Full Mortise, Hvy Wt	T4A3786 (NRP)	US26D	MK	087100
1 Classroom Lock	ML2055 NSA C6 GMK	626	RU	087100
1 Surface Closer	DC6200 - pull side mount	689	RU	087100
1 Kick Plate	K1050 10"high CSK BEV	US32D	RO	087100
1 Electromagnetic Holder	994	689	RF	087100
1 Smoke / Sound Seal	S88BL - head and jambs		PE	087100

Notes: Function: Latch bolt by lever either side unless outside lever is locked by key outside. Outside lever remains locked unless unlocked by key. Inside lever always free for egress.

Door held open by electromagnetic door holder on adjacent wall. Power for electromagnetic holder shall be connected to fire alarm system in order that door closes immediately upon activation of fire alarm.

(Electromagnetic holder has tri-volt coils for field selectable power: 120VAC, 24VAC/DC, 12VDC)

Set: 51.0

Doors: C127

3 Hinge, Full Mortise, Hvy Wt	T4A3786 (NRP)	US26D	MK	087100
1 Classroom Lock	ML2055 NSA C6 GMK	626	RU	087100
1 Surface Closer	DC6210 A3	689	RU	087100
1 Kick Plate	K1050 10"high CSK BEV	US32D	RO	087100

1 Wall Stop	RM860	US32D	RO	087100
1 Smoke / Sound Seal	S88BL - head and jambs		PE	087100

Notes: Function: Latch bolt by lever either side unless outside lever is locked by key outside. Outside lever remains locked unless unlocked by key. Inside lever always free for egress.

Set: 52.0

Doors: D121

3 Hinge, Full Mortise, Hvy Wt	T4A3786 (NRP)	US26D	MK	087100
1 Classroom Lock	ML2055 NSA C6 GMK	626	RU	087100
1 Surface Closer	DC6210 A4	689	RU	087100
1 Kick Plate	K1050 10"high CSK BEV	US32D	RO	087100
1 Smoke / Sound Seal	S88BL - head and jambs		PE	087100

Notes: Function: Latch bolt by lever either side unless outside lever is locked by key outside. Outside lever remains locked unless unlocked by key. Inside lever always free for egress.

Set: 53.0

Doors: A116, A214, A216, **B130,** B214, B216, E107, **E109, E112, E120, E123**

3 Hinge, Full Mortise	TA2714 (NRP)	US26D	MK	087100
1 Privacy Lock	ML2060 NSA M34 V21	626	RU	087100
1 Surface Closer	DC6200 - pull side mount	689	RU	087100
1 Kick Plate	K1050 10" high CSK BEV	US32D	RO	087100
1 Wall Stop	RM860	US32D	RO	087100
3 Silencer	608 / 609		RO	087100
1 Coat Hook	RM828	US32D	RO	087100

Notes: Install coat hook at 48" centerline above floor.

Set: 54.0

Doors: A118, B117, B119, C122, C124, C125, D109

3 Hinge, Full Mortise	TA2714 (NRP)	US26D	MK	087100
1 Privacy Lock	ML2060 NSA M34 V21	626	RU	087100
1 Surface Closer	DC6200 - pull side mount	689	RU	087100
1 Kick Plate	K1050 10" high CSK BEV	US32D	RO	087100
3 Silencer	608 / 609		RO	087100

1 Coat Hook	RM828	US32D	RO	087100

Notes: Install coat hook at 48" centerline above floor.

Set: 55.0

1 Hardware Set	Not Used		OT	

Notes:

Set: 56.0

Doors: D122

3 Hinge, Full Mortise, Hvy Wt	T4A3786 (NRP)	US26D	MK	087100
1 Privacy Lock	ML2060 NSA M34 V21	626	RU	087100
1 Surface Closer	DC6200 - pull side mount	689	RU	087100
1 Kick Plate	K1050 10" high CSK BEV	US32D	RO	087100
1 Wall Stop	RM860	US32D	RO	087100
1 Smoke / Sound Seal	S88BL - head and jambs		PE	087100
1 Coat Hook	RM828	US32D	RO	087100

Notes: Install coat hook at 48" centerline above floor.

Set: 57.0

Doors: C128, C129

3 Hinge, Full Mortise, Hvy Wt	T4A3786 (NRP)	US26D	MK	087100
1 Pull Plate	BF 111x70B	US32D	RO	087100
1 Push Plate	70F	US32D	RO	087100
1 Surface Closer	DC6200 - pull side mount	689	RU	087100
1 Kick Plate	K1050 10" high CSK BEV	US32D	RO	087100
1 Wall Stop	RM860	US32D	RO	087100
3 Silencer	608 / 609		RO	087100

Set: 58.0

Doors: A119, A120, A217, A218, B120, B121, **B131, B133**, B217, B218

3 Hinge, Full Mortise, Hvy Wt	T4A3786 (NRP)	US26D	MK	087100	
1 Pull Plate	BF 111x70B	US32D	RO	087100	
1 Push Plate	70F	US32D	RO	087100	
1 Surface Closer	DC6210 A3	689	RU	087100	
1 Kick Plate	K1050 10" high CSK BEV	US32D	RO	087100	
1 Wall Stop	RM860	US32D	RO	087100	
3 Silencer	608 / 609		RO	087100	

Set: 59.0

Doors: C105C, C105D, C105E, D116C, D116D, D116E, E100C, E100D, E100E, E115B, E115C, F113B, F113C

1 Continuous Hinge	CFM__HD1		PE	087100	
1 Push Rail	ED5000DB EO	630	RU	087100	
1 Vandal Resistant Trim	VRT22	US32D	RO	087100	
1 Surface Closer	DC6210 A4	689	RU	087100	
1 Kick Plate	K1050 10" high CSK BEV	US32D	RO	087100	
3 Silencer	608 / 609		RO	087100	

Set: 60.0

Doors: C120, C123A

1 Continuous Hinge	CFM__HD1 x PT		PE	087100	
1 Electric Power Transfer	CEPT-C5E	630	SU	087100	⚡
1 Access Control Mort Lock	IN220-ML20234 MB NSA BIPS CL6	626	RU	281500	⚡
1 Magnetic Lock	M680EBD	630	SU	087100	⚡
1 Interchangeable Core	CR8000 GMK	626	RU	087100	
1 Surface Closer	DC6210 A4	689	RU	087100	
1 Kick Plate	K1050 10" high CSK BEV	US32D	RO	087100	
3 Silencer	608 / 609		RO	087100	
1 ElectroLynx Harness	PoE-C___PRJ (power transfer to lock location)		MK	087100	⚡
1 ElectroLynx Harness	PoE-C1300PRJ (power transfer to junction box above)		MK	087100	⚡
1 Power Supply	- Provided by Security Contractor		SU	087100	⚡

Notes: Door normally closed and locked. Fail secure lockset. Valid use of card reader outside temporarily unlocks outside lever permitting access. Lockset equipped with built in door monitoring and request to exit for shunting of door monitoring upon egress.
Key outside retracts latch bolt.

Free egress always permitted.

Electromagnetic lock normally unlocked and shall immediately lock upon activation of lockdown procedure.

Set: 61.0

Doors: B220A

1 Hardware	- Provided by Bi-part Sliding Door Assembly Manufacturer	OT

Set: 62.0

Doors: D100G, D119B

1 Hardware	- Provided by Coiling Door Section	OT

Set: 63.0

Doors: D100A

1 Hardware	- Provided by Overhead Door Section	OT

END OF SECTION 080671

Western School District
High School

Dr. Jared Vickers - Principal
Nick Rulewicz - Assistant Principal

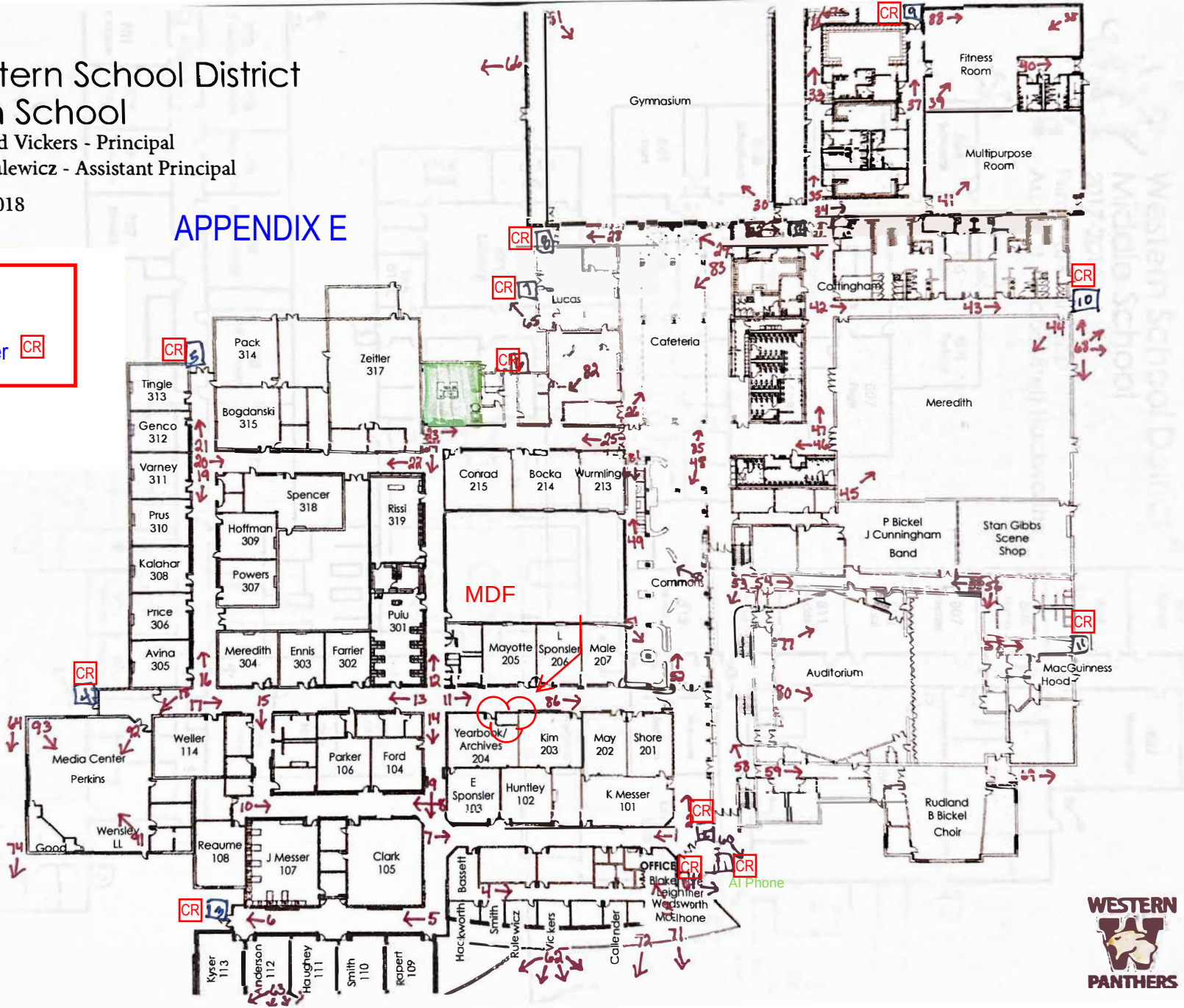
2017-2018

APPENDIX E

Key

Existing Card Reader CR

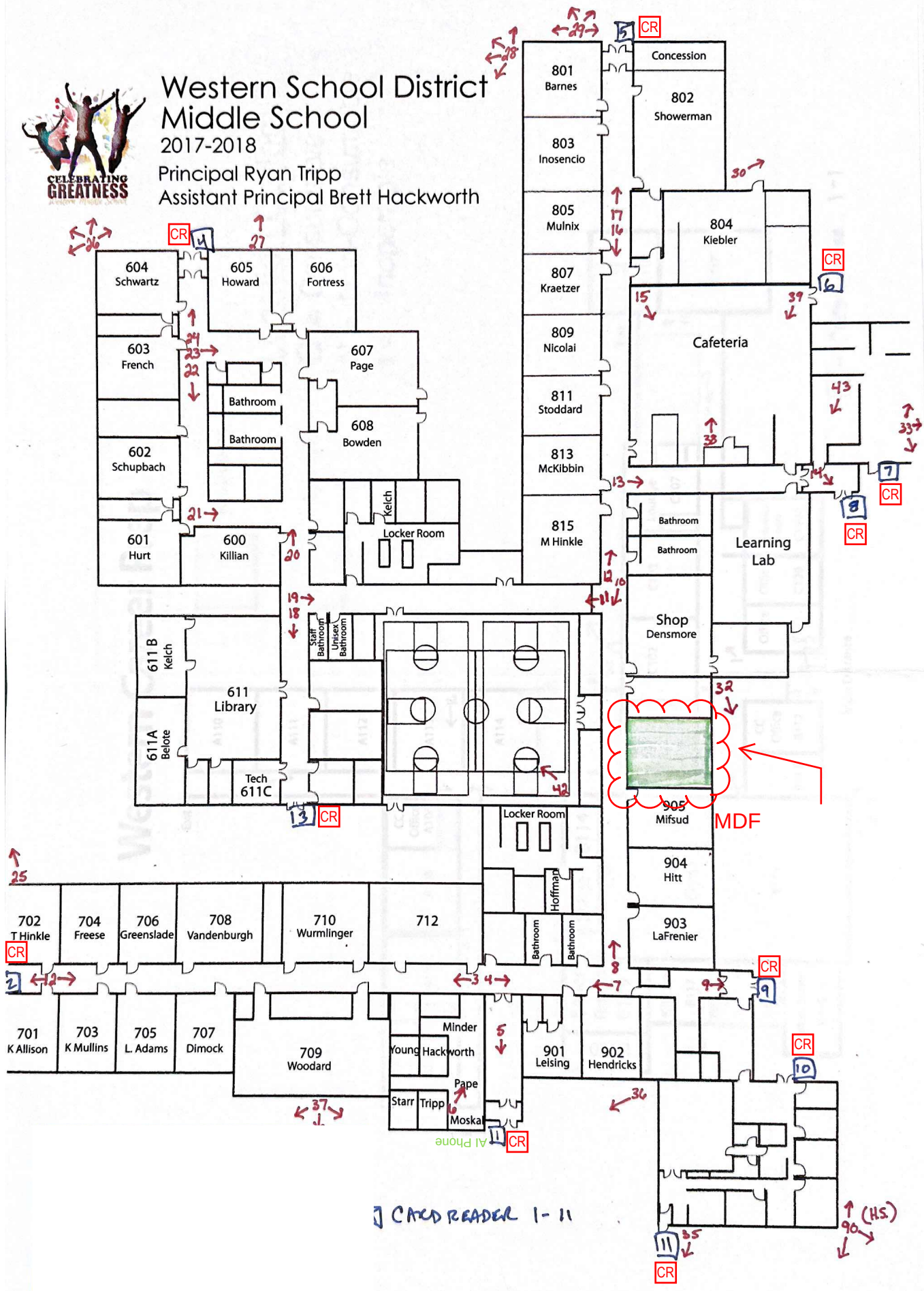
X CARD READER
1-12



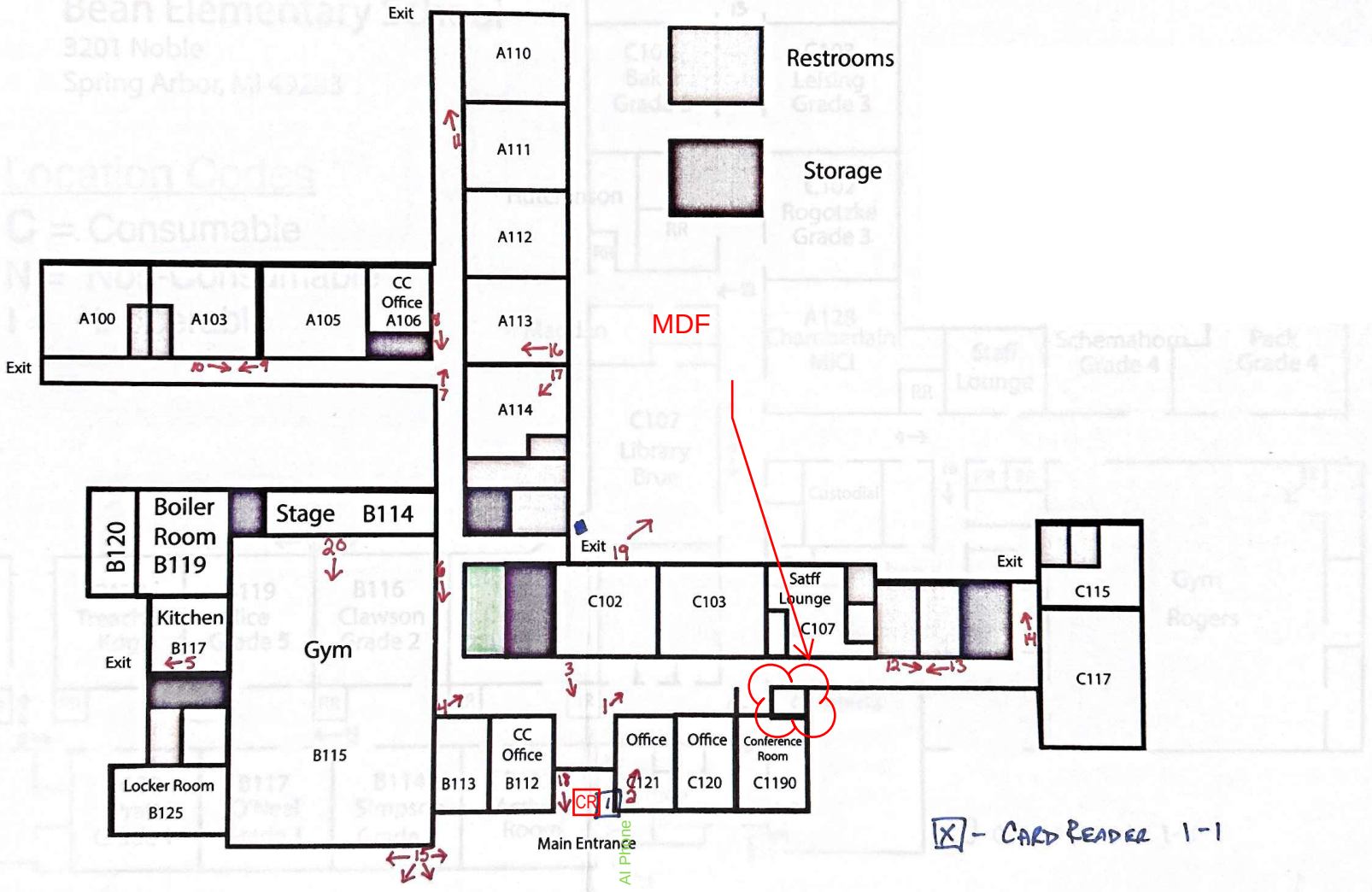
WESTERN PANTHERS

Western School District
Middle School
2017-2018

Principal Ryan Tripp
Assistant Principal Brett Hackworth

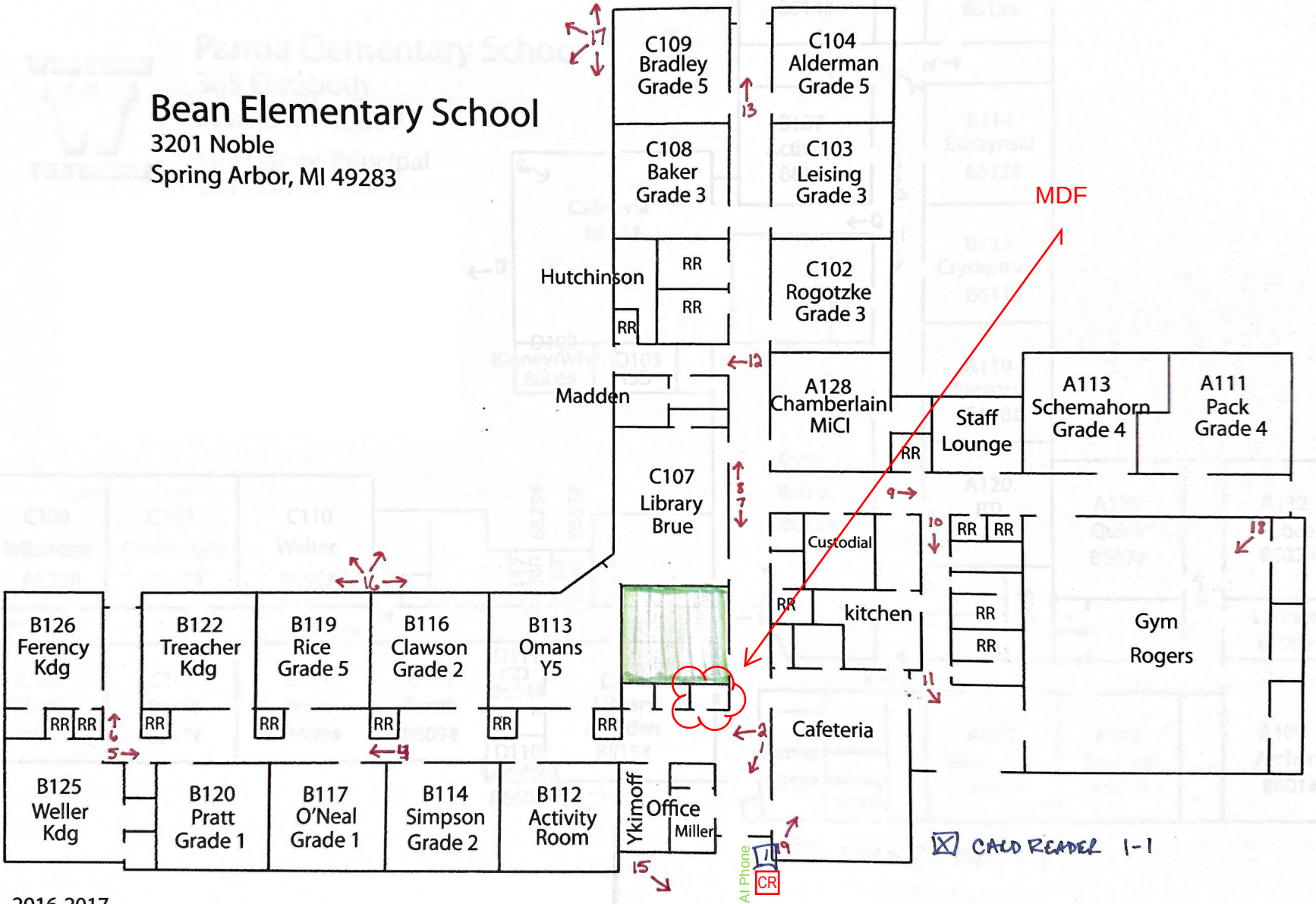


Western Career Prep



Bean Elementary School

3201 Noble
Spring Arbor, MI 49283

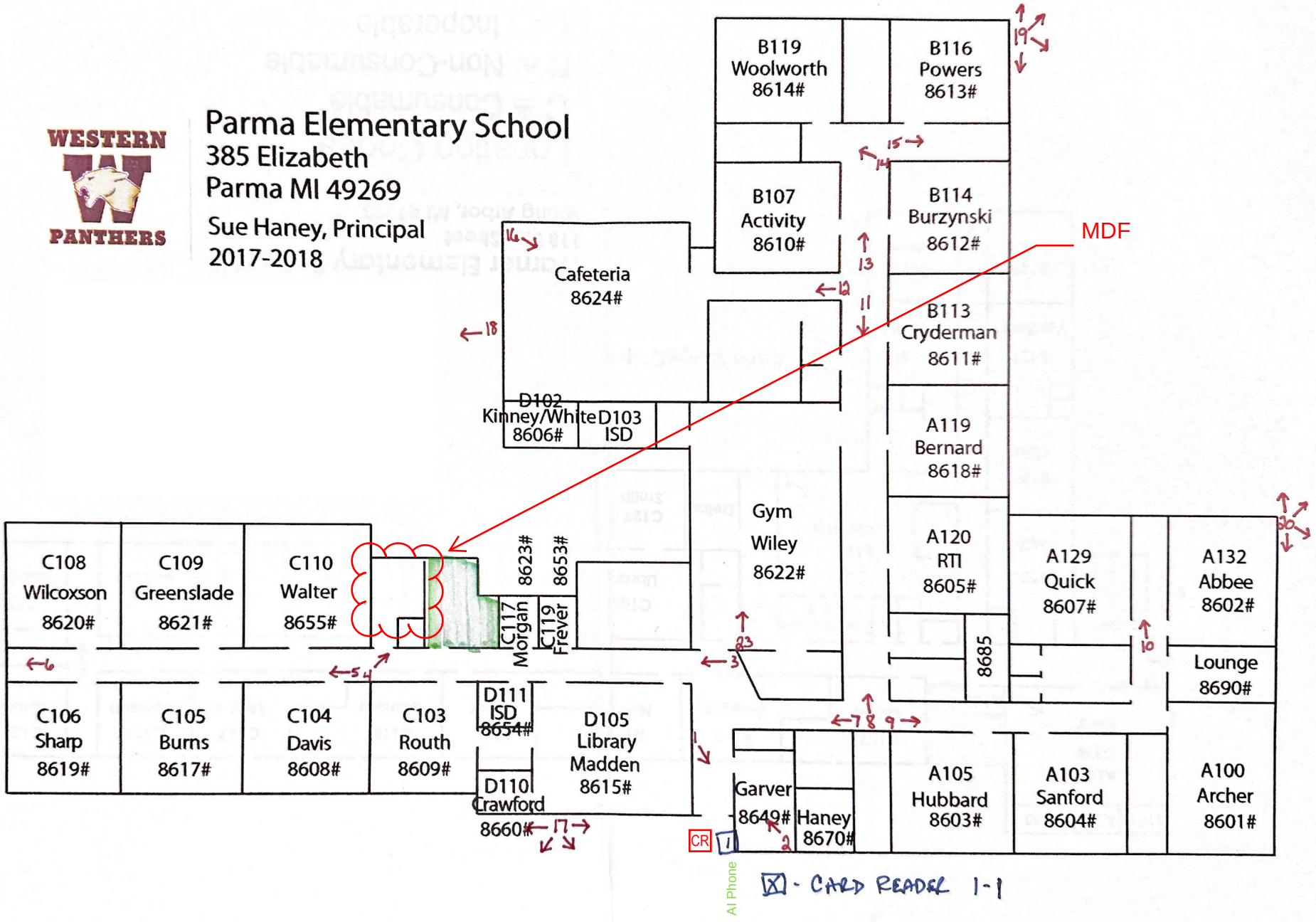


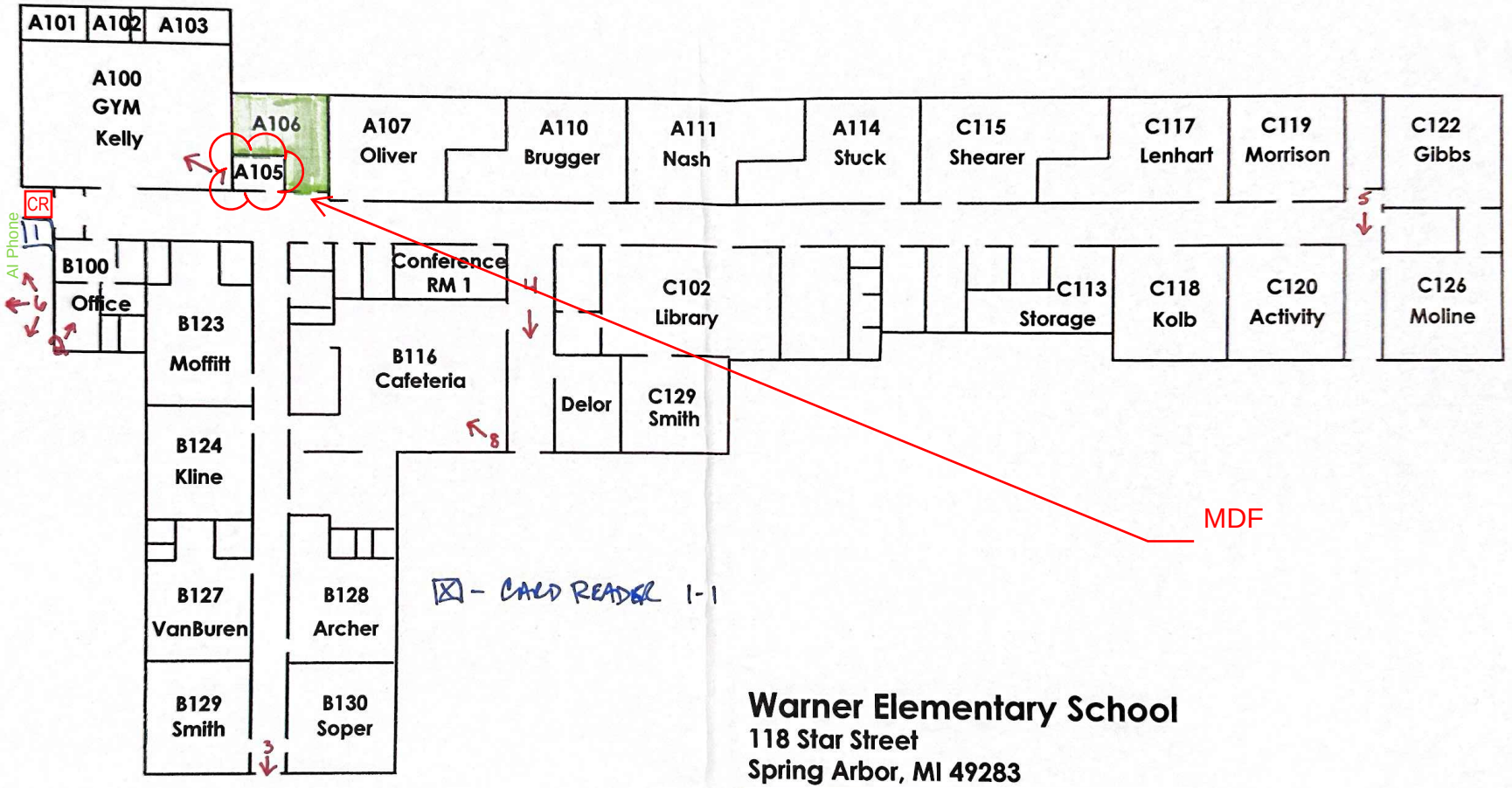
2016-2017

Parma Elementary School

385 Elizabeth
Parma MI 49269

Sue Haney, Principal
2017-2018





Warner Elementary School
118 Star Street
Spring Arbor, MI 49283

Appendix F Owner Existing Video Surveilance

Server Name	Device Name	Make	Model	IP Address	MAC Address	Firmware Version	Serial Number
WSD-VID01	WSDO #006 Interior Playground Entrance	Avigilon (ONVIF)	1.0-H3M-DO1	10.182.79.176	00:18:85:06:22:85	2.6.0.180(9870)	13462053
WSD-VID01	WSDW #003 Interior SW Entrance	Avigilon (ONVIF)	1.0-H3M-DO1	10.182.76.7	00:18:85:05:1A:7C	2.6.0.180(9870)	13324460
WSD-VID01	WSDP #015 Interior Camera	Avigilon (ONVIF)	1.0-H3M-DO1	10.182.75.19	00:18:85:06:1A:29	2.6.0.180(9870)	13469913
WSD-VID01	WSDM #018 Interior Library Hall	Avigilon (ONVIF)	1.0-H3M-DO1	10.182.72.22	00:18:85:06:2A:4F	2.6.0.180(9870)	13474047
WSD-VID01	WSDH #005 Interior East Wing Hall	Avigilon (ONVIF)	1.0-H3M-DO1	10.182.73.9	00:18:85:06:69:09	2.6.0.180(9870)	13490105
WSD-VID01	WSDB #013 Interior South Entrance	Avigilon (ONVIF)	1.0-H3M-DO1	10.182.74.17	00:18:85:06:62:E6	2.6.0.180(9870)	13498534
WSD-VID01	WSDO #009 Interior West Entrance	Avigilon (ONVIF)	1.0-H3M-DO1	10.182.77.13	00:18:85:06:2E:E4	2.6.0.180(9870)	13475220
WSD-VID01	WSDM #013 Interior Ramp	Avigilon (ONVIF)	1.0-H3M-DO1	10.182.72.17	00:18:85:06:2A:60	2.6.0.180(9870)	13474064
WSD-VID01	WSDP #011 Interior Camera	Avigilon (ONVIF)	1.0-H3M-DO1	10.182.75.15	00:18:85:06:6D:00	2.6.0.180(9870)	13491120
WSD-VID01	WSDM #021 Interior 6th East Hall	Avigilon (ONVIF)	1.0-H3M-DO1	10.182.72.25	00:18:85:06:32:4B	2.6.0.180(9870)	13476091
WSD-VID01	WSDM #022 Interior 6th South Hall	Avigilon (ONVIF)	1.0-H3M-DO1	10.182.72.26	00:18:85:06:78:51	2.6.0.180(9870)	13504017
WSD-VID01	WSDP #005 Interior East Hall	Avigilon (ONVIF)	1.0-H3M-DO1	10.182.75.9	00:18:85:06:39:80	2.6.0.180(9870)	13477936
WSD-VID01	WSDM #004 Interior 7th Hall Bathrooms	Avigilon (ONVIF)	1.0-H3M-DO1	10.182.72.8	00:18:85:06:2A:51	2.6.0.180(9870)	13474049
WSD-VID01	WSDM #024 Interior 6th Grade Entrance	Avigilon (ONVIF)	1.0-H3M-DO1	10.182.72.28	00:18:85:06:2E:DB	2.6.0.180(9870)	13475211
WSD-VID01	WSDH #028 Interior Cafeteria West Entrance	Avigilon (ONVIF)	1.0-H3M-DO1	10.182.73.32	00:18:85:06:6C:EB	2.6.0.180(9870)	13491099
WSD-VID01	WSDP #004 Interior Camera	Avigilon (ONVIF)	1.0-H3M-DO1	10.182.75.8	00:18:85:06:66:73	2.6.0.180(9870)	13499443
WSD-VID01	WSDO #007 Interior North Hall	Avigilon (ONVIF)	1.0-H3M-DO1	10.182.77.11	00:18:85:06:88:2B	2.6.0.180(9870)	13508075
WSD-VID01	WSDM #012 Interior 8th Hall Bathrooms	Avigilon (ONVIF)	1.0-H3M-DO1	10.182.72.16	00:18:85:06:2F:04	2.6.0.180(9870)	13475252
WSD-VID01	WSDH #043 Interior PE Locker Rooms Entrance	Avigilon (ONVIF)	1.0-H3M-DO1	10.182.73.47	00:18:85:06:88:68	2.6.0.180(9870)	13508136
WSD-VID01	WSDH #056 Interior Make Up Room Hall	Avigilon (ONVIF)	1.0-H3M-DO1	10.182.73.60	00:18:85:06:5F:24	2.6.0.180(9870)	13497572
WSD-VID01	WSDO #011 Daycare Wing	Avigilon (ONVIF)	1.0-H3M-DO1	10.182.77.15	00:18:85:06:5F:51	2.6.0.180(9870)	13497617
WSD-VID01	WSDP #007 Interior West Hall	Avigilon (ONVIF)	1.0-H3M-DO1	10.182.75.11	00:18:85:06:6C:B8	2.6.0.180(9870)	13491048
WSD-VID01	WSDH #016 Interior Math Hall	Avigilon (ONVIF)	1.0-H3M-DO1	10.182.73.20	00:18:85:06:5F:7C	2.6.0.180(9870)	13497660
WSD-VID01	WSDB #007 Interior Main Hall North	Avigilon (ONVIF)	1.0-H3M-DO1	10.182.74.11	00:18:85:06:65:4A	2.6.0.180(9870)	13499146
WSD-VID01	WSDP #013 Interior Camera	Avigilon (ONVIF)	1.0-H3M-DO1	10.182.75.17	00:18:85:06:66:42	2.6.0.180(9870)	13499394
WSD-VID01	WSDO #008 Interior West Hall: South End	Avigilon (ONVIF)	1.0-H3M-DO1	10.182.77.12	00:18:85:06:65:EA	2.6.0.180(9870)	13499306
WSD-VID01	WSDM #009 Interior Lounge Door	Avigilon (ONVIF)	1.0-H3M-DO1	10.182.72.13	00:18:85:06:63:01	2.6.0.180(9870)	13498561
WSD-VID01	WSDM #014 Interior Ramp Entrance	Avigilon (ONVIF)	1.0-H3M-DO1	10.182.72.18	00:18:85:06:63:7D	2.6.0.180(9870)	13498685
WSD-VID01	WSDH #012 Interior Science Hall	Avigilon (ONVIF)	1.0-H3M-DO1	10.182.73.16	00:18:85:06:68:9A	2.6.0.180(9870)	13499994
WSD-VID01	WSDM #016 Interior 8th Hall	Avigilon (ONVIF)	1.0-H3M-DO1	10.182.72.20	00:18:85:06:88:63	2.6.0.180(9870)	13508131
WSD-VID01	WSDH #024 Interior Shop Door	Avigilon (ONVIF)	1.0-H3M-DO1	10.182.73.28	00:18:85:06:63:A1	2.6.0.180(9870)	13498721
WSD-VID01	WSDM #007 Interior 7th Hall	Avigilon (ONVIF)	1.0-H3M-DO1	10.182.72.11	00:18:85:06:65:76	2.6.0.180(9870)	13499190
WSD-VID01	WSDW #005 Interior SE Entrance	Avigilon (ONVIF)	1.0-H3M-DO1	10.182.76.9	00:18:85:06:68:82	2.6.0.180(9870)	13499970
WSD-VID01	WSDH #054 Interior Band Hall	Avigilon (ONVIF)	1.0-H3M-DO1	10.182.73.58	00:18:85:06:78:DE	2.6.0.180(9870)	13504158
WSD-VID01	WSDB #009 Interior West Hall	Avigilon (ONVIF)	1.0-H3M-DO1	10.182.74.13	00:18:85:06:68:0F	2.6.0.180(9870)	13499855
WSD-VID01	WSDP #008 Interior Camera	Avigilon (ONVIF)	1.0-H3M-DO1	10.182.75.12	00:18:85:06:6C:B7	2.6.0.180(9870)	13491047
WSD-VID01	WSDH #029 Interior Gym Home Entrance	Avigilon (ONVIF)	1.0-H3M-DO1	10.182.73.33	00:18:85:06:68:91	2.6.0.180(9870)	13499985
WSD-VID01	WSDM #001 Interior 7th Entrance	Avigilon (ONVIF)	1.0-H3M-DO1	10.182.72.5	00:18:85:06:78:3E	2.6.0.180(9870)	13503998
WSD-VID01	WSDH #041 Interior Mat Room	Avigilon (ONVIF)	1.0-H3M-DO1	10.182.73.45	00:18:85:06:6C:6C	2.6.0.180(9870)	13490972
WSD-VID01	WSDM #017 Interior 8th Entrance	Avigilon (ONVIF)	1.0-H3M-DO1	10.182.72.21	00:18:85:06:80:64	2.6.0.180(9870)	13506084
WSD-VID01	WSDB #010 Interior Gym Hall	Avigilon (ONVIF)	1.0-H3M-DO1	10.182.74.14	00:18:85:06:80:71	2.6.0.180(9870)	13506097
WSD-VID01	WSDH #035 Interior North Storage Hall	Avigilon (ONVIF)	1.0-H3M-DO1	10.182.73.39	00:18:85:06:80:7E	2.6.0.180(9870)	13506110
WSD-VID01	WSDH #040 Interior Stadium Bathrooms	Avigilon (ONVIF)	1.0-H3M-DO1	10.182.73.44	00:18:85:06:80:8C	2.6.0.180(9870)	13506124
WSD-VID01	WSDO #010 Interior West Hall: East End	Avigilon (ONVIF)	1.0-H3M-DO1	10.182.77.14	00:18:85:06:80:8F	2.6.0.180(9870)	13506127
WSD-VID01	WSDH #022 Interior Science Hall	Avigilon (ONVIF)	1.0-H3M-DO1	10.182.73.26	00:18:85:06:80:D4	2.6.0.180(9870)	13506196
WSD-VID01	WSDH #006 Interior East Wing Entrance	Avigilon (ONVIF)	1.0-H3M-DO1	10.182.73.10	00:18:85:06:88:1F	2.6.0.180(9870)	13508063

WSD-VID01	WSDH #042 Interior PE Locker Rooms	Avigilon (ONVIF)	1.0-H3M-DO1	10.182.73.46	00:18:85:06:80:E3	2.6.0.180(9870)	13506211
WSD-VID01	WSDB #012 Interior Mid East Hall	Avigilon (ONVIF)	1.0-H3M-DO1	10.182.74.16	00:18:85:06:80:E8	2.6.0.180(9870)	13506216
WSD-VID01	WSDH #008 Interior SE Hall	Avigilon (ONVIF)	1.0-H3M-DO1	10.182.73.12	00:18:85:06:81:10	2.6.0.180(9870)	13506256
WSD-VID01	WSDM #003 Interior 7th Drinking	Avigilon (ONVIF)	1.0-H3M-DO1	10.182.72.7	00:18:85:06:81:34	2.6.0.180(9870)	13506292
WSD-VID01	WSDM #010 Interior 8th Hall Gym Entrance	Avigilon (ONVIF)	1.0-H3M-DO1	10.182.72.14	00:18:85:06:88:3B	2.6.0.180(9870)	13508091
WSD-VID01	WSDB #008 Interior Main Hall South	Avigilon (ONVIF)	1.0-H3M-DO1	10.182.74.12	00:18:85:06:88:67	2.6.0.180(9870)	13508135
WSD-VID01	WSDM #002 Interior 7th Hall South	Avigilon (ONVIF)	1.0-H3M-DO1	10.182.72.6	00:18:85:06:88:6B	2.6.0.180(9870)	13508139
WSD-VID01	WSDH #055 Interior Scene Shop Hall	Avigilon (ONVIF)	1.0-H3M-DO1	10.182.73.59	00:18:85:06:8E:81	2.6.0.180(9870)	13509697
WSD-VID01	WSDM #008 Interior 8th Hall East	Avigilon (ONVIF)	1.0-H3M-DO1	10.182.72.12	00:18:85:06:91:AA	2.6.0.180(9870)	13510506
WSD-VID01	WSDH #034 Interior Mat Room Hall	Avigilon (ONVIF)	1.0-H3M-DO1	10.182.73.38	00:18:85:06:8E:83	2.6.0.180(9870)	13509699
WSD-VID01	WSDH #036 Interior Gym Stairwell Entrance	Avigilon (ONVIF)	1.0-H3M-DO1	10.182.73.40	00:18:85:06:8E:8A	2.6.0.180(9870)	13509706
WSD-VID01	WSDH #037 Interior Weight Room Entrance	Avigilon (ONVIF)	1.0-H3M-DO1	10.182.73.41	00:18:85:06:8E:A3	2.6.0.180(9870)	13509731
WSD-VID01	WSDW #002 Interior Office	Avigilon (ONVIF)	1.0-H3M-DO1	10.182.76.6	00:18:85:06:91:AE	2.6.0.180(9870)	13510510
WSD-VID01	WSDH #002 Interior Main Entrance	Avigilon (ONVIF)	1.0-H3M-DO1	10.182.73.6	00:18:85:06:91:C8	2.6.0.180(9870)	13510536
WSD-VID01	WSDO #012 Interior East Hall: East End	Avigilon (ONVIF)	1.0-H3M-DO1	10.182.77.16	00:18:85:06:9C:25	2.6.0.180(9870)	13513189
WSD-VID01	WSDH #013 Interior Camera	Avigilon (ONVIF)	1.0-H3M-DO1	10.182.73.17	00:18:85:06:9C:39	2.6.0.180(9870)	13513209
WSD-VID01	WSDH #017 Interior Library Vending	Avigilon (ONVIF)	1.0-H3M-DO1	10.182.73.21	00:18:85:06:9C:43	2.6.0.180(9870)	13513219
WSD-VID01	WSDH #001 Interior Main Office Entrance	Avigilon (ONVIF)	1.0-H3M-DO1	10.182.73.5	00:18:85:06:9C:4B	2.6.0.180(9870)	13513227
WSD-VID01	WSDH #019 Interior Math Hall Bathrooms	Avigilon (ONVIF)	1.0-H3M-DO1	10.182.73.23	00:18:85:06:9C:4C	2.6.0.180(9870)	13513228
WSD-VID01	WSDH #023 Interior Custodial Hall	Avigilon (ONVIF)	1.0-H3M-DO1	10.182.73.27	00:18:85:06:9C:4D	2.6.0.180(9870)	13513229
WSD-VID01	WSDM #023 Interior 6th Staff Bathrooms	Avigilon (ONVIF)	1.0-H3M-DO1	10.182.72.27	00:18:85:06:9C:50	2.6.0.180(9870)	13513232
WSD-VID01	WSDH #059 Interior Choir Hall	Avigilon (ONVIF)	1.0-H3M-DO1	10.182.73.63	00:18:85:06:B4:E5	2.6.0.180(9870)	13019525
WSD-VID01	WSDH #030 Interior Main Gym NE	Avigilon (ONVIF)	5.0-H3-DO1	10.182.73.34	00:18:85:06:BB:05	2.6.0.180(9870)	14021093
WSD-VID01	WSDH #031 Interior Main Gym SW	Avigilon (ONVIF)	5.0-H3-DO1	10.182.73.35	00:18:85:06:BB:0F	2.6.0.180(9870)	14021103
WSD-VID01	WSDM #032 Exterior Admin Parking	Avigilon (ONVIF)	2.0W-H3-BO1-IR	10.182.72.36	00:18:85:06:C2:EE	2.6.0.180(9870)	14023118
WSD-VID01	WSDM #030 Exterior North Stadium Entrance	Avigilon (ONVIF)	2.0W-H3-BO1-IR	10.182.72.34	00:18:85:06:C3:10	2.6.0.180(9870)	14023152
WSD-VID01	WSDM #035 Exterior Admin Entrance	Avigilon (ONVIF)	2.0W-H3-BO1-IR	10.182.72.39	00:18:85:06:C4:CB	2.6.0.180(9870)	14023595
WSD-VID01	WSDB #015 Exterior Front Door	Avigilon (ONVIF)	2.0W-H3-BO1-IR	10.182.74.19	00:18:85:06:C3:15	2.6.0.180(9870)	14023157
WSD-VID01	WSDM #027 Exterior Football Stadium	Avigilon (ONVIF)	2.0W-H3-BO1-IR	10.182.72.31	00:18:85:06:C3:1E	2.6.0.180(9870)	14023166
WSD-VID01	WSDM #025 Exterior Main Stadium Entrance West	Avigilon (ONVIF)	2.0W-H3-BO1-IR	10.182.72.29	00:18:85:06:D4:55	2.6.0.180(9870)	14037573
WSD-VID01	WSDH #069 Exterior Stadium Sidewalk: East	Avigilon (ONVIF)	2.0W-H3-BO1-IR	10.182.73.73	00:18:85:06:D4:65	2.6.0.180(9870)	14037589
WSD-VID01	WSDP #018 Exterior South Drive	Avigilon (ONVIF)	2.0W-H3-BO1-IR	10.182.79.177	00:18:85:06:D9:D7	2.6.0.180(9870)	14038983
WSD-VID01	WSDM #036 Exterior Front Door	Avigilon (ONVIF)	2.0W-H3-BO1-IR	10.182.72.40	00:18:85:07:0F:FC	2.6.0.180(9870)	14072844
WSD-VID01	WSDH #032 Interior Gym Stairwell	Avigilon (ONVIF)	3.0W-H3-D1	10.182.73.36	00:18:85:06:F2:E3	2.6.0.180(9870)	14055395
WSD-VID01	WSDH #061 Exterior Main Entrance Right	Avigilon (ONVIF)	2.0W-H3-BO1-IR	10.182.73.65	00:18:85:06:D9:EC	2.6.0.180(9870)	14039004
WSD-VID01	WSDH #044 Interior 59 Gym	Avigilon (ONVIF)	3.0W-H3-D1	10.182.73.48	00:18:85:06:E9:7C	2.6.0.180(9870)	14042988
WSD-VID01	WSDH #045 Interior 59 Gym	Avigilon (ONVIF)	3.0W-H3-D1	10.182.73.49	00:18:85:06:F2:BD	2.6.0.180(9870)	14055357
WSD-VID01	WSDH #050 Interior Commons Center	Avigilon (ONVIF)	2.0-H3M-DO1	10.182.73.54	00:18:85:07:0E:CA	2.6.0.180(9870)	14072538
WSD-VID01	WSDH #049 Interior Camera	Avigilon (ONVIF)	2.0-H3M-DO1	10.182.73.53	00:18:85:07:00:3E	2.6.0.180(9870)	14068814
WSD-VID01	WSDA #051 Interior Lobby	Avigilon (ONVIF)	2.0-H3M-DO1	10.182.72.55	00:18:85:06:FC:6E	2.6.0.180(9870)	14067838
WSD-VID01	WSDM #005 Interior Front Door	Avigilon (ONVIF)	2.0-H3M-DO1	10.182.72.9	00:18:85:07:0C:BB	2.6.0.180(9870)	14072011
WSD-VID01	WSDB #011 Interior Gym Entrance	Avigilon (ONVIF)	2.0-H3M-DO1	10.182.74.15	00:18:85:07:04:F3	2.6.0.180(9870)	14060019
WSD-VID01	WSDB #001 Interior Main Office Entrance	Avigilon (ONVIF)	2.0-H3M-DO1	10.182.74.5	00:18:85:07:0D:4E	2.6.0.180(9870)	14072158
WSD-VID01	WSDA #050 Interior Boardroom	Avigilon (ONVIF)	2.0-H3M-DO1	10.182.72.54	00:18:85:07:15:BF	2.6.0.180(9870)	14074319
WSD-VID01	WSDH #065 Exterior Custodial Door	Avigilon (ONVIF)	2.0W-H3-BO1-IR	10.182.73.69	00:18:85:07:0F:CA	2.6.0.180(9870)	14072794
WSD-VID01	WSDH #060 Exterior Main Entrance Left	Avigilon (ONVIF)	2.0W-H3-BO1-IR	10.182.73.64	00:18:85:07:0D:67	2.6.0.180(9870)	14072183
WSD-VID01	WSDH #067 Exterior Weight Room Entrance	Avigilon (ONVIF)	2.0W-H3-BO1-IR	10.182.73.71	00:18:85:07:10:07	2.6.0.180(9870)	14072855
WSD-VID01	WSDH #066 Exterior Bus Yard	Avigilon (ONVIF)	2.0W-H3-BO1-IR	10.182.73.70	00:18:85:07:10:1D	2.6.0.180(9870)	14072877
WSD-VID01	WSDH #064 Exterior South Drive	Avigilon (ONVIF)	2.0W-H3-BO1-IR	10.182.73.68	00:18:85:07:10:72	2.6.0.180(9870)	14072962

WSD-VID01	WSDP #001 Interior Front Door	Avigilon (ONVIF)	2.0-H3M-DO1	10.182.79.175	00:18:85:07:11:57	2.6.0.180(9870)	14073191
WSD-VID01	WSDH #018 Interior Library Entrance	Avigilon (ONVIF)	2.0-H3M-DO1	10.182.73.22	00:18:85:07:11:5A	2.6.0.180(9870)	14073194
WSD-VID01	WSDH #052 Interior Commons East	Avigilon (ONVIF)	2.0-H3M-DO1	10.182.73.56	00:18:85:07:11:5B	2.6.0.180(9870)	14073195
WSD-VID01	WSDA #052 Interior Copy Room	Avigilon (ONVIF)	2.0-H3M-DO1	10.182.72.56	00:18:85:07:11:5C	2.6.0.180(9870)	14073196
WSD-VID01	WSDM #015 Interior Cafeteria	Avigilon (ONVIF)	2.0-H3M-DO1	10.182.72.19	00:18:85:07:11:5F	2.6.0.180(9870)	14073199
WSD-VID01	WSDP #014 Interior Bathrooms	Avigilon (ONVIF)	2.0-H3M-DO1	10.182.75.18	00:18:85:07:13:2B	2.6.0.180(9870)	14073659
WSD-VID01	WSDO #003 Interior Front Door	Avigilon (ONVIF)	2.0-H3M-DO1	10.182.77.7	00:18:85:07:15:AC	2.6.0.180(9870)	14074300
WSD-VID01	WSDH #003 Interior Main Office	Avigilon (ONVIF)	2.0-H3M-DO1	10.182.73.7	00:18:85:07:15:BB	2.6.0.180(9870)	14074315
WSD-VID01	WSDH #026 Interior Cafeteria West	Avigilon (ONVIF)	2.0-H3M-DO1	10.182.73.30	00:18:85:07:15:BD	2.6.0.180(9870)	14074317
WSD-VID01	WSDH #025 Interior Camera	Avigilon (ONVIF)	1.0-H3M-DO1	10.182.73.29	00:18:85:07:28:E0	2.6.0.180(9870)	14089216
WSD-VID01	WSDM #006 Interior Main Office	Avigilon (ONVIF)	2.0-H3M-DO1	10.182.72.10	00:18:85:07:15:E4	2.6.0.180(9870)	14074356
WSD-VID01	WSDM #019 Interior Gym Hall Bathrooms	Avigilon (ONVIF)	1.0-H3M-DO1	10.182.72.23	00:18:85:07:28:B0	2.6.0.180(9870)	14089168
WSD-VID01	WSDO #014 Interior Playground: North	Avigilon (ONVIF)	1.0-H3M-DO1	10.182.77.18	00:18:85:07:18:E9	2.6.0.180(9870)	14075129
WSD-VID01	WSDH #020 Interior Science Hall	Avigilon (ONVIF)	1.0-H3M-DO1	10.182.73.24	00:18:85:07:28:EB	2.6.0.180(9870)	14089227
WSD-VID01	WSDH #004 Interior Athletic Office	Avigilon (ONVIF)	2.0-H3M-DO1	10.182.73.8	00:18:85:07:15:EF	2.6.0.180(9870)	14074367
WSD-VID01	WSDH #053 Interior CAC Lobby West	Avigilon (ONVIF)	2.0-H3M-DO1	10.182.73.57	00:18:85:07:16:46	2.6.0.180(9870)	14074454
WSD-VID01	WSDB #006 Interior SE Playground Entrance	Avigilon (ONVIF)	1.0-H3M-DO1	10.182.74.10	00:18:85:07:28:AD	2.6.0.180(9870)	14089165
WSD-VID01	WSDO #005 Interior Kitchen Entrance	Avigilon (ONVIF)	1.0-H3M-DO1	10.182.77.9	00:18:85:07:19:0E	2.6.0.180(9870)	14075166
WSD-VID01	WSDP #016 Interior Cafeteria	Avigilon (ONVIF)	1.0-H3M-DO1	10.182.75.20	00:18:85:07:19:32	2.6.0.180(9870)	14075202
WSD-VID01	WSDH #007 Interior Athletic Office Entrance	Avigilon (ONVIF)	1.0-H3M-DO1	10.182.73.11	00:18:85:07:29:04	2.6.0.180(9870)	14089252
WSD-VID01	WSDH #011 Interior World Lang Hall	Avigilon (ONVIF)	1.0-H3M-DO1	10.182.73.15	00:18:85:07:28:D6	2.6.0.180(9870)	14089206
WSD-VID01	WSDH #010 Interior Art Room Hall	Avigilon (ONVIF)	1.0-H3M-DO1	10.182.73.14	00:18:85:07:29:00	2.6.0.180(9870)	14089248
WSD-VID01	WSDO #013 Interior East Hall: West End	Avigilon (ONVIF)	1.0-H3M-DO1	10.182.77.17	00:18:85:07:19:5F	2.6.0.180(9870)	14075247
WSD-VID01	WSDP #009 Interior Camera	Avigilon (ONVIF)	1.0-H3M-DO1	10.182.75.13	00:18:85:07:28:F6	2.6.0.180(9870)	14089238
WSD-VID01	WSDP #006 Interior East Entrance	Avigilon (ONVIF)	1.0-H3M-DO1	10.182.75.10	00:18:85:07:19:62	2.6.0.180(9870)	14075250
WSD-VID01	WSDW #004 Interior Playground Entrance	Avigilon (ONVIF)	1.0-H3M-DO1	10.182.76.8	00:18:85:07:29:02	2.6.0.180(9870)	14089250
WSD-VID01	WSDH #058 Interior CAC Lobby East	Avigilon (ONVIF)	2.0-H3M-DO1	10.182.73.62	00:18:85:07:1C:7A	2.6.0.180(9870)	14076042
WSD-VID01	WSDO #001 Interior Vending Area	Avigilon (ONVIF)	1.0-H3M-DO1	10.182.77.5	00:18:85:07:28:DB	2.6.0.180(9870)	14089211
WSD-VID01	WSDP #002 Interior Front Office	Avigilon (ONVIF)	2.0-H3M-DO1	10.182.75.6	00:18:85:07:1C:80	2.6.0.180(9870)	14076048
WSD-VID01	WSDO #002 Interior Main Office	Avigilon (ONVIF)	2.0-H3M-DO1	10.182.77.6	00:18:85:07:1C:A8	2.6.0.180(9870)	14076088
WSD-VID01	WSDB #002 Interior Main Entrance	Avigilon (ONVIF)	1.0-H3M-DO1	10.182.74.6	00:18:85:07:28:B3	2.6.0.180(9870)	14089171
WSD-VID01	WSDH #015 Interior Bathrooms South Hall	Avigilon (ONVIF)	1.0-H3M-DO1	10.182.73.19	00:18:85:07:28:D7	2.6.0.180(9870)	14089207
WSD-VID01	WSDH #057 Interior North Aud Entrance	Avigilon (ONVIF)	1.0-H3M-DO1	10.182.73.61	00:18:85:07:29:01	2.6.0.180(9870)	14089249
WSD-VID01	WSDB #005 Interior East Hall End	Avigilon (ONVIF)	1.0-H3M-DO1	10.182.74.9	00:18:85:07:28:D8	2.6.0.180(9870)	14089208
WSD-VID01	WSDH #047 Interior 59 Gym Hall	Avigilon (ONVIF)	1.0-H3M-DO1	10.182.73.51	00:18:85:07:28:D9	2.6.0.180(9870)	14089209
WSD-VID01	WSDB #004 Interior East Hall Middle	Avigilon (ONVIF)	1.0-H3M-DO1	10.182.74.8	00:18:85:07:28:E3	2.6.0.180(9870)	14089219
WSD-VID01	WSDH #021 Interior Math Hall Entrance	Avigilon (ONVIF)	1.0-H3M-DO1	10.182.73.25	00:18:85:07:28:E9	2.6.0.180(9870)	14089225
WSD-VID01	WSDH #009 Interior Athletic Office Hall	Avigilon (ONVIF)	1.0-H3M-DO1	10.182.73.13	00:18:85:07:29:03	2.6.0.180(9870)	14089251
WSD-VID01	WSDP #012 Interior Cafeteria Hall	Avigilon (ONVIF)	1.0-H3M-DO1	10.182.75.16	00:18:85:07:28:F3	2.6.0.180(9870)	14089235
WSD-VID01	WSDM #020 Interior 6th Hall Bathrooms	Avigilon (ONVIF)	1.0-H3M-DO1	10.182.72.24	00:18:85:07:28:F4	2.6.0.180(9870)	14089236
WSD-VID01	WSDP #010 Interior Camera	Avigilon (ONVIF)	1.0-H3M-DO1	10.182.75.14	00:18:85:07:28:FB	2.6.0.180(9870)	14089243
WSD-VID01	WSDM #011 Interior Gym Hall Entrance	Avigilon (ONVIF)	1.0-H3M-DO1	10.182.72.15	00:18:85:07:29:21	2.6.0.180(9870)	14089281
WSD-VID01	WSDH #033 Interior Locker Room Entrance	Avigilon (ONVIF)	1.0-H3M-DO1	10.182.73.37	00:18:85:07:29:B2	2.6.0.180(9870)	14099426
WSD-VID01	WSDH #072 Exterior Center HS Parking	Avigilon (ONVIF)	2.0-H3-B1	10.182.73.76	00:18:85:07:A1:E5	2.6.0.180(9870)	1415500197
WSD-VID01	WSDH #074 Exterior South Drive	Avigilon (ONVIF)	2.0-H3-B1	10.182.73.78	00:18:85:07:A2:0A	2.6.0.180(9870)	1415500234
WSD-VID01	WSDH #071 Exterior North HS Parking	Avigilon (ONVIF)	2.0-H3-B1	10.182.73.75	00:18:85:07:C9:3C	2.6.0.180(9870)	1417510268
WSD-VID01	WSDH #076 Exterior Stadium	Avigilon (ONVIF)	5.0-H3-B2	10.182.73.80	00:18:85:09:63:E3	2.6.0.180(9870)	1438615395
WSD-VID01	WSDH #014 Interior Camera	Avigilon (ONVIF)	1.0-H3M-DO1	10.182.73.18	00:18:85:0D:47:5D	2.6.0.180(9870)	1.01506E+11
WSD-VID01	WSDH #080 Auditorium Camera	Avigilon (ONVIF)	5.0-H3-D1	10.182.73.84	00:18:85:09:DD:DA	2.6.0.180(9870)	1443646618

WSD-VID01	WSDB #19 Cafe	Avigilon (ONVIF)	2.0-H3-D1	10.182.74.23	00:18:85:10:2D:ED	2.6.0.180(9870)	1.11601E+11
WSD-VID01	WSDH #077 Interior Auditorium	Avigilon (ONVIF)	5.0-H3-D1	10.182.73.81	00:18:85:09:DE:B9	2.6.0.180(9870)	1443646841
WSD-VID01	WSDM #038 Interior Cafeteria	Avigilon (ONVIF)	2.0-H3M-DO1	10.182.72.42	00:18:85:0A:36:19	2.6.0.180(9870)	1447669209
WSD-VID01	WSDH #085 Interior Outside Cafeteria	Avigilon (ONVIF)	2.0-H3M-DO1	10.182.73.89	00:18:85:0A:14:8E	2.6.0.180(9870)	1445660622
WSD-VID01	WSDO #018 Exterior Front Door	Avigilon (ONVIF)	3.0C-H3A-BO1-IR	10.182.77.22	00:18:85:0E:D3:32	3.28.0.168(25802)	1.1151E+11
WSD-VID01	WSDH #073 Exterior Softball Field	Avigilon (ONVIF)	2.0-H3-B2	10.182.73.77	00:18:85:0A:2F:5A	2.6.0.180(9870)	1446667482
WSD-VID01	WSDW #007 Interior Gym	Avigilon (ONVIF)	2.0-H3-D1	10.182.76.11	00:18:85:0A:7E:BC	2.6.0.180(9870)	1450687804
WSD-VID01	WSDH #083 Interior Cafeteria	Avigilon (ONVIF)	2.0-H3M-DO1	10.182.73.87	00:18:85:0A:CE:AC	2.6.0.180(9870)	1502708268
WSD-VID01	WSDA #053 Exterior Soccer Field	Avigilon (ONVIF)	2.0W-H3-BO1-IR	10.182.72.57	00:18:85:10:B3:3E	2.6.0.180(9870)	1.11602E+11
WSD-VID01	WSDO #017 Nursery	Avigilon (ONVIF)	2.0-H3M-DO1	10.182.77.21	00:18:85:0A:CE:CC	2.6.0.180(9870)	1502708300
WSD-VID01	WSDM #039 Interior Cafeteria	Avigilon (ONVIF)	2.0-H3M-DO1	10.182.72.43	00:18:85:0A:D2:07	2.6.0.180(9870)	1502709127
WSD-VID01	WSDO #016 Interior Nursery 2	Avigilon (ONVIF)	2.0-H3M-DO1	10.182.77.20	00:18:85:13:26:8D	2.6.0.180(9870)	1.11608E+11
WSD-VID01	WSDM #042 GYM	Avigilon (ONVIF)	3.0W-H3-DO1	10.182.72.46	00:18:85:0D:CF:62	2.6.0.180(9870)	1.11508E+11
WSD-VID01	WSDB #18 GYM	Avigilon (ONVIF)	3.0W-H3-DO1	10.182.74.22	00:18:85:0D:F1:7C	2.6.0.180(9870)	1.11508E+11
WSD-VID01	WSDP #003 Interior Lobby	Avigilon (ONVIF)	2.0-H3M-DO1	10.182.75.7	00:18:85:10:0E:1D	2.6.0.180(9870)	1.11601E+11
WSD-VID01	WSDH #082 Interior Camera	Avigilon (ONVIF)	2.0C-H4SL-D1-IR	10.182.73.86	00:18:85:16:3E:CD	4.14.0.102(34379)	1.01701E+11
WSD-VID01	WSDW #008 Interior Cafe	Avigilon (ONVIF)	2.0-H3M-DO1	10.182.76.12	00:18:85:10:43:8C	2.6.0.180(9870)	1.11601E+11
WSD-VID01	WSDH #051 Interior Commons	Avigilon (ONVIF)	2.0-H3M-DO1	10.182.73.55	00:18:85:11:6C:91	2.6.0.180(9870)	1.11604E+11
WSD-VID01	WSDH #081 Interior Camera	Avigilon (ONVIF)	2.0-H3M-DO1	10.182.73.85	00:18:85:16:E1:7B	2.6.0.180(9870)	1.11702E+11
WSD-VID01	WSDO #019 Exterior Camera	Avigilon (ONVIF)	2.0C-H4A-BO1-IR	10.182.77.23	00:18:85:19:5F:E9	4.10.4.98(32638)	1.11707E+11
WSD-VID01	WSDM #043 Cafeteria Serving Line	Avigilon (ONVIF)	3.0C-H4SL-D1	10.182.72.47	00:18:85:1A:B4:93	4.14.0.102(34379)	1.11709E+11
WSD-VID01	WSDM #034 Exterior	Avigilon (ONVIF)	24C-H4A-3MH-270	10.182.72.38	00:18:85:26:91:5D	4.36.0.26(fe36bbcb)	1.11904E+11
WSD-VID01	WSDM #034 Exterior(1)	Avigilon (ONVIF)	24C-H4A-3MH-270	10.182.72.38	00:18:85:26:91:5D	4.36.0.26(fe36bbcb)	1.11904E+11
WSD-VID01	WSDM #034 Exterior(2)	Avigilon (ONVIF)	24C-H4A-3MH-270	10.182.72.38	00:18:85:26:91:5D	4.36.0.26(fe36bbcb)	1.11904E+11
WSD-VID01	WSDM #034 Exterior(3)	Avigilon (ONVIF)	24C-H4A-3MH-270	10.182.72.38	00:18:85:26:91:5D	4.36.0.26(fe36bbcb)	1.11904E+11
WSD-VID01	WSDH #086 Interior Main Hall	Avigilon (ONVIF)	3.0C-H4A-D1-IR-B	10.182.73.90	00:18:85:2A:50:AE	4.10.4.98(32638)	1.11909E+11
WSD-VID01	WSDH #089 Exterior Baseball Entrance	Avigilon (ONVIF)	5.0C-H5A-BO2-IR	10.182.73.93	00:18:85:36:D8:ED	4.66.0.26(bd739d0c)	1.12106E+11
WSD-VID01	WSDH #039 Interior Weight Room South	Avigilon (ONVIF)	4.0C-H5A-D1-IR	10.182.73.43	00:18:85:2F:8E:6B	4.66.0.26(bd739d0c)	1.12005E+11
WSD-VID01	WSDH #038 Interior Weight Rm	Avigilon (ONVIF)	4.0C-H5A-DO1-IR	10.182.73.42	00:18:85:32:94:7D	4.80.0.22(0c5a7909)	1.1201E+11
WSD-VID01	WSDH #088 Interior Weight Rm	Avigilon (ONVIF)	4.0C-H5A-DO1-IR	10.182.73.92	00:18:85:32:94:26	4.66.0.26(bd739d0c)	1.1201E+11
WSD-VID01	24C-H4A-3MH-180(3454628)	Avigilon (ONVIF)	24C-H4A-3MH-180	10.182.72.41	00:18:85:34:B6:A4	4.36.0.26(fe36bbcb)	1.02102E+11
WSD-VID01	WSDM #037 Exterior Camera (2)	Avigilon (ONVIF)	24C-H4A-3MH-180	10.182.72.41	00:18:85:34:B6:A4	4.36.0.26(fe36bbcb)	1.02102E+11
WSD-VID01	WSDM #037 Exterior Camera (1)	Avigilon (ONVIF)	24C-H4A-3MH-180	10.182.72.41	00:18:85:34:B6:A4	4.36.0.26(fe36bbcb)	1.02102E+11
WSD-VID01	WSDM #037 Exterior Camera (3)	Avigilon (ONVIF)	24C-H4A-3MH-180	10.182.72.41	00:18:85:34:B6:A4	4.36.0.26(fe36bbcb)	1.02102E+11
WSD-VID01	WSDM #033 Exterior	Avigilon (ONVIF)	24C-H4A-3MH-270	10.182.72.37	00:18:85:36:07:AF	4.36.0.26(fe36bbcb)	1.12104E+11
WSD-VID01	WSDM #033 Exterior(1)	Avigilon (ONVIF)	24C-H4A-3MH-270	10.182.72.37	00:18:85:36:07:AF	4.36.0.26(fe36bbcb)	1.12104E+11
WSD-VID01	WSDM #033 Exterior(2)	Avigilon (ONVIF)	24C-H4A-3MH-270	10.182.72.37	00:18:85:36:07:AF	4.36.0.26(fe36bbcb)	1.12104E+11
WSD-VID01	WSDM #033 Exterior(3)	Avigilon (ONVIF)	24C-H4A-3MH-270	10.182.72.37	00:18:85:36:07:AF	4.36.0.26(fe36bbcb)	1.12104E+11
WSD-VID01	WSDH #090 Exterior Mich Ave Ent	Avigilon (ONVIF)	24C-H4A-3MH-270	10.182.73.94	00:18:85:37:66:DB	4.36.0.26(fe36bbcb)	1.02106E+11
WSD-VID01	WSDH #090 Exterior Mich Ave Ent(3)	Avigilon (ONVIF)	24C-H4A-3MH-270	10.182.73.94	00:18:85:37:66:DB	4.36.0.26(fe36bbcb)	1.02106E+11
WSD-VID01	WSDH #090 Exterior Mich Ave Ent(1)	Avigilon (ONVIF)	24C-H4A-3MH-270	10.182.73.94	00:18:85:37:66:DB	4.36.0.26(fe36bbcb)	1.02106E+11
WSD-VID01	WSDH #090 Exterior Mich Ave Ent(2)	Avigilon (ONVIF)	24C-H4A-3MH-270	10.182.73.94	00:18:85:37:66:DB	4.36.0.26(fe36bbcb)	1.02106E+11
WSD-VID01	WSDH #046 Commons Bathrooms	Avigilon (ONVIF)	8.0C-H5A-DC1-IR	10.182.73.50	00:18:85:3C:25:59	4.66.0.26(bd739d0c)	1.02112E+11
WSD-VID01	WSDO #020 Interior Camera	Avigilon (ONVIF)	8.0C-H5A-DO1-IR	10.182.77.24	00:18:85:42:3D:BA	4.66.0.26(bd739d0c)	1.12207E+11
WSD-VID01	WSDH #091 Interior Library Mac Lab	Avigilon (ONVIF)	8.0C-H5A-D1-IR	10.182.73.96	00:18:85:43:71:F8	4.66.0.26(bd739d0c)	1.12208E+11
WSD-VID01	WSDH #092 Interior Library	Avigilon (ONVIF)	8.0C-H5A-D1-IR	10.182.73.95	00:18:85:43:72:00	4.66.0.26(bd739d0c)	1.12208E+11
WSD-VID01	WSDH #093 Interior Library	Avigilon (ONVIF)	8.0C-H5A-D1-IR	10.182.73.97	00:18:85:43:D0:C0	4.66.0.26(bd739d0c)	1.12208E+11
WSD-VID01	WSDO #015 Exterior Front Entrance	Arecont Vision	AV12186	10.182.77.19	00:1A:07:09:C7:81	65187	00-1A-07-09-C7-81
WSD-VID01	WSDO #015 Exterior Front Entrance	Arecont Vision	AV12186	10.182.77.19	00:1A:07:09:C7:81	65187	00-1A-07-09-C7-81

WSD-VID01	WSDO #015 Exterior Front Entrance	Arecont Vision	AV12186	10.182.77.19	00:1A:07:09:C7:81	65187	00-1A-07-09-C7-81
WSD-VID01	WSDO #015 Exterior Front Entrance	Arecont Vision	AV12186	10.182.77.19	00:1A:07:09:C7:81	65187	00-1A-07-09-C7-81
WSD-VID01	WSDO #015 Exterior Front Entrance	Arecont Vision	AV12186	10.182.77.19	00:1A:07:09:C7:81	65187	00-1A-07-09-C7-81
WSD-VID01	WSDH #063 Exterior South Parking Lot	Arecont Vision	AV12186	10.182.73.67	00:1A:07:09:C4:35	65184	00-1A-07-09-C4-35
WSD-VID01	WSDH #063 Exterior South Parking Lot	Arecont Vision	AV12186	10.182.73.67	00:1A:07:09:C4:35	65184	00-1A-07-09-C4-35
WSD-VID01	WSDH #063 Exterior South Parking Lot	Arecont Vision	AV12186	10.182.73.67	00:1A:07:09:C4:35	65184	00-1A-07-09-C4-35
WSD-VID01	WSDH #063 Exterior South Parking Lot	Arecont Vision	AV12186	10.182.73.67	00:1A:07:09:C4:35	65184	00-1A-07-09-C4-35
WSD-VID01	WSDH #063 Exterior South Parking Lot	Arecont Vision	AV12186	10.182.73.67	00:1A:07:09:C4:35	65184	00-1A-07-09-C4-35
WSD-VID01	WSDO #004	Avigilon (ONVIF)	4.0C-H5A-D1-IR	10.182.77.8	00:18:85:46:9B:04	4.66.0.26(bd739d0c)	1.12211E+11
WSD-VID01	WSDH #068 Exterior Stadium Sidewalk	Arecont Vision	AV12186	10.182.73.72	00:1A:07:09:C4:76	65184	00-1A-07-09-C4-76
WSD-VID01	WSDH #068 Exterior Stadium Sidewalk	Arecont Vision	AV12186	10.182.73.72	00:1A:07:09:C4:76	65184	00-1A-07-09-C4-76
WSD-VID01	WSDH #068 Exterior Stadium Sidewalk	Arecont Vision	AV12186	10.182.73.72	00:1A:07:09:C4:76	65184	00-1A-07-09-C4-76
WSD-VID01	WSDH #068 Exterior Stadium Sidewalk	Arecont Vision	AV12186	10.182.73.72	00:1A:07:09:C4:76	65184	00-1A-07-09-C4-76
WSD-VID01	WSDH #068 Exterior Stadium Sidewalk	Arecont Vision	AV12186	10.182.73.72	00:1A:07:09:C4:76	65184	00-1A-07-09-C4-76
WSD-VID01	WSDM #028 Exterior Camera	Arecont Vision	AV12186	10.182.72.32	00:1A:07:09:C4:B0	65184	00-1A-07-09-C4-B0
WSD-VID01	WSDM #028 Exterior Camera	Arecont Vision	AV12186	10.182.72.32	00:1A:07:09:C4:B0	65184	00-1A-07-09-C4-B0
WSD-VID01	WSDM #028 Exterior Camera	Arecont Vision	AV12186	10.182.72.32	00:1A:07:09:C4:B0	65184	00-1A-07-09-C4-B0
WSD-VID01	WSDM #028 Exterior Camera	Arecont Vision	AV12186	10.182.72.32	00:1A:07:09:C4:B0	65184	00-1A-07-09-C4-B0
WSD-VID01	WSDM #028 Exterior Camera	Arecont Vision	AV12186	10.182.72.32	00:1A:07:09:C4:B0	65184	00-1A-07-09-C4-B0
WSD-VID01	WSDM #026 Exterior Main Athletic Entrance	Arecont Vision	AV12186	10.182.72.30	00:1A:07:09:C5:28	65184	00-1A-07-09-C5-28
WSD-VID01	WSDM #026 Exterior Main Athletic Entrance	Arecont Vision	AV12186	10.182.72.30	00:1A:07:09:C5:28	65184	00-1A-07-09-C5-28
WSD-VID01	WSDM #026 Exterior Main Athletic Entrance	Arecont Vision	AV12186	10.182.72.30	00:1A:07:09:C5:28	65184	00-1A-07-09-C5-28
WSD-VID01	WSDM #026 Exterior Main Athletic Entrance	Arecont Vision	AV12186	10.182.72.30	00:1A:07:09:C5:28	65184	00-1A-07-09-C5-28
WSD-VID01	WSDM #026 Exterior Main Athletic Entrance	Arecont Vision	AV12186	10.182.72.30	00:1A:07:09:C5:28	65184	00-1A-07-09-C5-28
WSD-VID01	WSDM #029 Exterior West Plaza	Arecont Vision	AV12186	10.182.72.33	00:1A:07:09:C5:81	65184	00-1A-07-09-C5-81
WSD-VID01	WSDM #029 Exterior West Plaza	Arecont Vision	AV12186	10.182.72.33	00:1A:07:09:C5:81	65184	00-1A-07-09-C5-81
WSD-VID01	WSDM #029 Exterior West Plaza	Arecont Vision	AV12186	10.182.72.33	00:1A:07:09:C5:81	65184	00-1A-07-09-C5-81
WSD-VID01	WSDM #029 Exterior West Plaza	Arecont Vision	AV12186	10.182.72.33	00:1A:07:09:C5:81	65184	00-1A-07-09-C5-81
WSD-VID01	WSDM #029 Exterior West Plaza	Arecont Vision	AV12186	10.182.72.33	00:1A:07:09:C5:81	65184	00-1A-07-09-C5-81
WSD-VID01	WSDP #019 Exterior SW Playground	Arecont Vision	AV12186	10.182.75.23	00:1A:07:09:C6:8C	65187	00-1A-07-09-C6-8C
WSD-VID01	WSDP #019-3 Exterior SW Playground	Arecont Vision	AV12186	10.182.75.23	00:1A:07:09:C6:8C	65187	00-1A-07-09-C6-8C
WSD-VID01	WSDP #019-2 Exterior SW Playground	Arecont Vision	AV12186	10.182.75.23	00:1A:07:09:C6:8C	65187	00-1A-07-09-C6-8C
WSD-VID01	WSDP #019-4 Exterior SW Playground	Arecont Vision	AV12186	10.182.75.23	00:1A:07:09:C6:8C	65187	00-1A-07-09-C6-8C
WSD-VID01	WSDP #019-1 Exterior SW Playground	Arecont Vision	AV12186	10.182.75.23	00:1A:07:09:C6:8C	65187	00-1A-07-09-C6-8C
WSD-VID01	WSDH #062 Exterior Main Parking Lot	Arecont Vision	AV12186	10.182.73.66	00:1A:07:09:C7:4D	65187	00-1A-07-09-C7-4D
WSD-VID01	WSDH #062 Exterior Main Parking Lot	Arecont Vision	AV12186	10.182.73.66	00:1A:07:09:C7:4D	65187	00-1A-07-09-C7-4D
WSD-VID01	WSDH #062 Exterior Main Parking Lot	Arecont Vision	AV12186	10.182.73.66	00:1A:07:09:C7:4D	65187	00-1A-07-09-C7-4D
WSD-VID01	WSDH #062 Exterior Main Parking Lot	Arecont Vision	AV12186	10.182.73.66	00:1A:07:09:C7:4D	65187	00-1A-07-09-C7-4D
WSD-VID01	WSDH #062 Exterior Main Parking Lot	Arecont Vision	AV12186	10.182.73.66	00:1A:07:09:C7:4D	65187	00-1A-07-09-C7-4D
WSD-VID01	WSDB #016 Exterior Camera	Arecont Vision	AV12186	10.182.74.20	00:1A:07:09:C7:01	65187	00-1A-07-09-C7-01
WSD-VID01	WSDB #016 Exterior Camera	Arecont Vision	AV12186	10.182.74.20	00:1A:07:09:C7:01	65187	00-1A-07-09-C7-01
WSD-VID01	WSDB #016 Exterior Camera	Arecont Vision	AV12186	10.182.74.20	00:1A:07:09:C7:01	65187	00-1A-07-09-C7-01
WSD-VID01	WSDB #016 Exterior Camera	Arecont Vision	AV12186	10.182.74.20	00:1A:07:09:C7:01	65187	00-1A-07-09-C7-01
WSD-VID01	WSDB #016 Exterior Camera	Arecont Vision	AV12186	10.182.74.20	00:1A:07:09:C7:01	65187	00-1A-07-09-C7-01
WSD-VID01	WSDW #006 Exterior Parking Lot	Arecont Vision	AV12186	10.182.76.10	00:1A:07:09:C7:8C	65187	00-1A-07-09-C7-8C
WSD-VID01	WSDW #006 Exterior Parking Lot	Arecont Vision	AV12186	10.182.76.10	00:1A:07:09:C7:8C	65187	00-1A-07-09-C7-8C
WSD-VID01	WSDW #006 Exterior Parking Lot	Arecont Vision	AV12186	10.182.76.10	00:1A:07:09:C7:8C	65187	00-1A-07-09-C7-8C
WSD-VID01	WSDW #006 Exterior Parking Lot	Arecont Vision	AV12186	10.182.76.10	00:1A:07:09:C7:8C	65187	00-1A-07-09-C7-8C
WSD-VID01	WSDW #006 Exterior Parking Lot	Arecont Vision	AV12186	10.182.76.10	00:1A:07:09:C7:8C	65187	00-1A-07-09-C7-8C

WSD-VID01	WSDP #017 Exterior Parking Lot	Arecont Vision	AV12186	10.182.75.21	00:1A:07:09:C7:36	65187	00-1A-07-09-C7-36
WSD-VID01	WSDP #017 Exterior Parking Lot	Arecont Vision	AV12186	10.182.75.21	00:1A:07:09:C7:36	65187	00-1A-07-09-C7-36
WSD-VID01	WSDP #017 Exterior Parking Lot	Arecont Vision	AV12186	10.182.75.21	00:1A:07:09:C7:36	65187	00-1A-07-09-C7-36
WSD-VID01	WSDP #017 Exterior Parking Lot	Arecont Vision	AV12186	10.182.75.21	00:1A:07:09:C7:36	65187	00-1A-07-09-C7-36
WSD-VID01	WSDP #017 Exterior Parking Lot	Arecont Vision	AV12186	10.182.75.21	00:1A:07:09:C7:36	65187	00-1A-07-09-C7-36
WSD-VID01	WSDT #001 Exterior Camera	Arecont Vision	AV12186	10.182.78.5	00:1A:07:09:C7:78	65187	00-1A-07-09-C7-78
WSD-VID01	WSDT #001 Exterior Camera	Arecont Vision	AV12186	10.182.78.5	00:1A:07:09:C7:78	65187	00-1A-07-09-C7-78
WSD-VID01	WSDT #001 Exterior Camera	Arecont Vision	AV12186	10.182.78.5	00:1A:07:09:C7:78	65187	00-1A-07-09-C7-78
WSD-VID01	WSDT #001 Exterior Camera	Arecont Vision	AV12186	10.182.78.5	00:1A:07:09:C7:78	65187	00-1A-07-09-C7-78
WSD-VID01	WSDT #001 Exterior Camera	Arecont Vision	AV12186	10.182.78.5	00:1A:07:09:C7:78	65187	00-1A-07-09-C7-78
WSD-VID01	WSDB #017 Exterior Camera	Arecont Vision	AV12186	10.182.74.21	00:1A:07:09:C7:CA	65187	00-1A-07-09-C7-CA
WSD-VID01	WSDB #017 Exterior Camera	Arecont Vision	AV12186	10.182.74.21	00:1A:07:09:C7:CA	65187	00-1A-07-09-C7-CA
WSD-VID01	WSDB #017 Exterior Camera	Arecont Vision	AV12186	10.182.74.21	00:1A:07:09:C7:CA	65187	00-1A-07-09-C7-CA
WSD-VID01	WSDB #017 Exterior Camera	Arecont Vision	AV12186	10.182.74.21	00:1A:07:09:C7:CA	65187	00-1A-07-09-C7-CA
WSD-VID01	WSDB #017 Exterior Camera	Arecont Vision	AV12186	10.182.74.21	00:1A:07:09:C7:CA	65187	00-1A-07-09-C7-CA
WSD-VID01	WSDP #020 Exterior NW Playground	Arecont Vision	AV12186	10.182.75.24	00:1A:07:09:C7:CB	65187	00-1A-07-09-C7-CB
WSD-VID01	WSDP #020 Exterior NW Playground	Arecont Vision	AV12186	10.182.75.24	00:1A:07:09:C7:CB	65187	00-1A-07-09-C7-CB
WSD-VID01	WSDP #020 Exterior NW Playground	Arecont Vision	AV12186	10.182.75.24	00:1A:07:09:C7:CB	65187	00-1A-07-09-C7-CB
WSD-VID01	WSDP #020 Exterior NW Playground	Arecont Vision	AV12186	10.182.75.24	00:1A:07:09:C7:CB	65187	00-1A-07-09-C7-CB
WSD-VID01	WSDP #020 Exterior NW Playground	Arecont Vision	AV12186	10.182.75.24	00:1A:07:09:C7:CB	65187	00-1A-07-09-C7-CB
WSD-VID01	WSDH #078 Baseball Exterior	Arecont Vision	AV20185	10.182.73.82	00:1A:07:0C:24:5C	65187	00-1A-07-0C-24-5C
WSD-VID01	WSDH #078 Baseball Exterior	Arecont Vision	AV20185	10.182.73.82	00:1A:07:0C:24:5C	65187	00-1A-07-0C-24-5C
WSD-VID01	WSDH #078 Baseball Exterior	Arecont Vision	AV20185	10.182.73.82	00:1A:07:0C:24:5C	65187	00-1A-07-0C-24-5C
WSD-VID01	WSDH #078 Baseball Exterior	Arecont Vision	AV20185	10.182.73.82	00:1A:07:0C:24:5C	65187	00-1A-07-0C-24-5C
WSD-VID01	WSDH #078 Baseball Exterior	Arecont Vision	AV20185	10.182.73.82	00:1A:07:0C:24:5C	65187	00-1A-07-0C-24-5C
WSD-VID01	WSDH #079 Softball Exterior	Arecont Vision	AV20185	10.182.73.83	00:1A:07:0C:24:6B	65187	00-1A-07-0C-24-6B
WSD-VID01	WSDH #079 Softball Exterior	Arecont Vision	AV20185	10.182.73.83	00:1A:07:0C:24:6B	65187	00-1A-07-0C-24-6B
WSD-VID01	WSDH #079 Softball Exterior	Arecont Vision	AV20185	10.182.73.83	00:1A:07:0C:24:6B	65187	00-1A-07-0C-24-6B
WSD-VID01	WSDH #079 Softball Exterior	Arecont Vision	AV20185	10.182.73.83	00:1A:07:0C:24:6B	65187	00-1A-07-0C-24-6B
WSD-VID01	WSDH #079 Softball Exterior	Arecont Vision	AV20185	10.182.73.83	00:1A:07:0C:24:6B	65187	00-1A-07-0C-24-6B
WSD-VID01	WSDP #23 Interior Gym Fisheye	Avigilon (ONVIF)	12.0-H4F-DO1-IR	10.182.75.27	00:1F:92:01:B4:26	4.12.0.62(33541)	2.0161E+11

APPENDIX G - Western New Elementary Door Schedule

SECTION 080671 – DOOR HARDWARE SCHEDULE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. 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.

B. 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.

C. Related Sections:

1. Division 08 Section 087100 “Door Hardware”.
2. Division 28 Section 281500 “Integrated Access Control Hardware Devices”.

D. 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. Michigan Building Code 2015, Local Amendments.

E. Standards: Reference Related Sections for requirements regarding compliance with applicable industry standards.

1.3 SUBMITTALS

A. Product Data: Manufacturer's product data sheets including installation details, material descriptions, dimensions of individual components and profiles, operational descriptions and finishes.

B. 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.

C. 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.

D. 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.

E. 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.

F. Warranties and Maintenance: Special warranties and maintenance agreements specified in the Related Sections.

1.4 DELIVERY, STORAGE, AND HANDLING

A. 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.

B. 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.

C. 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".

1.5 WARRANTY

A. 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.

1.6 MAINTENANCE SERVICE

A. 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.

PART 2 - PRODUCTS

2.1 SCHEDULED DOOR HARDWARE

A. Refer to “PART 3 – EXECUTION” for required specification sections.

PART 3 - EXECUTION

3.1 DOOR HARDWARE SETS

A. 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.

B. 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 71 00 – Door Hardware.
2. Section 28 15 00 – Integrated Access Control Hardware Devices.

C. Manufacturer's Abbreviations:

1. MK - McKinney
2. PE - Pemko
3. SU - Securitron
4. RO - Rockwood
5. RU - Corbin Russwin
6. HS - HES
7. RF - Rixson
8. NO - Norton
9. OT - Other

Hardware Sets

Set: 1.0

Doors: A100, A111A, B100, B112A, E115A, F113A

1 Continuous Hinge	CFM__SLF-HD1 x PT		PE	087100
1 Electric Power Transfer	EL-CEPT	630	SU	087100
1 Removable Mullion	CR910BKM		RU	087100
1 Rim Exit Device, Exit Only	ED5200 EO M110 M92 M51 (less dogging)	630	RU	087100
1 Mort. Cylinder	CR1080 GMK	626	RU	087100

1 Surface Closer	DC6210 A4 M85 M77/M78 (-mounting plate if required)	689	RU	087100	
1 Weatherstrip	- integral within construction of door and frame assembly		00	08 4113	
1 Sweep	29326CNB x TKSP8		PE	087100	
1 Removable Mullion Seal	5110BL x height of mullion		PE	087100	
1 Threshold	279x292AFGPK x MSES25SS		PE	087100	
1 Position Switch	- Provided by Security Contractor		SU	087100	

Notes: Function: Door normally closed and locked. Exit only.
Exit device equipped with built-in signal switch in push rail for use to shunt door monitoring upon egress (REX).
Less dogging capability.
Free egress always permitted.

Set: 2.0

Doors: C101B, C105, C105A, D116A, D116B, E100, E100A

1 Continuous Hinge	CFM__SLF-HD1 x PT		PE	087100	
1 Electric Power Transfer	EL-CEPT	630	SU	087100	
1 Rim Exit Device, Exit Only	ED5200 EO M110 M92 MELR M52	630	RU	087100	
2 Mort. Cylinder	CR1080 GMK	626	RU	087100	
1 Surface Closer	DC6210 A4 M85 M77/M78 (-mounting plate if required)	689	RU	087100	
1 Weatherstrip	- integral within construction of door and frame assembly		00	08 4113	
1 Sweep	29326CNB x TKSP8		PE	087100	
1 Threshold	1715AK MSES25SS		PE	087100	
1 ElectroLynx Harness	QC-C1500P (power transfer or electric strike to junction box above)		MK	087100	
1 ElectroLynx Harness	QC-C (power transfer to exit device rail)		MK	087100	
1 Position Switch	- Provided by Security Contractor		SU	087100	
1 Power Supply	- Provided by Security Contractor		SU	087100	

Notes: Exit only. Dogging of latch bolt for push / pull operation controlled by use of key inside.
Door may be unlocked and used as push / pull doors as programmed by access control system and then relocked at scheduled times. Signal switch in push rail (request to exit) for use to shunt door monitoring upon egress.
Free egress always permitted.

Set: 3.0

Doors: C101A, C101C

1 Continuous Hinge	CFM__SLF-HD1 x PT		PE	087100	
1 Electric Power Transfer	EL-CEPT	630	SU	087100	⚡
1 Removable Mullion	CR910BKM		RU	087100	
1 Rim Exit Device, Exit Only	ED5200 EO M110 M92 MELR M52	630	RU	087100	⚡
2 Mort. Cylinder	CR1080 GMK	626	RU	087100	
1 Surface Closer	DC6210 A4 M85 M77/M78 (-mounting plate if required)	689	RU	087100	
1 Weatherstrip	- integral within construction of door and frame assembly		00	08 4113	
1 Sweep	29326CNB x TKSP8		PE	087100	
1 Removable Mullion Seal	5110BL x height of mullion		PE	087100	
1 Threshold	1715AK MSES25SS		PE	087100	
1 ElectroLynx Harness	QC-C1500P (power transfer to junction box above)		MK	087100	⚡
1 ElectroLynx Harness	QC-C (power transfer to exit device rail)		MK	087100	⚡
1 Position Switch	- Provided by Security Contractor		SU	087100	⚡
1 Power Supply	- Provided by Security Contractor		SU	087100	⚡

Notes: Exit only. Dogging of latch bolt for push / pull operation controlled by use of key inside.
Doors may be unlocked and used as push / pull doors as programmed by access control system and then relocked at scheduled times. Signal switch in push rail (request to exit) for use to shunt door monitoring upon egress.
Free egress always permitted.

Set: 4.0

Doors: C105B, D116

1 Continuous Hinge	CFM__SLF-HD1 x PT		PE	087100	
1 Electric Power Transfer	EL-CEPT	630	SU	087100	⚡
1 Rim Exit Device, Nightlatch	ED5200 K157ET M110 M92 MELR M52	630	RU	087100	⚡
1 Mort. Cylinder	CR1080 GMK	626	RU	087100	
1 Rim Cylinder	CR3080 GMK	626	RU	087100	
1 Vandal Resistant Trim	VRT22 C	US32D	RO	087100	
1 Surface Closer	DC6210 A4 M85 M77/M78 (-	689	RU	087100	

	mounting plate if required)			
1 Weatherstrip	- integral within construction of door and frame assembly	00	08 4113	
1 Sweep	29326CNB x TKSP8	PE	087100	
1 Threshold	1715AK MSES25SS	PE	087100	
1 ElectroLynx Harness	QC-C1500P (power transfer to junction box above)	MK	087100	⚡
1 ElectroLynx Harness	QC-C (power transfer to exit device rail)	MK	087100	⚡
1 Position Switch	- Provided by Security Contractor	SU	087100	⚡
1 Power Supply	- Provided by Security Contractor	SU	087100	⚡
1 Card Reader	- Provided by Security Contractor	00	281300	

Notes: Operation Description: Door normally closed and locked. Key override outside retracts latch bolt. Valid use of card reader outside retracts latch bolt of exit device. Keyed cylinder inside controls dogging of latch bolt for push / pull operation.
Door may be unlocked and used as push / pull doors as programmed by access control system and then relocked at scheduled times.
Exit device equipped with electric latch retraction and REX signal switch in push rail for shunting of door monitoring upon egress.
Free egress always permitted.

Set: 5.0

Doors: C101

1 Continuous Hinge	CFM__SLF-HD1 x PT		PE	087100	
1 Electric Power Transfer	EL-CEPT	630	SU	087100	⚡
1 Rim Exit Device, Nightlatch	ED5200 K157ET M110 M91 M92 MELR M52	630	RU	087100	⚡
1 Mort. Cylinder	CR1080 GMK	626	RU	087100	
1 Rim Cylinder	CR3080 GMK	626	RU	087100	
1 Door Pull	RM3311-24 Mtg-Type 12XHD	US32D-316	RO	087100	
1 Conc Overhead Stop	6-X36	630	RF	087100	
1 Automatic Opener	6021 (D) - confirm head detail	689	NO	087100	⚡
1 Weatherstrip	- integral within construction of door and frame assembly		00	08 4113	
1 Sweep	29326CNB x TKSP8		PE	087100	
1 Threshold	1715AK MSES25SS		PE	087100	
1 ElectroLynx Harness	QC-C1500P (power transfer to junction box above)		MK	087100	⚡

1 ElectroLynx Harness	QC-C (power transfer to exit device rail)		MK	087100
1 Intercom / Video Station	- Provided by Security Contractor		OT	
2 Door Switch	505 (6" x 6")		NO	087100
1 Position Switch	- Provided by Security Contractor		SU	087100
1 Power Supply	- Provided by Security Contractor		SU	087100
1 Card Reader	- Provided by Security Contractor		00	281300

Notes: Operation Description:
Door normally closed and locked. Valid use of card reader outside or activation of remote release within intercom system shall retract latch bolt permitting entry. Dogging of latch bolt controlled by use of key inside.
Doors may be unlocked and used as push / pull doors as programmed by access control system and then relocked at scheduled times. Signal switch in push rail (request to exit) for use to shunt door monitoring upon egress.
Activating actuator switch in vestibule retracts the latch bolt of the exit device, if locked, and initiates automatic operator cycle.
Activating exterior actuator switch will initiate cycle of automatic operator if the latch bolt is in the retracted position (push /pull operation). Utilize latch bolt monitor in exit device for this function.
After hours - access by valid use of card reader outside / automatic operator will only operate if card reader is authorized first.

Set: 6.0

Doors: A100A, A111B, B100A, B112B, C106E, D115A, D120B, E115, F113

1 Continuous Hinge	CFM__SLF-HD1 x PT		PE	087100
1 Electric Power Transfer	EL-CEPT	630	SU	087100
1 Rim Exit Device, Nightlatch	ED5200 K157ET M110 M92 MELR M51	630	RU	087100
1 Rim Cylinder	CR3080 GMK	626	RU	087100
1 Vandal Resistant Trim	VRT22 C	US32D	RO	087100
1 Surface Closer	DC6210 A4 M85 M77/M78 (- mounting plate if required)	689	RU	087100
1 Weatherstrip	- integral within construction of door and frame assembly		00	08 4113
1 Sweep	29326CNB x TKSP8		PE	087100
1 Threshold	1715AK MSES25SS		PE	087100
1 ElectroLynx Harness	QC-C1500P (power transfer to junction box above)		MK	087100
1 ElectroLynx Harness	QC-C (power transfer to exit device rail)		MK	087100
1 Position Switch	- Provided by Security Contractor		SU	087100

1 Power Supply	- Provided by Security Contractor		SU	087100
1 Card Reader	- Provided by Security Contractor		00	281300

Notes: Door normally closed and locked. Key override outside retracts latch bolt of exit device.
Valid use of card reader outside will electronically retract latch of exit device permitting entry. No keyed dogging of latch bolt.
Free egress always permitted.

Set: 6.1

Doors: E100B

1 Continuous Hinge	CFM__SLF-HD1 x PT		PE	087100
1 Electric Power Transfer	EL-CEPT	630	SU	087100
1 Rim Exit Device, Nightlatch	ED5200 K157ET M110 M92 MELR M51	630	RU	087100
1 Rim Cylinder	CR3080 GMK	626	RU	087100
1 Vandal Resistant Trim	VRT22 C	US32D	RO	087100
1 Surface Closer	DC6210 A4 M85 M77/M78 (- mounting plate if required)	689	RU	087100
1 Weatherstrip	- integral within construction of door and frame assembly		00	08 4113
1 Sweep	29326CNB x TKSP8		PE	087100
1 Threshold	1715AK MSES25SS		PE	087100
1 ElectroLynx Harness	QC-C1500P (power transfer to junction box above)		MK	087100
1 ElectroLynx Harness	QC-C (power transfer to exit device rail)		MK	087100
1 Intercom / Video Station	- Provided by Security Contractor		OT	
1 Position Switch	- Provided by Security Contractor		SU	087100
1 Power Supply	- Provided by Security Contractor		SU	087100
1 Card Reader	- Provided by Security Contractor		00	281300

Notes: Door normally closed and locked. Key override outside retracts latch bolt of exit device.
Valid use of card reader outside or activation of remote release button in intercom system will electronically retract latch of exit device permitting entry. No keyed dogging of latch bolt.
Door shall lock and unlock upon schedule as determined in access control system.
Free egress always permitted.

Set: 7.0

Doors: D100F

2 Continuous Hinge	CFM__SLF-HD1		PE	087100

1 Removable Mullion	CR910BKM		RU	087100
1 Rim Exit Device, Exit Only	ED5200 EO M110 M51 (less dogging)	630	RU	087100
1 Rim Exit Device, Nightlatch	ED5200 K157ET M110 M51 (less dogging)	630	RU	087100
1 Mort. Cylinder	CR1080 GMK	626	RU	087100
1 Rim Cylinder	CR3080 GMK	626	RU	087100
1 Vandal Resistant Trim	VRT22 C	US32D	RO	087100
2 Surface Closer	DC6210 A4 M85 M77/M78 (-mounting plate if required)	689	RU	087100
1 Weatherstrip	- integral within construction of door and frame assembly		00	08 4113
1 Sweep	29326CNB x TKSP8		PE	087100
1 Threshold	1715AK MSES25SS		PE	087100
2 Position Switch	- Provided by Security Contractor		SU	087100

Notes: Function: Doors normally closed and locked. Key outside active leaf retracts latch bolt. Exit devices equipped with keyed cylinder inside to control dogging of latch bolt (push / pull operation). Free egress always permitted.

Set: 8.0

Doors: C106D

1 Continuous Hinge	CFM__SLF-HD1		PE	087100
1 Rim Exit Device, Nightlatch	ED5200 K157ET M110 M51 (less dogging)	630	RU	087100
1 Rim Cylinder	CR3080 GMK	626	RU	087100
1 Vandal Resistant Trim	VRT22 C	US32D	RO	087100
1 Surface Closer	DC6210 A4 M85 M77/M78 (-mounting plate if required)	689	RU	087100
1 Weatherstrip	- integral within construction of door and frame assembly		00	08 4113
1 Sweep	29326CNB x TKSP8		PE	087100
1 Threshold	279x292AFGPK x MSES25SS		PE	087100
1 Position Switch	- Provided by Security Contractor		SU	087100

Notes: Function: Key outside retracts latch bolt. Keyed cylinder inside controls latch bolt dogging. Free egress always permitted.

Set: 9.0

Doors: A122A, B123A

1 Continuous Hinge	CFM__SLF-HD1		PE	087100	
1 Rim Exit Device, Exit Only	ED5200 EO M110 M52	630	RU	087100	
1 Mort. Cylinder	CR1080 GMK	626	RU	087100	
1 Vandal Resistant Trim	VRT22	US32D	RO	087100	
1 Surface Closer	DC6210 A4 M85 M77/M78 (-mounting plate if required)	689	RU	087100	
1 Weatherstrip	- integral within construction of door and frame assembly		00	08 4113	
1 Sweep	29326CNB x TKSP8		PE	087100	
1 Threshold	279x292AFGPK x MSES25SS		PE	087100	
1 Position Switch	- Provided by Security Contractor		SU	087100	

Notes: Exit only. Keyed cylinder inside controls dogging of latch bolt.
Free egress always permitted.

Set: 10.0

Doors: C126E, C126F

2 Continuous Hinge	CFM__SLF-HD1		PE	087100	
1 Removable Mullion	CR910BKM		RU	087100	
2 Rim Exit Device, Exit Only	ED5200 EO M110 M51 (less dogging)	630	RU	087100	
1 Mort. Cylinder	CR1080 GMK	626	RU	087100	
2 Surface Closer	DC6210 A4 M85 M77/M78 (-mounting plate if required)	689	RU	087100	
1 Weatherstrip	- integral within construction of door and frame assembly		00	08 4113	
2 Sweep	29326CNB x TKSP8		PE	087100	
1 Removable Mullion Seal	5110BL x height of mullion		PE	087100	
1 Threshold	279x292AFGPK x MSES25SS		PE	087100	
2 Position Switch	- Provided by Security Contractor		SU	087100	

Notes: Exit only. No dogging of latch bolt for push / pull operation.
Free egress always permitted.

Set: 11.0

Doors: A102D, B102B, D103, D103B, F101A, F104A, F105A, F108A, F109A, F112A, F114A, F117A, F118A, F121A, F122A, F125A

1 Continuous Hinge	CFM__SLF-HD1		PE	087100
1 Rim Exit Device, Exit Only	ED5200 EO M110 M51 (less dogging)	630	RU	087100
1 Surface Closer	DC6210 A4 M85 M77/M78 (- mounting plate if required)	689	RU	087100
1 Weatherstrip	- integral within construction of door and frame assembly		00	08 4113
1 Sweep	29326CNB x TKSP8		PE	087100
1 Threshold	279x292AFGPK x MSES25SS		PE	087100
1 Position Switch	- Provided by Security Contractor		SU	087100

Notes: Exit only. No dogging of latch bolt for push / pull operation.
Free egress always permitted.

Set: 12.0

Doors: A102C, B102A

1 Continuous Hinge	CFM__SLF-HD1		PE	087100
1 Removable Mullion	CR910BKM		RU	087100
1 Rim Exit Device, Exit Only	ED5200 EO M110 M51 (less dogging)	630	RU	087100
1 Mort. Cylinder	CR1080 GMK	626	RU	087100
1 Surface Closer	DC6210 A4 M85 M77/M78 (- mounting plate if required)	689	RU	087100
1 Weatherstrip	- integral within construction of door and frame assembly		00	08 4113
1 Sweep	29326CNB x TKSP8		PE	087100
1 Threshold	279x292AFGPK x MSES25SS		PE	087100
1 Position Switch	- Provided by Security Contractor		SU	087100

Notes: Exit only. No dogging of latch bolt for push / pull operation.
Free egress always permitted.

Set: 13.0

Doors: A224A, ~~E114~~ **Move to Set 13.1**

1 Continuous Hinge	CFM__SLF-HD1		PE	087100
1 Storeroom Lock	ML2049 NSA M34 C6 GMK	626	RU	087100
1 Surface Closer	DC6210 A4 M85 M77/M78 (- mounting plate if required)	689	RU	087100
1 Weatherstrip	- integral within construction of		00	08

	door and frame assembly		4113	
1 Sweep	29326CNB x TKSP8	PE	087100	
1 Threshold	279x292AFGPK x MSES25SS	PE	087100	
1 Position Switch	- Provided by Security Contractor	SU	087100	

Notes: Latch bolt and deadbolt operated by lever either side. Inside lever simultaneously retracts latch bolt and deadbolt. Outside lever always rigid. Deadbolt projected or retracted by key outside or thumb turn inside. Inside lever always free for egress.

Set: 13.1

Doors: E114

1 Continuous Hinge	CFM__SLF-HD1 PT		PE	087100	
1 Electric Power Transfer	CEPT-C5E	630	SU	087100	
1 Access Control Mort Lock	IN220-ML20234 MB NSA BIPS CL6 Provided by Security Contractor	626	RU	281500	
1 Interchangeable Core	CR8000 GMK	626	RU	087100	
~~1 Storeroom Lock~~	~~ML2049 NSA M34 C6 GMK~~	~~626~~	~~RU~~	~~087100~~	
1 Surface Closer	DC6210 A4 M85 M77/M78 (- mounting plate if required)	689	RU	087100	
1 Weatherstrip	- integral within construction of door and frame assembly		00	08 4113	
1 Sweep	29326CNB x TKSP8		PE	087100	
1 Threshold	279x292AFGPK x MSES25SS		PE	087100	
~~1 Position Switch~~	~~- Provided by Security Contractor~~		~~SU~~	~~087100~~	
1 ElectroLynx Harness	PoE-C___PRJ (power transfer to lock location)		MK	087100	
1 ElectroLynx Harness	PoE-C1300PRJ (power transfer to junction box above)		MK	087100	

Notes: Door normally closed and locked. Fail secure lockset. Valid use of card reader outside temporarily unlocks outside lever permitting access. Lockset equipped with built in door monitoring and request to exit for shunting of door monitoring upon egress.
Key outside retracts latch bolt.
Free egress always permitted.

Set: 13.2

Doors: **B128, B129, E125**

1 Continuous Hinge	CFM__SLF-HD1 PT		PE 087100	
1 Electric Power Transfer	EL-CEPT	630	SU 087100	
1 Electric Mort Lock	ML20608 NSA PHR V21 CL6	626	RU 281500	
1 Interchangeable Core	CR8000 GMK	626	RU 087100	
1 Surface Closer	DC6210 A4 M85 M77/M78 (-mounting plate if required)	689	RU 087100	
1 Weatherstrip	- integral within construction of door and frame assembly		00 08 4113	
1 Sweep	29326CNB x TKSP8		PE 087100	
1 Threshold	279x292AFGPK x MSES25SS		PE 087100	
1 Position Switch	- Provided by Security Contractor		SU 087100	
1 ElectroLynx Harness	QC-C1500P (electric lock to j-box)		MK 087100	
1 ElectroLynx Harness	QC-Cxx (electric lock to power transfer)		MK 087100	

Notes:

Power off, outside lever is locked.
Presentation of valid credential at card reader unlocks lever allowing ingress.
Deadbolt privacy function (PHR).
-Thumbturn inside projects deadbolt, disables card reader and changes outside indictor to Occupied.
-Turning inside lever simultaneously retracts latch and deadbolt, outside indicator changes to Vacant.
-Inside indicator show outside status: Locked/Unlocked
Free egress at all times.
Fail-secure.

Set: 14.0

Doors: C101F

1 Continuous Hinge	CFM__HD1 x PT		PE 087100	
1 Electric Power Transfer	EL-CEPT	630	SU 087100	
1 Rim Exit Device, Exit Only	ED5200 EO M110 M92 MELR	630	RU 087100	

	M52			
1 Mort. Cylinder	CR1080 GMK	626	RU 087100	
1 Surface Closer	DC6210 A4 M85 M77/M78 (-mounting plate if required)	689	RU 087100	
1 ElectroLynx Harness	QC-C1500P (power transfer or electric strike to junction box above)		MK 087100	⚡
1 ElectroLynx Harness	QC-C (power transfer to exit device rail)		MK 087100	⚡
1 Position Switch	- Provided by Security Contractor		SU 087100	⚡
1 Power Supply	- Provided by Security Contractor		SU 087100	⚡

Notes: Exit only. Dogging of latch bolt for push / pull operation controlled by use of key inside.
Doors may be unlocked and used as push / pull doors as programmed by access control system and then relocked at scheduled times. Signal switch in push rail (request to exit) for use to shunt door monitoring upon egress.
Free egress always permitted.

Set: 15.0

Doors: C101E, C101G

1 Continuous Hinge	CFM__HD1 x PT		PE 087100	
1 Electric Power Transfer	EL-CEPT	630	SU 087100	⚡
1 Removable Mullion	CR910BKM		RU 087100	
1 Rim Exit Device, Exit Only	ED5200 EO M110 M92 MELR M52	630	RU 087100	⚡
2 Mort. Cylinder	CR1080 GMK	626	RU 087100	
1 Surface Closer	DC6210 A4 M85 M77/M78 (-mounting plate if required)	689	RU 087100	
1 Removable Mullion Seal	5110BL x height of mullion		PE 087100	
1 ElectroLynx Harness	QC-C1500P (power transfer to junction box above)		MK 087100	⚡
1 ElectroLynx Harness	QC-C (power transfer to exit device rail)		MK 087100	⚡
1 Position Switch	- Provided by Security Contractor		SU 087100	⚡
1 Power Supply	- Provided by Security Contractor		SU 087100	⚡

Notes: Exit only. Dogging of latch bolt for push / pull operation controlled by use of key inside.
Doors may be unlocked and used as push / pull doors as programmed by access control system and then relocked at scheduled times. Signal switch in push rail (request to exit) for use to shunt door monitoring upon egress.
Free egress always permitted.

Set: 16.0

Doors: C101D

1 Continuous Hinge	CFM__HD1 x PT		PE	087100	
1 Electric Power Transfer	EL-CEPT	630	SU	087100	⚡
1 Rim Exit Device, Exit Only	ED5200 EO M110 M91 M92 MELR M52	630	RU	087100	⚡
1 Mort. Cylinder	CR1080 GMK	626	RU	087100	
1 Door Pull	RM3311-24 Mtg-Type 12XHD	US32D-316	RO	087100	
1 Conc Overhead Stop	6-X36	630	RF	087100	
1 Automatic Opener	6021 (D) - confirm head detail	689	NO	087100	⚡
1 ElectroLynx Harness	QC-C1500P (power transfer strike to junction box above)		MK	087100	⚡
1 ElectroLynx Harness	QC-C (power transfer to exit device rail)		MK	087100	⚡
2 Door Switch	505 (6" x 6")		NO	087100	⚡
1 Position Switch	- Provided by Security Contractor		SU	087100	⚡
1 Power Supply	- Provided by Security Contractor		SU	087100	⚡

Notes: Operation Description:
Door normally closed and locked. Dogging of latch bolt controlled by use of key inside.
Doors may be unlocked and used as push / pull doors as programmed by access control system and then relocked at scheduled times. Signal switch in push rail (request to exit) for use to shunt door monitoring upon egress.
Activating actuator switch in corridor retracts the latch bolt of the exit device, if locked, and initiates automatic operator cycle.
Activating actuator switch in vestibule will initiate cycle of automatic operator if the latch bolt is in the retracted position (push /pull operation). Utilize latch bolt monitor in exit device for this function.
After hours - access by valid use of card reader outside / automatic operator will only operate if card reader is authorized first.

Set: 17.0

Doors: C111C

1 Continuous Hinge	CFM__HD1 x PT		PE	087100	
1 Rim Exit Device, Storeroom	ED5200 N959ET M110 M51	630	RU	087100	
1 Rim Cylinder	CR3080 GMK	626	RU	087100	
1 ElectroLynx Adaptor	2004M		HS	087100	⚡
1 Electric Strike	9600-LBSM	630	HS	087100	⚡

1 SMART Pac Bridge Rectifier	2005M3		HS	087100	⚡
1 Surf Overhead Stop	9-X36	652	RF	087100	
1 Automatic Opener	6021 (D) - confirm head detail	689	NO	087100	⚡
1 Kick Plate	K1050 10" high CSK BEV	US32D	RO	087100	
1 ElectroLynx Harness	QC-C1500P (electric strike to junction box above)		MK	087100	⚡
1 Intercom / Video Station	- Provided by Security Contractor		OT		
2 Door Switch	505 (6" x 6")		NO	087100	⚡
1 Power Supply	- Provided by Security Contractor		SU	087100	⚡
1 Card Reader	- Provided by Security Contractor		00	281300	

Notes: Valid use of card reader outside or activation of remote release button in intercom system unlocks electric strike to gain access. Key override outside lever retracts latch bolt. Electric strike shall unlock upon schedule as determined in access control system.
Free egress always permitted.

Activating actuator switch in Welcome Center unlocks electric strike, if locked, and initiates automatic operator cycle.
Activating actuator switch in Vestibule will initiate cycle of automatic operator if the electric strike is in the unlocked position. May utilize internal locking sensor switch in electric strike for this function.
After hours - access by valid use of card reader outside / automatic operator will only operate if card reader is authorized first.

Set: 18.0

Doors: D113

2 Continuous Hinge	CFM__HD1 x PT		PE	087100	
2 Electric Power Transfer	EL-CEPT	630	SU	087100	⚡
1 Electrified SVR Exit, Fail Secure	ED5470B N9905ET M55 M110 M92	630	RU	087100	⚡
1 Fire Rated Surf Vert Rod, Exit Only	ED5470B EO M55 M110 M92	630	RU	087100	⚡
1 Rim Cylinder	CR3080 GMK	626	RU	087100	
2 Surface Closer	DC6210 A3	689	RU	087100	
2 Kick Plate	K1050 10" high CSK BEV	US32D	RO	087100	
2 Wall Stop	RM860	US32D	RO	087100	
1 Meeting Edge Seal	S772C x height of door		PE	087100	
1 Smoke / Sound Seal	S88BL - head and jambs		PE	087100	
1 ElectroLynx Harness	QC-C (power transfer to lever		MK	087100	⚡

	trim)				
2 ElectroLynx Harness	QC-C1500P (power transfer to junction box above)		MK	087100	
2 ElectroLynx Harness	QC-C (power transfer to exit device rail)		MK	087100	
2 Position Switch	- Provided by Security Contractor		SU	087100	
1 Power Supply	- Provided by Security Contractor		SU	087100	
1 Card Reader	- Provided by Security Contractor		00	281300	

Notes: Door normally closed and locked. Valid use of card reader temporarily unlocks lever trim for access. Push rail equipped with built-in signal switch to be wired for request to exit.
Free egress always permitted.

Set: 19.0

Doors: D114

1 Continuous Hinge	CFM__HD1 x PT		PE	087100	
1 Electric Power Transfer	CEPT-C5E	630	SU	087100	
1 Fire Rated Access Control Rim Exit Device	ED5200AN MB N9134ET-IN220 BIPS C6	630	RU	281500	
1 Interchangeable Core	CR8000 GMK	626	RU	087100	
1 Surface Closer	DC6210 A3	689	RU	087100	
1 Kick Plate	K1050 10" high CSK BEV	US32D	RO	087100	
1 Wall Stop	RM860	US32D	RO	087100	
1 Smoke / Sound Seal	S88BL - head and jambs		PE	087100	
1 ElectroLynx Harness	PoE-C___PRJ (power transfer to exit device trim)		MK	087100	
1 ElectroLynx Harness	PoE-C1300PRJ (power transfer to junction box above)		MK	087100	

Notes: ** Size hinge accordingly for 180 degree swing.

Door normally closed and locked. Fail secure exit device lever trim. Valid use of card reader outside temporarily unlocks outside lever permitting access. Exit device equipped with built in door monitoring and request to exit for shunting of door monitoring upon egress.
Key outside retracts latch bolt.
Free egress always permitted.

Set: 20.0

Doors: D115

1 Continuous Hinge	CFM__HD1 x PT		PE	087100	

1	Electric Power Transfer	CEPT-C5E	630	SU	087100
1	Fire Rated Access Control Rim Exit Device	ED5200AN MB N9134ET-IN220 BIPS C6	630	RU	281500
1	Interchangeable Core	CR8000 GMK	626	RU	087100
1	Surface Closer	DC6210 A4	689	RU	087100
1	Kick Plate	K1050 10" high CSK BEV	US32D	RO	087100
1	Smoke / Sound Seal	S88BL - head and jambs		PE	087100
1	ElectroLynx Harness	PoE-C___PRJ (power transfer to exit device trim)		MK	087100
1	ElectroLynx Harness	PoE-C1300PRJ (power transfer to junction box above)		MK	087100

Notes: Door normally closed and locked. Fail secure exit device lever trim. Valid use of card reader outside temporarily unlocks outside lever permitting access. Exit device equipped with built in door monitoring and request to exit for shunting of door monitoring upon egress.
Key outside retracts latch bolt.
Free egress always permitted.

Set: 21.0

Doors: A100B, A227, B100B, B227, D102, D112, E101

2	Continuous Hinge	CFM__HD1 x PT		PE	087100
2	Electric Power Transfer	EL-CEPT	630	SU	087100
1	Electrified SVR Exit, Fail Secure	ED5470B N9905ET M55 M110 M92	630	RU	087100
1	Fire Rated Surf Vert Rod, Exit Only	ED5470B EO M55 M110 M92	630	RU	087100
1	Rim Cylinder	CR3080 GMK	626	RU	087100
2	Surface Closer	DC6200 - pull side mount	689	RU	087100
2	Kick Plate	K1050 10" high CSK BEV	US32D	RO	087100
2	Electromagnetic Holder	994	689	RF	087100
1	Meeting Edge Seal	S772C x height of door		PE	087100
1	Smoke / Sound Seal	S88BL - head and jambs		PE	087100
1	ElectroLynx Harness	QC-C (power transfer to lever trim)		MK	087100
2	ElectroLynx Harness	QC-C1500P (power transfer to junction box above)		MK	087100
2	ElectroLynx Harness	QC-C (power transfer to exit device rail)		MK	087100
2	Position Switch	- Provided by Security Contractor		SU	087100
1	Power Supply	- Provided by Security Contractor		SU	087100

1 Card Reader	- Provided by Security Contractor		00	281300	

Notes: Door normally closed and locked. Valid use of card reader temporarily unlocks lever trim for access. Push rail equipped with built-in signal switch to be wired for request to exit.
Free egress always permitted.

Doors held open by electromagnetic door holders on adjacent walls. Power for electromagnetic holders shall be connected to fire alarm system and lock down system in order that doors close immediately upon activation of fire alarm or lock down activation.

(Electromagnetic holder has tri-volt coils for field selectable power: 120VAC, 24VAC/DC, 12VDC)

Set: 22.0

Doors: A102A, A102B, A111C, A111D, A200A, A200B, A209A, A209B, B102C, B102D, B112C, B112D, B200A, B200B, B209A, B209B

1 Continuous Hinge	CFM__HD1		PE	087100	
1 Fire Rated Rim Exit, Passage	ED5200A N910ET M110	630	RU	087100	
1 Surface Closer	DC6200 - pull side mount	689	RU	087100	
1 Kick Plate	K1050 10" high CSK BEV	US32D	RO	087100	
1 Electromagnetic Holder	994	689	RF	087100	⚡
1 Smoke / Sound Seal	S88BL - head and jambs		PE	087100	

Notes: Passage lever trim. Free egress always permitted.

Doors held open by electromagnetic door holders on adjacent walls. Power for electromagnetic holders shall be connected to fire alarm system in order that doors close immediately upon activation of fire alarm.

(Electromagnetic holder has tri-volt coils for field selectable power: 120VAC, 24VAC/DC, 12VDC)

Set: 23.0

Doors: C106, C106B

1 Continuous Hinge	CFM__HD1 x PT		PE	087100	
1 Electric Power Transfer	CEPT-C5E	630	SU	087100	⚡
1 Access Control Rim Exit Device	ED5200N MB N9134ET-IN220 BIPS C6	630	RU	281500	⚡
1 Interchangeable Core	CR8000 GMK	626	RU	087100	
1 Surface Closer	DC6210 A4	689	RU	087100	
1 Kick Plate	K1050 10" high CSK BEV	US32D	RO	087100	
3 Silencer	608 / 609		RO	087100	

1 ElectroLynx Harness	PoE-C___PRJ (power transfer to exit device trim)		MK	087100
1 ElectroLynx Harness	PoE-C1300PRJ (power transfer to junction box above)		MK	087100

Notes: Door normally closed and locked. Fail secure exit device lever trim. Valid use of card reader outside temporarily unlocks outside lever permitting access. Exit device equipped with built in door monitoring and request to exit for shunting of door monitoring upon egress.
Key outside retracts latch bolt.
Free egress always permitted.

Set: 24.0

Doors: C106A, C106C

1 Continuous Hinge	CFM__HD1 x PT		PE	087100
1 Electric Power Transfer	CEPT-C5E	630	SU	087100
1 Removable Mullion	CR910BKM		RU	087100
1 Access Control Rim Exit Device	ED5200N MB N9134ET-IN220 BIPS C6	630	RU	281500
1 Interchangeable Core	CR8000 GMK	626	RU	087100
1 Surface Closer	DC6210 A4	689	RU	087100
1 Kick Plate	K1050 10" high CSK BEV	US32D	RO	087100
1 Removable Mullion Seal	5110BL x height of mullion		PE	087100
3 Silencer	608 / 609		RO	087100
1 ElectroLynx Harness	PoE-C___PRJ (power transfer to exit device trim)		MK	087100
1 ElectroLynx Harness	PoE-C1300PRJ (power transfer to junction box above)		MK	087100

Notes: Door normally closed and locked. Fail secure exit device lever trim. Valid use of card reader outside temporarily unlocks outside lever permitting access. Exit device equipped with built in door monitoring and request to exit for shunting of door monitoring upon egress.
Key outside retracts latch bolt.
Free egress always permitted.

Set: 25.0

Doors: D106

3 Hinge, Full Mortise, Hvy Wt	T4A3786 (NRP)	US26D	MK	087100
1 Electric Power Transfer	CEPT-C5E	630	SU	087100

1 Access Control Mort Lock	IN220-ML20234 MB NSA BIPS CL6 Provided by Security Contractor	626	RU	281500	⚡
1 Interchangeable Core	CR8000 GMK	626	RU	087100	
1 Surface Closer	DC6210 A4	689	RU	087100	
1 Smoke / Sound Seal	S88BL - head and jambs		PE	087100	
1 ElectroLynx Harness	PoE-C___PRJ (power transfer to lock location)		MK	087100	⚡
1 ElectroLynx Harness	PoE-C1300PRJ (power transfer to junction box above)		MK	087100	⚡

Notes: Door normally closed and locked. Fail secure lockset. Valid use of card reader outside temporarily unlocks outside lever permitting access. Lockset equipped with built in door monitoring and request to exit for shunting of door monitoring upon egress.
Key outside retracts latch bolt.
Free egress always permitted.

Set: 26.0

Doors: D100B, D100D, D101B, D101C, D101E, D101F

1 Continuous Hinge	CFM__HD1 x PT		PE	087100	
1 Electric Power Transfer	CEPT-C5E	630	SU	087100	⚡
1 Access Control Rim Exit Device	ED5200N MB N9134ET-IN220 BIPS C6	630	RU	281500	⚡
1 Interchangeable Core	CR8000 GMK	626	RU	087100	
1 Surface Closer	DC6210 A3	689	RU	087100	
1 Kick Plate	K1050 10" high CSK BEV	US32D	RO	087100	
1 Meeting Edge Seal	S772C x height of door		PE	087100	
1 Smoke / Sound Seal	S88BL - head and jambs		PE	087100	
1 Removable Mullion Seal	5110BL x height of mullion		PE	087100	
1 ElectroLynx Harness	PoE-C___PRJ (power transfer to exit device trim)		MK	087100	⚡
1 ElectroLynx Harness	PoE-C1300PRJ (power transfer to junction box above)		MK	087100	⚡

Notes: ** Size hinge accordingly for 180 degree swing.

Door normally closed and locked. Fail secure exit device lever trim. Valid use of card reader outside temporarily unlocks outside lever permitting access. Exit device equipped with built in door monitoring and request to exit for shunting of door monitoring upon egress.
Key outside retracts latch bolt.
Free egress always permitted.

Set: 27.0

Doors: A122, A220, B123, B220, C111B

3 Hinge, Full Mortise, Hvy Wt	T4A3786 (NRP)	US26D	MK	087100	
1 Electric Power Transfer	CEPT-C5E	630	SU	087100	⚡
1 Access Control Mort Lock	IN220-ML20234 MB NSA BIPS CL6 Provided by Security Contractor	626	RU	281500	⚡
1 Interchangeable Core	CR8000 GMK	626	RU	087100	
1 Surface Closer	DC6210 A3	689	RU	087100	
1 Wall Stop	RM860	US32D	RO	087100	
1 Smoke / Sound Seal	S88BL - head and jambs		PE	087100	
1 ElectroLynx Harness	PoE-C___PRJ (power transfer to lock location)		MK	087100	⚡
1 ElectroLynx Harness	PoE-C1300PRJ (power transfer to junction box above)		MK	087100	⚡

Notes: Door normally closed and locked. Fail secure lockset. Valid use of card reader outside temporarily unlocks outside lever permitting access. Lockset equipped with built in door monitoring and request to exit for shunting of door monitoring upon egress.
Key outside retracts latch bolt.
Free egress always permitted.

Set: 28.0

Doors: C126A, C126D, D100C, D100E, D101A, D101D

1 Continuous Hinge	CFM__HD1 x PT		PE	087100	
1 Electric Power Transfer	CEPT-C5E	630	SU	087100	⚡
1 Removable Mullion	CR910BKM		RU	087100	
1 Access Control Rim Exit Device	ED5200N MB N9134ET-IN220 BIPS C6	630	RU	281500	⚡
1 Interchangeable Core	CR8000 GMK	626	RU	087100	
1 Surface Closer	DC6210 A3	689	RU	087100	
1 Kick Plate	K1050 10" high CSK BEV	US32D	RO	087100	
1 Meeting Edge Seal	S772C x height of door		PE	087100	
1 Smoke / Sound Seal	S88BL - head and jambs		PE	087100	
1 Removable Mullion Seal	5110BL x height of mullion		PE	087100	
1 ElectroLynx Harness	PoE-C___PRJ (power transfer to exit device trim)		MK	087100	⚡
1 ElectroLynx Harness	PoE-C1300PRJ (power transfer to junction box above)		MK	087100	⚡

Notes: Door normally closed and locked. Fail secure exit device lever trim. Valid use of card reader outside temporarily unlocks outside lever permitting access. Exit device equipped with built in door monitoring and request to exit for shunting of door monitoring upon egress.
Key outside retracts latch bolt.
Free egress always permitted.

Set: 29.0

Doors: C126B, C126C

1 Continuous Hinge	CFM__HD1 x PT		PE	087100	
1 Electric Power Transfer	CEPT-C5E	630	SU	087100	⚡
1 Access Control Rim Exit Device	ED5200N MB N9134ET-IN220 BIPS C6	630	RU	281500	⚡
1 Interchangeable Core	CR8000 GMK	626	RU	087100	
1 Surf Overhead Stop	9-X36 x LS stop	652	RF	087100	
1 Surface Closer	DC6210 A3	689	RU	087100	⚡
1 Kick Plate	K1050 10" high CSK BEV	US32D	RO	087100	
1 Meeting Edge Seal	S772C x height of door		PE	087100	
1 Smoke / Sound Seal	S88BL - head and jambs		PE	087100	
1 ElectroLynx Harness	PoE-C___PRJ (power transfer to exit device trim)		MK	087100	⚡
1 ElectroLynx Harness	PoE-C1300PRJ (power transfer to junction box above)		MK	087100	⚡

Notes: Door normally closed and locked. Fail secure exit device lever trim. Valid use of card reader outside temporarily unlocks outside lever permitting access. Exit device equipped with built in door monitoring and request to exit for shunting of door monitoring upon egress.
Key outside retracts latch bolt.
Free egress always permitted.

Set: 30.0

Doors: A106, A109, A114, A125, A204, A207, A212, A228, B106, B110, B115, B126, B204, B207, B212, C108, D110, D111, E102, E103, E104, (~~E109, E112, E117, E120~~ Move to Set 53.0)

3 Hinge, Full Mortise	TA2714 (NRP)	US26D	MK	087100
1 Storeroom Lock	ML2057 NSA C6 GMK	626	RU	087100
1 Interchangeable Core	CR8000 GMK	626	RU	087100
1 Surface Closer	DC3200 - pull side mount	689	RU	087100

1 Door Stop & Holder	491R	US26D	RO	087100
3 Silencer	608 / 609		RO	087100

Notes: Function: Latch bolt operated by key outside or lever inside. Outside lever always rigid. Inside lever always free for egress.

Set: 31.0

Doors: A104, A105, A107, A108, A110, A112, A113, A115, A126, A202, A203, A205, A206, A208, A210, A211, A213, A229, B104, B105, B107, B109, B111, B113, B114, B116, B127, B202, B203, B205, B206, B208, B210, B211, B213, B229, C109, E108, E110, E111, E113, E116, E118, E119, E121, E122, F101, F104, F105, F108, F109, F112, F114, F117, F118, F121, F122, F125

3 Hinge, Full Mortise, Hvy Wt	T4A3786 (NRP)	US26D	MK	087100
1 Storeroom Lock	ML2057 NSA C6 GMK	626	RU	087100
1 Interchangeable Core	CR8000 GMK	626	RU	087100
1 Surface Closer	DC3210 A3	689	RU	087100
1 Door Stop & Holder	491R	US26D	RO	087100
3 Silencer	608 / 609		RO	087100

Notes: Function: Latch bolt operated by key outside or lever inside. Outside lever always rigid. Inside lever always free for egress.

Set: 32.0

Doors: A117, A201, A215, B118, B201, B215, C110A, D108, E105, E106

3 Hinge, Full Mortise, Hvy Wt	T4A3786 (NRP)	US26D	MK	087100
1 Electric Power Transfer	CEPT-C5E	630	SU	087100
1 Access Control Mort Lock	IN220-ML20234 MB NSA BIPS CL6 Provided by Security Contractor	626	RU	281500
1 Interchangeable Core	CR8000 GMK	626	RU	087100
1 Surface Closer	DC6200 - pull side mount	689	RU	087100
1 Wall Stop	RM860	US32D	RO	087100
1 Smoke / Sound Seal	S88BL - head and jambs		PE	087100
1 ElectroLynx Harness	PoE-C___PRJ (power transfer to lock location)		MK	087100
1 ElectroLynx Harness	PoE-C1300PRJ (power transfer to junction box above)		MK	087100

Notes: Door normally closed and locked. Fail secure lockset. Valid use of card reader outside temporarily unlocks outside lever permitting access. Lockset equipped with built in door monitoring and request to exit for shunting of door monitoring upon egress.
Key outside retracts latch bolt.

Free egress always permitted.

Set: 33.0

Doors: C111

1 Continuous Hinge	CFM__HD1 x PT		PE	087100	
1 Electric Power Transfer	EL-CEPT	630	SU	087100	⚡
1 Fail Secure Lock	ML20932-SEC NSA C6 GMK	626	RU	087100	⚡
1 Magnetic Lock	M680EBD	630	SU	087100	⚡
1 Electric Strike	1500C-DLMS	630	HS	087100	⚡
1 ElectroLynx Adaptor	2004M		HS	087100	⚡
1 SMART Pac Bridge Rectifier	2005M3		HS	087100	⚡
1 Surface Closer	DC5230 - pull side mount, stop arm	689	RU	087100	
1 Kick Plate	K1050 10" high CSK BEV	US32D	RO	087100	
2 ElectroLynx Harness	QC-C1500P (power transfer to junction box above)		MK	087100	⚡
1 ElectroLynx Harness	QC-C (power transfer to lock location)		MK	087100	⚡
1 Power Supply	- Provided by Security Contractor		SU	087100	⚡
1 Remote Release Button	- Provided by Security Contractor		OT	281300	
1 Card Reader	- Provided by Security Contractor		00	281300	

Notes: Door normally closed and locked both sides.
Valid use of card reader on corridor C101 side of door or valid use of remote push button at reception desk shall unlock electric strike permitting passage through door (electromagnetic lock unlocked).
Electrified lock shall be unlocked both sides upon schedule from access control system.
Electromagnetic lock shall immediately lock upon activation of lockdown procedure.

Set: 34.0

Doors: C130

2 Continuous Hinge	CFM__HD1		PE	087100	
1 Comb. Flush Bolt Set	2845	US26D	RO	087100	
1 Dust Proof Strike	570	US26D	RO	087100	
1 Storeroom Lock	ML2057 NSA C6 GMK	626	RU	087100	
1 Surface Closer	DC6200 - pull side mount	689	RU	087100	
1 Surface Closer	DC6210 A3	689	RU	087100	
2 Kick Plate	K1050 10" high CSK BEV	US32D	RO	087100	
2 Electromagnetic Holder	994	689	RF	087100	⚡

1 Meeting Edge Seal	S772C x height of door		PE	087100
1 Smoke / Sound Seal	S88BL - head and jambs		PE	087100

Notes: ** Install DC6200 closer on RH leaf.
** Install DC6210 closer on LH leaf for 180 degree opening.
** Set frame to allow LH leaf to swing 180 degrees**.**

Function: Latch bolt operated by key outside or lever inside. Outside lever always rigid. Inside lever always free for egress.

Doors held open by electromagnetic door holders on adjacent walls. Power for electromagnetic holders shall be connected to fire alarm system in order that doors close immediately upon activation of fire alarm.

(Electromagnetic holder has tri-volt coils for field selectable power: 120VAC, 24VAC/DC, 12VDC)

Set: 35.0

Doors: A103, A128, B103

3 Hinge, Full Mortise, Hvy Wt	T4A3786 (NRP)	US26D	MK	087100
1 Storeroom Lock	ML2057 NSA C6 GMK	626	RU	087100
1 Surface Closer	DC6200 - pull side mount	689	RU	087100
1 Kick Plate	K1050 10" high CSK BEV	US32D	RO	087100
1 Wall Stop	RM860	US32D	RO	087100
3 Silencer	608 / 609		RO	087100

Notes: Function: Latch bolt operated by key outside or lever inside. Outside lever always rigid. Inside lever always free for egress.

Set: 36.0

Doors: D105, D107

3 Hinge, Full Mortise	TA2714 (NRP)	US26D	MK	087100
1 Storeroom Lock	ML2057 NSA C6 GMK	626	RU	087100
1 Surface Closer	DC6210 A4	689	RU	087100
1 Kick Plate	K1050 10" high CSK BEV	US32D	RO	087100
3 Silencer	608 / 609		RO	087100

Notes: Function: Latch bolt operated by key outside or lever inside. Outside lever always rigid. Inside lever always free for egress.

Set: 37.0

Doors: A124, **A134,** A222, A223, A224, **A230**, B124, B125, B222, B223, B224, B225, **B231**, D123, **D128A**

3 Hinge, Full Mortise, Hvy Wt	T4A3786 (NRP)	US26D	MK	087100
1 Storeroom Lock	ML2057 NSA C6 GMK	626	RU	087100
1 Surface Closer	DC6200 - pull side mount	689	RU	087100
1 Kick Plate	K1050 10" high CSK BEV	US32D	RO	087100
1 Wall Stop	RM860	US32D	RO	087100
1 Smoke / Sound Seal	S88BL - head and jambs		PE	087100

Notes: Function: Latch bolt operated by key outside or lever inside. Outside lever always rigid. Inside lever always free for egress.

Set: 38.0

Doors: B122

3 Hinge, Full Mortise, Hvy Wt	T4A3786 (NRP)	US26D	MK	087100
1 Storeroom Lock	ML2057 NSA C6 GMK	626	RU	087100
1 Surface Closer	DC6210 A4	689	RU	087100
1 Kick Plate	K1050 10" high CSK BEV	US32D	RO	087100
1 Smoke / Sound Seal	S88BL - head and jambs		PE	087100

Notes: Function: Latch bolt operated by key outside or lever inside. Outside lever always rigid. Inside lever always free for egress.

Set: 39.0

Doors: C113

3 Hinge, Full Mortise, Hvy Wt	T4A3786 (NRP)	US26D	MK	087100
1 Storeroom Lock	ML2057 NSA C6 GMK	626	RU	087100
1 Surface Closer	DC5230 - pull side mount, stop arm	689	RU	087100
1 Kick Plate	K1050 10" high CSK BEV	US32D	RO	087100
1 Wall Stop	RM860	US32D	RO	087100
1 Smoke / Sound Seal	S88BL - head and jambs		PE	087100

Notes: Function: Latch bolt operated by key outside or lever inside. Outside lever always rigid. Inside lever always free for egress.

Set: 40.0

Doors: F102, F103, F106, F107, F110, F111, F115, F116, F119, F120, F123, F124

3 Hinge, Full Mortise	TA2714 (NRP)	US26D	MK	087100
1 Passage Latch	ML2010 NSA	626	RU	087100
1 Surface Closer	DC6200 - pull side mount	689	RU	087100
1 Wall Stop	RM860	US32D	RO	087100
3 Silencer	608 / 609		RO	087100

Set: 41.0

Doors: D117, D118

6 Hinge, Full Mortise, Hvy Wt	T4A3786 (NRP)	US26D	MK	087100
1 Comb. Flush Bolt Set	2845	US26D	RO	087100
1 Dust Proof Strike	570	US26D	RO	087100
1 Classroom Lock	ML2055 NSA C6 GMK	626	RU	087100
1 Coordinator	1700	US28	RO	087100
2 Surface Closer	DC5230 - pull side mount, stop arm	689	RU	087100
2 Kick Plate	K1050 10"high CSK BEV	US32D	RO	087100
1 Meeting Edge Seal	S772C x height of door		PE	087100
1 Smoke / Sound Seal	S88BL - head and jambs		PE	087100

Notes: Function: Latch bolt by lever either side unless outside lever is locked by key outside. Outside lever remains locked unless unlocked by key. Inside lever always free for egress.

Set: 41.1

Doors: **C132**

6 Hinge, Full Mortise, Hvy Wt	T4A3786 (NRP)	US26D	MK	087100
1 Comb. Flush Bolt Set	2845	US26D	RO	087100
1 Dust Proof Strike	570	US26D	RO	087100
1 Storeroom Lock	ML2057 NSA C6 GMK	626	RU	087100
1 Coordinator	1700	US28	RO	087100
2 Surface Closer	6210 A11	689	RU	087100

2 Kick Plate	K1050 10"high CSK BEV	US32D	RO	087100
1 Meeting Edge Seal	S772C x height of door		PE	087100
1 Smoke / Sound Seal	S88BL - head and jambs		PE	087100

Notes: Function: Latch bolt by lever either side unless outside lever is locked by key outside. Outside lever remains locked unless unlocked by key. Inside lever always free for egress.

Set: 42.0

Doors: B221, C111A, C112, C115, C116, C117, C118, C119, C120A

3 Hinge, Full Mortise	TA2714 (NRP)	US26D	MK	087100
1 Classroom Lock	ML2055 NSA C6 GMK	626	RU	087100
1 Door Stop & Holder	491R	US26D	RO	087100
3 Silencer	608 / 609		RO	087100

Notes: Function: Latch bolt by lever either side unless outside lever is locked by key outside. Outside lever remains locked unless unlocked by key. Inside lever always free for egress.

Set: 43.0

Doors: D120, D120A

3 Hinge, Full Mortise, Hvy Wt	T4A3786 (NRP)	US26D	MK	087100
1 Classroom Lock	ML2055 NSA C6 GMK	626	RU	087100
1 Conc Overhead Hold Open	1-X26	652	RF	087100
1 Kick Plate	K1050 10" high CSK BEV	US32D	RO	087100
3 Silencer	608 / 609		RO	087100

Notes: Function: Latch bolt by lever either side unless outside lever is locked by key outside. Outside lever remains locked unless unlocked by key. Inside lever always free for egress.

Set: 44.0

Doors: D102A

2 Continuous Hinge	CFM__HD1		PE	087100

2	Exit Device (surface vertical rod, exit only)	ED5470B EO M110 M55	630	RU	087100
2	Surface Closer	DC6200 - pull side mount	689	RU	087100
2	Kick Plate	K1050 10" high CSK BEV	US32D	RO	087100
2	Electromagnetic Holder	994	689	RF	087100
1	Meeting Edge Seal	S772C x height of door		PE	087100
1	Smoke / Sound Seal	S88BL - head and jambs		PE	087100

Doors held open by electromagnetic door holders on adjacent walls. Power for electromagnetic holders shall be connected to fire alarm system and lock down system in order that doors close and latch immediately upon activation of fire alarm or lock down activation.

Electromagnetic locks are energized upon lock down activation.

Set: 45.0

1 Hardware Set	Not Used		OT

Set: 46.0

Doors: C123

3 Hinge, Full Mortise	TA2714 (NRP)	US26D	MK	087100
1 Classroom Lock	ML2055 NSA C6 GMK	626	RU	087100
1 Surface Closer	DC6210 A3	689	RU	087100
1 Kick Plate	K1050 10" high CSK BEV	US32D	RO	087100
1 Wall Stop	RM860	US32D	RO	087100
3 Silencer	608 / 609		RO	087100

Notes: Function: Latch bolt by lever either side unless outside lever is locked by key outside. Outside lever remains locked unless unlocked by key. Inside lever always free for egress.

Set: 47.0

1 Hardware Set	Not Used		OT

Set: 48.0

Notes: Function: Latch bolt by lever either side unless outside lever is locked by key outside. Outside lever remains locked unless unlocked by key. Inside lever always free for egress.

Set: 49.0

Doors: A123, A221

3 Hinge, Full Mortise, Hvy Wt	T4A3786 (NRP)	US26D	MK	087100
1 Classroom Lock	ML2055 NSA C6 GMK	626	RU	087100
1 Surface Closer	DC6200 - pull side mount	689	RU	087100
1 Kick Plate	K1050 10"high CSK BEV	US32D	RO	087100
1 Wall Stop	RM860	US32D	RO	087100
1 Smoke / Sound Seal	S88BL - head and jambs		PE	087100

Notes: Function: Latch bolt by lever either side unless outside lever is locked by key outside. Outside lever remains locked unless unlocked by key. Inside lever always free for egress.

Set: 50.0

Doors: D119, D119A

3 Hinge, Full Mortise, Hvy Wt	T4A3786 (NRP)	US26D	MK	087100
1 Classroom Lock	ML2055 NSA C6 GMK	626	RU	087100
1 Surface Closer	DC6200 - pull side mount	689	RU	087100
1 Kick Plate	K1050 10"high CSK BEV	US32D	RO	087100
1 Electromagnetic Holder	994	689	RF	087100
1 Smoke / Sound Seal	S88BL - head and jambs		PE	087100

Notes: Function: Latch bolt by lever either side unless outside lever is locked by key outside. Outside lever remains locked unless unlocked by key. Inside lever always free for egress.

Door held open by electromagnetic door holder on adjacent wall. Power for electromagnetic holder shall be connected to fire alarm system in order that door closes immediately upon activation of fire alarm.

(Electromagnetic holder has tri-volt coils for field selectable power: 120VAC, 24VAC/DC, 12VDC)

Set: 51.0

Doors: C127

3 Hinge, Full Mortise, Hvy Wt	T4A3786 (NRP)	US26D	MK	087100
1 Classroom Lock	ML2055 NSA C6 GMK	626	RU	087100
1 Surface Closer	DC6210 A3	689	RU	087100
1 Kick Plate	K1050 10"high CSK BEV	US32D	RO	087100

1 Wall Stop	RM860	US32D	RO	087100
1 Smoke / Sound Seal	S88BL - head and jambs		PE	087100

Notes: Function: Latch bolt by lever either side unless outside lever is locked by key outside. Outside lever remains locked unless unlocked by key. Inside lever always free for egress.

Set: 52.0

Doors: D121

3 Hinge, Full Mortise, Hvy Wt	T4A3786 (NRP)	US26D	MK	087100
1 Classroom Lock	ML2055 NSA C6 GMK	626	RU	087100
1 Surface Closer	DC6210 A4	689	RU	087100
1 Kick Plate	K1050 10"high CSK BEV	US32D	RO	087100
1 Smoke / Sound Seal	S88BL - head and jambs		PE	087100

Notes: Function: Latch bolt by lever either side unless outside lever is locked by key outside. Outside lever remains locked unless unlocked by key. Inside lever always free for egress.

Set: 53.0

Doors: A116, A214, A216, **B130,** B214, B216, E107, **E109, E112, E120, E123**

3 Hinge, Full Mortise	TA2714 (NRP)	US26D	MK	087100
1 Privacy Lock	ML2060 NSA M34 V21	626	RU	087100
1 Surface Closer	DC6200 - pull side mount	689	RU	087100
1 Kick Plate	K1050 10" high CSK BEV	US32D	RO	087100
1 Wall Stop	RM860	US32D	RO	087100
3 Silencer	608 / 609		RO	087100
1 Coat Hook	RM828	US32D	RO	087100

Notes: Install coat hook at 48" centerline above floor.

Set: 54.0

Doors: A118, B117, B119, C122, C124, C125, D109

3 Hinge, Full Mortise	TA2714 (NRP)	US26D	MK	087100
1 Privacy Lock	ML2060 NSA M34 V21	626	RU	087100
1 Surface Closer	DC6200 - pull side mount	689	RU	087100
1 Kick Plate	K1050 10" high CSK BEV	US32D	RO	087100
3 Silencer	608 / 609		RO	087100

1 Coat Hook	RM828	US32D	RO	087100

Notes: Install coat hook at 48" centerline above floor.

Set: 55.0

1 Hardware Set	Not Used		OT	

Notes:

Set: 56.0

Doors: D122

3 Hinge, Full Mortise, Hvy Wt	T4A3786 (NRP)	US26D	MK	087100
1 Privacy Lock	ML2060 NSA M34 V21	626	RU	087100
1 Surface Closer	DC6200 - pull side mount	689	RU	087100
1 Kick Plate	K1050 10" high CSK BEV	US32D	RO	087100
1 Wall Stop	RM860	US32D	RO	087100
1 Smoke / Sound Seal	S88BL - head and jambs		PE	087100
1 Coat Hook	RM828	US32D	RO	087100

Notes: Install coat hook at 48" centerline above floor.

Set: 57.0

Doors: C128, C129

3 Hinge, Full Mortise, Hvy Wt	T4A3786 (NRP)	US26D	MK	087100
1 Pull Plate	BF 111x70B	US32D	RO	087100
1 Push Plate	70F	US32D	RO	087100
1 Surface Closer	DC6200 - pull side mount	689	RU	087100
1 Kick Plate	K1050 10" high CSK BEV	US32D	RO	087100
1 Wall Stop	RM860	US32D	RO	087100
3 Silencer	608 / 609		RO	087100

Set: 58.0

Doors: A119, A120, A217, A218, B120, B121, **B131, B133**, B217, B218

3 Hinge, Full Mortise, Hvy Wt	T4A3786 (NRP)	US26D	MK	087100	
1 Pull Plate	BF 111x70B	US32D	RO	087100	
1 Push Plate	70F	US32D	RO	087100	
1 Surface Closer	DC6210 A3	689	RU	087100	
1 Kick Plate	K1050 10" high CSK BEV	US32D	RO	087100	
1 Wall Stop	RM860	US32D	RO	087100	
3 Silencer	608 / 609		RO	087100	

Set: 59.0

Doors: C105C, C105D, C105E, D116C, D116D, D116E, E100C, E100D, E100E, E115B, E115C, F113B, F113C

1 Continuous Hinge	CFM__HD1		PE	087100	
1 Push Rail	ED5000DB EO	630	RU	087100	
1 Vandal Resistant Trim	VRT22	US32D	RO	087100	
1 Surface Closer	DC6210 A4	689	RU	087100	
1 Kick Plate	K1050 10" high CSK BEV	US32D	RO	087100	
3 Silencer	608 / 609		RO	087100	

Set: 60.0

Doors: C120, C123A

1 Continuous Hinge	CFM__HD1 x PT		PE	087100	
1 Electric Power Transfer	CEPT-C5E	630	SU	087100	⚡
1 Access Control Mort Lock	IN220-ML20234 MB NSA BIPS CL6 Provided by Security Contractor	626	RU	281500	⚡
1 Magnetic Lock	M680EBD	630	SU	087100	⚡
1 Interchangeable Core	CR8000 GMK	626	RU	087100	
1 Surface Closer	DC6210 A4	689	RU	087100	
1 Kick Plate	K1050 10" high CSK BEV	US32D	RO	087100	
3 Silencer	608 / 609		RO	087100	
1 ElectroLynx Harness	PoE-C___PRJ (power transfer to lock location)		MK	087100	⚡
1 ElectroLynx Harness	PoE-C1300PRJ (power transfer to junction box above)		MK	087100	⚡
1 Power Supply	- Provided by Security Contractor		SU	087100	⚡

Notes: Door normally closed and locked. Fail secure lockset. Valid use of card reader outside temporarily unlocks outside lever permitting access. Lockset equipped with built in door monitoring and request to exit for shunting of door monitoring upon egress.
Key outside retracts latch bolt.

Free egress always permitted.

Electromagnetic lock normally unlocked and shall immediately lock upon activation of lockdown procedure.

Set: 61.0

Doors: B220A

1 Hardware	- Provided by Bi-part Sliding Door Assembly Manufacturer	OT

Set: 62.0

Doors: D100G, D119B

1 Hardware	- Provided by Coiling Door Section	OT

Set: 63.0

Doors: D100A

1 Hardware	- Provided by Overhead Door Section	OT

END OF SECTION 080671