

FREDERICK W. SEEBA, PE, MANAGING PARTNER LAWRENCE SALVESEN, AIA, PARTNER KEVIN J. WALSH, AIA, PARTNER KENNETH G. SCHUPNER, AIA, PARTNER JOSEPH B. RETTIG, AIA, PARTNER GARY W. SCHIEDE, AIA, PARTNER ROGER P. SMITH, AIA, FOUNDING PRINCIPAL

February 13, 2023

# <u>BID ADDENDUM No. 1</u>

Re: Phase 1A – Bond Improvements

**Bedford Central School District** 

SED No. 66-01-02-06-0-003-021 (FLHS) SED No. 66-01-02-06-0-007-011(FLMS) SED No. 66-01-02-06-0-006-015 (MKES) SED No. 66-01-02-06-0-002-016 (BVES) SED No. 66-01-02-06-0-004-020 (BHES) SED No. 66-01-02-06-0-009-014 (WPES) SED No. 66-01-02-06-0-001-016 (PRES)

BBS File No 22-225A-G

This addendum contains changes to the requirements of the contract drawings and/or project manual. Such changes shall be incorporated into the contract documents and shall apply to the work with the same meaning and force as if they had been included in the original documents. Wherever this addendum modifies a portion of a paragraph of project manual or any portion of the drawing, the remainder of the paragraph or drawing affected shall remain in force.

The conditions of the basic project manual shall govern all work described in this addendum. Wherever the conditions of work and the quality or quantity of materials or workmanship are not fully described in this addendum, the conditions of work, etc. included in the basic project manual for similar items of work shall apply to the work described in this addendum.

The "Conditions of the Contract" apply to all work described in this addendum.

The following changes shall be and are hereby made:

## PROJECT MANUAL MODIFICATIONS

- 1. <u>H6A Additional Limited Environmental Report at Mt. Kisco ES</u>
  - a. The attached limited asbestos report shall be added to the bid documents.
- 2. I Bid Proposal Form
  - a. The attached section shall replace the one in the bid documents.
- 3. 08700 Finish Hardware
  - a. The attached section shall replace the one in the bid documents.

#### CONSTRUCTION DRAWING MODIFICATIONS

#### General

- 1. Drawing TO.01 TITLE SHEET
  - a. Bedford Village ES: 'Drawing E6.01 Technology Details VOIP' shall be deleted from the project.
  - b. Pound Ridge ES: 'Drawing E6.01 Technology Details' shall be deleted from the project.

#### FOX LANE HIGH SCHOOL

#### **ARCHITECTURAL**

- 1. Drawing A2.01 VESTIBULE PLANS AND ELEVATIONS
  - a. Construction Drawing is hereby deleted and replaced with the attached due to printing error.
- 2. <u>Drawing A2.02 ENLARGED PLANS AREA C</u>
  - a. The following note shall be added to the drawing:

"Roof Warranty Note: Contractor shall note that the existing roof warranty must be maintained for the duration of the project. GC Shall utilize a roofing contractor who is certified to work on existing roof system in order to maintain owner's warranty."

- 3. Drawing A4.01 BRICKWORK ELEVATIONS & SECTIONS
  - a. Construction Drawing is hereby deleted and replaced with the attached.
- 4. <u>Drawing A8.01 DOOR SCHEDULE, ELEVATIONS, AND DETAILS</u>
  - a. Construction Drawing is hereby deleted and replaced with the attached.

## FOX LANE MIDDLE SCHOOL

## **ARCHITECTURAL**

- 1. Drawing A1.01 DEMOLITION PLAN
  - a. Demolition Key Note #3 shall be revised to:

"Remove existing plywood boards from entire wall, remove all furring strips, blocking and fasteners, patch all fastener holes and or damaged brick, and prep substrate for new finish."

- 2. Drawing A4.01 ELEVATIONS
  - a. Shelter proposed ceiling finish note shall be revised from 'Stain ST1' to 'Paint PT5'. Typical for entire ceiling.
- 3. Drawing A8.01 DOOR SCHEDULE AND DETAILS
  - a. Construction Drawing is hereby deleted and replaced with the attached.
- 4. Drawing A9.01 FINISH PLAN AND SCHEDULE
  - a. Construction Drawing is hereby deleted and replaced with the attached.

#### 5. Drawing A10.01 REFLECTED CEILING PLANS

b. Shelter proposed ceiling finish shall be revised from 'Stain ST1' to 'Paint PT5'. Typical for entire ceiling.

#### **ELECTRICAL**

- 1. Drawing E1.01 GYM LIGHTING PLAN
  - a. Construction Drawing is hereby deleted and replaced with the attached.

#### MOUNT KISCO ELEMENTARY

#### **ARCHITECTURAL**

- 1. Drawing A1.01 FIRST FLOOR DEMOLITION PLANS
  - a. Construction Drawing is hereby deleted and replaced with the attached.
- Drawing A2.02 FLOOR RECONSTRUCTION FIRST FLOOR FINISH PLANS ENLARGED PLANS AND DETAILS
  - a. Construction Drawing is hereby deleted and replaced with the attached.
- 3. Drawing A2.03 FLOOR RECONSTRUCTION SECOND FLOOR FINISH PLAN
  - a. Construction Drawing is hereby deleted and replaced with the attached.

#### BEDFORD VILLAGE ELEMENTARY SCHOOL

## **ARCHITECTURAL**

- 1. Drawing A1.01 DEMOLITION PLAN
  - a. The following abatement notes shall be deleted from the construction drawing. 'General Abatement Notes', 'Asbestos, Lead and PCB Notes', 'Fluorescent Bulb Notes', 'Asbestos Key Notes' and 'Lead Containing Notes'.

## **ELECTRICAL**

- 1. Drawing E1.02 FIRST FLOOR FA & SYSTEMS PROPOSED PLAN
  - a. All telephone VOIP connection drops shall be deleted from the project.
- 2. <u>Drawing E6.01 TECHNOLOGY DETAILS</u> VOIP
  - a. Construction Drawing is hereby deleted from the project.

## BEDFORD HILLS ELEMENTARY SCHOOL

## **ARCHITECTURAL**

- 1. <u>Drawing A2.01 SECURITY VESTIBULE ENLARGED FLOOR PLANS</u>
  - **a.** Floor types shall be revised to include Carpet CPT2 for Office 126. Color shall be as selected by architect.

#### **MECHANICAL**

- 2. Drawing M2.01 SECURITY VESTIBULE DEMO AND NEW MECHANICAL PLAN
  - a. Construction Key notes 4,5 & 6 shall be revised to:
    - 4. **MC** TO OPEN FLOOR AS NECESSARY, MC TO CONNECT EXISTING 1" HOT WATER SUPPLY AND RETURN TO NEW CABINET UNIT HEATER. **MC** TO CUT HOLE FOR OUTDOOR AIR LOUVER. MC TO BALANCE UNIT TO 32 CFM.
    - 5.MC TO TRENCH FLOOR AS NECESSARY, MC TO CONNECT EXISTING STEAM SUPPLY AND CONDENSATE RETURN TO NEW FAN COIL UNIT.
    - 6.MC TO PROVIDE PENETRATION FOR NEW CONDENSATE LINE, MC TO PIPE 1" CONDENSATE THRU WALL.

#### **ELECTRICAL**

- 3. Drawings E0.01, E1.00, E1.01, & E4.00
  - a. Construction Drawing titles shall be revised to:

Bedford Central School District Phase 1A Bond Improvements Bedford Hills Elementary School 123 Babbitt Road, Bedford Hills, NY 10507

b. SED No. Shall be revised to: '66-01-02-06-0-004-020' on these drawings.

#### POUND RIDGE ELEMENTARY SCHOOL

#### **ELECTRICAL**

- 1. <u>Drawing E1.01 PROPOSED FIRST FL PLAN</u>
  - a. All telephone VOIP connection drops shall be deleted from the project.
- 2. <u>Drawing E6.01 TECHNOLOGY DETAILS</u>
  - a. Construction Drawing is hereby deleted from the project.

END of Addendum #1

Architects, Landscape Architects and Engineers, P.C.



February 3, 2023

Mr. Dennis Rankin Director of Facilities Bedford Central School District 632 South Bedford Road Bedford, NY 10506

Subject: Limited Asbestos Inspection of the Mount Kisco Elementary School

47 W Hyatt Avenue, Mt. Kisco, NY 10549

Dear Mr. Rankin:

WSP has completed the subfloor inspection of the Mt. Kisco Elementary School first floor and basement at 47 W Hyatt Avenue, Mt. Kisco, NY 10549. The survey was conducted on February 1, 2023, by Leonid Abramov, a NYS DOL Licensed Asbestos Inspector (07-05058). WSP inspected, sampled and quantified specific materials, as requested by the school district, that are assumed to be asbestos-containing materials (ACM).

The following table indicates which materials were sampled and the analysis results:

HA #	Location	Material Description	No. of Samples	Asbestos Content	Asbestos Results	Quantity	Notes
А	1st Floor Classrooms Throughout	Floor Patch (Grey)	2	NAD	Non-ACM		
В	1st Floor Classrooms Throughout	Floor Fill (Grey/White)	2	NAD	Non-ACM		
С	Basement Storage Room	Floor Fill/ Soft Concrete (Grey)	2	NAD	Non-ACM		

It is our hope that the information provided in this letter has met the project requirements. Thank you for the opportunity to provide you and your staff with our continued services. Please contact me at via email at leonid.abramov@wsp.com if you have any questions or require any additional information.

Sincerely,

WSP

Leonid Abramov Manager

## Attachments:

- 1. Lab Results & Chain of Custody
- 2. Asbestos Bulk Sample Location Sketch
- 3. Personnel & Company Licenses
- 4. Photo Log



# APPENDIX A: LABORATORY RESULTS & CHAIN OF CUSTODY



**Bulk Asbestos Report by PLM-TEM** 

Atlas Environmental Lab, Corp. 255 West 36th Street, Suite# 1503 New York, NY 10018

Fax:(212) 563-0401

Phone:(212) 563-0400

www.atlasenvironmentallab.com

Client: **WSP AEL ID#** BK0223019

Project Name/No.: Mt. Kisco Elementry School/ 31405320.024 **Date Received:** 2/1/2023 **Project Address:** 47 W Hyatt Ave, Mt Kisco, NY PLM Date Analyzed: 2/1/2023

Collected By: Client **TEM Date Analyzed:** 

Work Area: Floor Replacement Report Date: 2/2/2023

Cliant				OF		A 11	AU AOI		PLM		TEM	Method By ELAP	
Client ID#	Lab ID#	# I Location/ Description I Analyst Description I		ORG %	AII %	ASI %	Fibrous%	Non Fibrous%	Asbestos% &Type	Asbestos% &Type	PLM 198.1	PLM NOB 198.6	TEM 198.4
A- LA0201- 01	BK0223019-1	Rm 104- SE Corner/ Floor Patch (Gray)	Grey, Homogeneous, Friable	I NOLADDICADIE I		0%	100%	NAD		х			
A- LA0201- 02	BK0223019-2	Rm 114- NW Corner/ Floor Patch (Gray)	Grey, Homogeneous, Friable	Not	Appli	cable	0%	100%	NAD		х		
B- LA0201- 03	BK0223019-3	Rm 114- NW Corner/ Floor Fill (Grey/ White)	Beige, Homogeneous, Friable	eous, Not Applicable		10%CELL	90%	NAD		Х			
B- LA0201- 04	BK0223019-4	Rm 114- NW Corner/ Floor Fill (Grey/ White)	Beige, Homogeneous, Friable	Not Applicable		10%CELL	90%	NAD		Х			
C- LA0201- 05	BK0223019-5	Basement Storage Rm Betw Stairs- NW/ Floor Fill Concrete (White)	Grey, Homogeneous, Friable	Not	Appli	cable	0%	100%	NAD		Х		
C- LA0201- 06	BK0223019-6	Basement Storage Rm Betw Stairs- NW/ Floor Fill Concrete (White)	Grey, Homogeneous, Friable			cable	0%	100%	NAD		Х		AH

Quantitative Analysis (Semi/Full):Bulk Asbestos Analysis-PLM by EPA 600/M4-82-020 per 40 CFR or ELAP198.1 (friable) and 198.6 (NOB) samples for New York.

NAD=no asbestos detected, NA/PS=Not Analyzed/Positive Stop, Trace=<1%,FBGL=Fiberglass, CELL=Cellulose,CHRY=Chrysotile,Amo=Amosite,CRO=Crocidolite,ANTH=Anthophylite, TRE=Tremolite, ACT=Actinolite, NA=not applicable.

PLM is not consistently reliable in detecting Asbestos in floor coverings and similar non friable organically bound materials. NAD or Trace results by PLM are inconclusive.

TEM is currently the only method that can be used to determine if this material can be considered or treated as non asbestos containing in NY State.

All samples were prepared and analyzed in accordance with the EPA "TEM Method for Identifying and Quantifying Asbestos in Non-Fibrous Organically Bound Bulk Samples" ELAP 198.4".

ORG%=Ashed Organic%, All= Acid Insoluble Inorganic%, ASI= Acid Soluble Inorganic%

This "Summary of Analytical Results "shall not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, ELAP or any agency of the U.S Government. The results relate only to the items tested. This report may not be reproduced, except in full, without the written approval of AEL .Atlas Environmental lab did not collect the analyzed samples and thus accepts no liability with regard to their collection and/or maintenance. AEL relies on client's data. The liability of Atlas Environmental Lab corp with respect to the services charged, shall in no event exceed the amount of the invoice. NYS-ELAP#11999, NVLAP Lab Code: 500092-0, NJ ID: NY034 "ELCP on NJ won't apply to TEM", CT ID:PH-0154

Approved by: PLM Analyst: OH TEM Analyst:

> Page 1 of 1 PM20 Rev 3 Jan 2022

ASBESTOS SURVEY DATA SHEET/ CHAIN OF CUSTODY							
				BKOZZZC	119		PAGE OF
PROJEC	TNO.: 31	405320.02	24	LOCATION(S) SURVEYED: 47 W HYATT	- Ave,	MIT KISCO	, , N7
CLIENT:	Belton	d School ais	1/16	PROPOSED PROJECT: Flow 4 2004	Replan4	1	
PROJEC	T SITE:	TT KISKO G	lementary School	DATE(S) OF INSPECTION: 02/01/23			
Project N	lanager:	A. Smoly av		Inspector(s): (, Al paperox	_		
		2-7900 FAX No.: (2		RESULTS TO: Lb.Labresults@wsp.com		TURNAROU	IND TIME: □12 HR. □24 HR.
ADDRESS:	96 Morton Stre	eet, 8th Floor, New Yo	ork, NY 10014	leonid, ABRAMOV@ Wsp. com		☐ 48 HR.	☐ 72 HR.
<u>HA</u>	SAMPLE NO.	<u>.</u> ×	SAMPLE LOCATION	MATERIAL DESCRIPTION	APPR QUAN (LF/S	TITY	FIELD NOTES
A	LADZ01-0	1 km 104	- SE Corner	Foor Patch (gray)			
P	-0	2 km 114	- NW Corner		-		
B	-0	3		Floor Fill (gray) White)			
J	-04		₩ .	C Q			
C	-0	- Bosemorob	Storage Rm Betw Story-NU	Floor All Aggsoff Concrete			
O	V -a	<i>f</i>	V -5G	L (or hore)			
-							
	45-44-1-44-1					-	
				•			
	***			Analyzed by: 10 horo	142-1.	-2023	
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print) L. 706 Deceived by: Drint) Allifal	Sign (Sign		21 0/123 /900 Received by: (print)	/ / (print) (Sign) Received by:		Sign)	1 1 Apr
NOTE: US	E STOP AT FIRS	ST POSITIVE METHOD	OLOGY FOR EVERY HOMOGENEOUS MATERIAL	AM/PM   "			7

NAME OF BIDDER:		
BUSINESS ADDRESS:		
TELEPHONE NUMBER:		DATE OF BID:
The bidder mention	ned above declares an	d certifies:
First:		of lawful age and the only one interested at no one other than said bidder has any
Second:	agreement, or connection making a	ade without any previous understanding, ection with any other person, firm, or bid for the same purpose, and is in all thout collusion or fraud.
Third:	mor any officer or eas a whole or in p Education is directlin the supplies, ma	of the Board of Education of the col District, Town of Bedford, New York, mployee or person whose salary is payable eart from the treasury of said Board of y or indirectly interested in this bid or terials, equipment, work, or services to in any portion of the profits thereof.
Fourth:	Bidders, schedules, direction of the Boa in this bid, furnish the time stated, al	es carefully examined the Instruction to and specifications prepared under the ard of Education, and will, if successful and deliver at the prices bid and within 1 materials, supplies, apparatus, goods, services, or labor for which this bid is
Sixth:	That the prices quo and municipal sales	ted are exclusive of all federal, state, and excise taxes.
Seventh:	The undersigned fur examined the following	ther declares that he has received and ng addenda:
	Addendum No	Dated:
	Addendum No.	Dated:
	Addendum No	Dated:
	Addendum No	Dated:

FOR PROPOSAL FORM TO BE VALID, ALL PAGES OF THE PROPOSAL FORM

#### BID PROPOSAL FORM - BEDFORD CENTRAL SCHOOL DISTRICT - PHASE 1A BOND IMPROVEMENTS

### MUST BE DULY EXECUTED.

Eighth:

The Bidder shall check here \_\_\_\_ if the bid has been based upon equivalents in lieu of any kind, type, brand, or manufacturer of material other than those named in the specifications. If checked, the Bidder shall submit the Equivalency Form in accordance with Instructions to Bidders, Paragraph 8B. This item in no way prohibits the Bidder from

submitting equivalents after the award of contract.

Ninth: The undersigned further understands and agrees that he is to

> furnish all labor, materials, equipment, supplies, and other facilities and things necessary and required for the

execution and completion of:

# BEDFORD CSD - PHASE 1A BOND IMPROVEMENTS

in strict accordance with the contract documents:

## BASE BID GC-1 GENERAL CONSTRUCTION CONTRACT

The General Contractor shall state the work including, but not limited to, all related to the construction as shown	general construction demolition,
herein.	
BASE BID GC-1 BID PRICE =	\$
Lump Sum Allowance No. GC-1 = Unforeseen Conditions (See Section 01 2)	\$\$20,000_

Unfore	eseen	Conditio	ons (S	See S	Sectio	on 01 2	21 00)				_
		AL CONST					\$				
Total	Const	ruction	Base	Bid	GC-1	Price	written	in	dollars	and	cents
\$											
Total	Const	ruction	Base	Bid	GC-1	Price	written	in	words		

# ALTERNATES FOR BASE BID GC-1

# 1. ALTERNATE NO. 1 TO GC-1

The General Contractor shall state the complete price to be (added to) the base bid to provide general construction for High School door and frame replacements at doors 'A2', 'B1", & 'F5' as shown on the contract documents.

Add:	\$								
	Bid Price written in dollars and cents								
	\$								
	Bid Price written in words								

# 2. ALTERNATE NO. 2 TO GC-1

The General Contractor shall state the complete price to be (added to) the base bid to provide demolition and new doors/frames for Middle School doors G1-A' & G1-B' as shown on the contract documents.

Add:	\$							
	Bid Price written in dollars and cents							
	\$							
	Bid Price written in words							

# 3. ALTERNATE NO. 3 TO GC-1

The General Contractor shall state the complete price to be **(added to)** the base bid to provide new walls and windows as shown at Middle School Shelter Room as shown on the contract documents.

Add:	\$							
	Bid Price written in dollars and cents							
	\$							
	Bid Price written in words							

# 4. ALTERNATE NO. 4 TO GC-1

The General Contractor shall state the complete price to be **(added to)** the base bid to provide front entry door replacement at Bedford Hills Elementary School as shown on the contract documents.

Add:	\$							
	Bid Price written in dollars and cents							
	Ś							
	Bid Price written in words							

# 5. ALTERNATE NO. 5 TO GC-1

The General Contractor shall state the complete price to be (added to) the base bid to provide interior reconstruction at Mount Kisco Elementary School rooms 104, 109, 117, 118, 122, 123, 209, 218, 219, 221, 222, & 223 as shown on the contract documents.

Add:	\$							
	Bid Price written in dollars and cents							
	\$							
	Bid Price written in words							

# BASE BID MC-2 MECHANICAL CONSTRUCTION CONTRACT

The Mechanical Contractor shall state the work including, but not limited to, demolition, related to the construction specified herein.	all Mechanical	construction
BASE BID MC-2 BID PRICE =	\$	
<pre>Lump Sum Allowance No. MC-1 = Unforeseen Conditions (See Section 01 21 0)</pre>	\$	\$5 <b>,</b> 000_
TOTAL MECHANICAL CONSTRUCTION  BASE BID MC-1 BID PRICE =  Total Construction Base Bid MC-2 Price wri	\$_ itten in dollars an	nd cents
\$	itten in words	
ALTERNATES FOR BASE BID MC-2		
1. ALTERNATE NO. 1 TO MC-2		
The Mechanical Contractor shall state the the base bid to provide mechanical Elementary School Room 64A split syst documents.	construction for	Mount Kisco

BID PROPOSAL FORM-5

**Add:** \$\_\_\_\_\_

# BID PROPOSAL FORM - BEDFORD CENTRAL SCHOOL DISTRICT - PHASE 1A BOND IMPROVEMENTS

	Bid Price written in dollars and cents
	S
	\$Bid Price written in words
BASE B	ID EC-3 ELECTRICAL CONSTRUCTION CONTRACT
	trical Contractor shall state the complete price to perform
	cluding, but not limited to, all electrical construction, related to the construction as shown on the drawings
specified	
5,700===0	
BASE BID	EC-3 BID PRICE = \$
Lump Sum	Allowance No. EC-1 = \$ \$20,000
Unforesee	en Conditions (See Section 01 21 00)
тотат, ет.	ECTRICAL CONSTRUCTION
Total Cor	EC-3 BID PRICE = \$
Ċ	
Total Cor	nstruction Base Bid EC-3 Price written in words
ERNATES	FOR BASE BID EC-3
1.ALTE	RNATE NO. 1 TO EC-3
The Elect	crical Contractor shall state the complete price to be (added
	e bid to provide electrical construction for Mount K
	ry School Room 64A split system as shown on the cont
documents	3.
Add:	\$
Auu:	\$Bid Price written in dollars and cents
	DIG 11106 MITCOGN IN GOLIGIS WING CONC.

\$						
Bid	Price	written	in	words		

The Board of Education hereby reserves the right to accept or reject any item set forth individually in Paragraph Nine above. The Owner may determine the lowest bid by adding one base bid to other base bid(s) and/or by adding to or deducting from those base bid(s), additive or deduct alternates, unit prices, or substitutions, if any, which the Owner elects to accept after the opening of bids.

# UNIT PRICES

Refer to section 01 22 00 Unit Prices.

#### Unit Prices for General Contractor GC-1

1.	Unit Price: Material & labor for preparation of substrate and ½" of floor self-leveling as per section 03650.	\$ <u>/sf</u>
2.	Unit Price: Material & labor for preparation of substrate and 1.5" of floor self-leveling as per section 03650.	\$ /sf

Unit Prices for Mechanical Contractor MC-2

None

Unit Prices for Electrical Contractor EC-3

None

#### Tenth: BID SECURITY

Each bidder shall deposit with his bid a bid bond, bank draft, or certified check in the amount of not less than five percent (5%) of the Base Bid made payable to:

#### Bedford CSD Board of Education, in the amount:

\$	(	)
	·	

AND agrees such surety shall be a measure of liquidated damages should he default in delivery of agreement.

## Eleventh: COMPLETION (Contractor shall fill in number of days)

It is intended that the work under this contract be completed substantially within \_\_\_\_ consecutive calendar days after receipt of authorized letter of intent issued by the District.

## Twelfth: NON-COLLUSIVE BIDDING CERTIFICATION

General Municipal Law, Section 103-d (Submit with Bid Proposal Form)

- A. By submission of this bid, the bidder and each person signing on behalf of the bidder certifies, and if this is a joint bid each party hereto certifies as to its own organization, under penalty of perjury that to the best of the bidder's knowledge and belief:
  - 1. The prices in this bid have been arrived at independently without collusion, consultation, communication, or agreement, for the purpose of restricting competition, as to any matter relating to such prices with any other bidder or with any competitor;
  - 2. Unless otherwise required by law, the prices which have been quoted in this bid have not been knowingly disclosed by the bidder and will not knowingly be disclosed by the bidder prior to opening, directly or indirectly, to any other bidder or to any competitor; and
  - 3. No attempt has been made or will be made by the bidder to induce any other person, partnership, or corporation to submit a bid for the purpose

#### BID PROPOSAL FORM - BEDFORD CENTRAL SCHOOL DISTRICT - PHASE 1A BOND IMPROVEMENTS

of restricting competition.

A bid shall not be considered for award nor shall award be made where A-1, 2, and 3 above have not been complied with provided, however, that if in any case the bidder shall so state and shall furnish with a bid a signed statement which sets forth in detail the reasons therefore, where A-1, 2, and 3 above have not been complied with, the bid shall not be considered for award nor shall any award be made unless the head of the purchasing unit of the political subdivision, public department agency, or official thereof to which the bid is made, or his designee, determines that such disclosure was not made for the purpose of restricting competition.

The fact that the bidder: (a) has published price lists, rates, or tariffs covering items being procured, (b) has informed prospective customers of proposed or pending publication of new or revised price lists for such items, or (c) has sold the same items to other customers at the same prices being bid, does not constitute without more, a disclosure within the meaning of Paragraph A above.

C. If the bidder is a corporation, the corporation shall be deemed to have been authorized by the Board of Directors of the bidder to make the above certification and such authorization shall be deemed to include the signing and submission of the bid and the inclusion therein of the certificate as to non-collusion as the act and deed of the corporation.

(Seal	of	Corporation)				
			Corporate	or	Company	Name
		By:				
			Signature			Title
		Date:				

Thirteenth:

On acceptance of this proposal for said work, the undersigned hereby binds himself or themselves to enter into written contract with the Board of Education within ten (10) days of date of notice of award, and to comply in all respects with the provisions set forth in "Instructions for Bidders" and "General Conditions of Contract" in relation to security for the faithful performance of the terms of said contract.

## IF A CORPORATION (Seal of corporation):

# BID PROPOSAL FORM - BEDFORD CENTRAL SCHOOL DISTRICT - PHASE 1A BOND IMPROVEMENTS

NAME		ADDRESS	
President	_		
Secretary			
Treasurer	_		
IF A FIRM:			
NAME OF MEMBERS		ADDRESS	

## **DIVISION 08 - OPENINGS**

## **SECTION 08710 - DOOR HARDWARE**

#### PART 1 - GENERAL

## 1.01 SUMMARY

#### A. Section includes:

- 1. Mechanical and electrified door hardware
- 2. Electronic access control system components
- 3. Field verification, preparation and modification of existing doors and frames to receive new door hardware.

#### B. Section excludes:

- Windows
- 2. Cabinets (casework), including locks in cabinets
- 3. Signage4. Toilet accessories
- 5. Overhead doors

#### C. Related Sections:

- 1. Section 061000 Rough Carpentry
- 2. Section 062000 Finish Carpentry
- 3. Section 079200 Joint Sealants for sealant requirements applicable to threshold installation specified in this section.
- 4. Section 081113 Hollow Metal Doors and Frames
- 5. Section 081416 Flush Wood Doors
- 6. Section 081433 Stile and Rail Doors
- 7. Section 084113 Aluminum Entrances and Storefronts
- 8. Section 084114 Aluminum Security Framed Entrances and Storefronts
- 9. Section 084123 Fire Rated Aluminum Framed Entrances and Storefronts
- 10. Section 087113 Automatic Door Operator
- 11. Division 09 sections for touchup, finishing or refinishing of existing openings modified by this section.
- 12. Division 26 "Electrical" sections for connections to electrical power system and for low-voltage wiring.
- 13. Division 28 "Electronic Safety and Security" sections for coordination with other components of electronic access control system and fire alarm system.

#### 1.02 SUMMARY

# A. UL. LLC

- 1. UL 10B Fire Test of Door Assemblies
- 2. UL 10C Positive Pressure Test of Fire Door Assemblies
- 3. UL 1784 Air Leakage Tests of Door Assemblies
- 4. UL 305 Panic Hardware

#### B. DHI - Door and Hardware Institute

1. Sequence and Format for the Hardware Schedule

- 2. Recommended Locations for Builders Hardware
- 3. Keying Systems and Nomenclature
- 4. Installation Guide for Doors and Hardware

#### C. NFPA – National Fire Protection Association

- 1. NFPA 70 National Electric Code
- 2. NFPA 80 2016 Edition Standard for Fire Doors and Other Opening Protectives
- 3. NFPA 101 Life Safety Code
- 4. NFPA 105 Smoke and Draft Control Door Assemblies
- 5. NFPA 252 Fire Tests of Door Assemblies

#### D. ANSI - American National Standards Institute

- 1. ANSI A117.1 2017 Edition Accessible and Usable Buildings and Facilities
- 2. ANSI/BHMA A156.1 A156.29, and ANSI/BHMA A156.31 Standards for Hardware and Specialties
- 3. ANSI/BHMA A156.28 Recommended Practices for Keying Systems
- 4. ANSI/WDMA I.S. 1A Interior Architectural Wood Flush Doors
- 5. ANSI/SDI A250.8 Standard Steel Doors and Frames

## 1.03 SUBMITTALS

#### D. General:

- 1. Submit in accordance with Conditions of Contract and Section 013300 Submittal Procedures.
- 2. Prior to forwarding submittal:
  - a. Comply with procedures for verifying existing door and frame compatibility for new hardware, as specified in PART 3. "EXAMINATION" article, herein.
  - b. Review drawings and Sections from related trades to verify compatibility with specified hardware.
  - Highlight, encircle, or otherwise specifically identify on submittals: deviations from Contract Documents, issues of incompatibility or other issues which may detrimentally affect the Work.

#### E. Action Submittals:

- 1. Product Data: Submit technical product data for each item of door hardware, installation instructions, maintenance of operating parts and finish, and other information necessary to show compliance with requirements.
- 2. Riser and Wiring Diagrams: After final approval of hardware schedule, submit details of electrified door hardware, indicating:
  - a. Wiring Diagrams: For power, signal, and control wiring and including:
    - 1) Details of interface of electrified door hardware and building safety and security systems.
    - 2) Schematic diagram of systems that interface with electrified door hardware.
    - 3) Point-to-point wiring.
    - 4) Risers.
- 3. Samples for Verification: If requested by Architect, submit production sample of requested door hardware unit in finish indicated and tagged with full description for coordination with schedule.
  - a. Samples will be returned to supplier. Units that are acceptable to Architect may, after final check of operations, be incorporated into Work, within limitations of key coordination requirements.

#### 4. Door Hardware Schedule:

- a. Submit concurrent with submissions of Product Data, Samples, and Shop Drawings. Coordinate submission of door hardware schedule with scheduling requirements of other work to facilitate fabrication of other work critical in Project construction schedule.
- b. Submit under direct supervision of a Door Hardware Institute (DHI) certified Architectural Hardware Consultant (AHC) or Door Hardware Consultant (DHC) with hardware sets in vertical format as illustrated by Sequence of Format for the Hardware Schedule published by DHI.
- c. Indicate complete designations of each item required for each opening, include:
  - 1) Door Index: door number, heading number, and Architect's hardware set number.
  - 2) Quantity, type, style, function, size, and finish of each hardware item.
  - 3) Name and manufacturer of each item.
  - 4) Fastenings and other pertinent information.
  - 5) Location of each hardware set cross-referenced to indications on Drawings.
  - 6) Explanation of all abbreviations, symbols, and codes contained in schedule.
  - 7) Mounting locations for hardware.
  - 8) Door and frame sizes and materials.
  - 9) Degree of door swing and handing.
  - 10) Operational Description of openings with electrified hardware covering egress, ingress (access), and fire/smoke alarm connections.

## 5. Key Schedule:

- a. After Keying Conference, provide keying schedule that includes levels of keying, explanations of key system's function, key symbols used, and door numbers controlled.
- b. Use ANSI/BHMA A156.28 "Recommended Practices for Keying Systems" as guideline for nomenclature, definitions, and approach for selecting optimal keying system.
- c. Provide 3 copies of keying schedule for review prepared and detailed in accordance with referenced DHI publication. Include schematic keying diagram and index each key to unique door designations.
- d. Index keying schedule by door number, keyset, hardware heading number, cross keying instructions, and special key stamping instructions.
- e. Provide one complete bitting list of key cuts and one key system schematic illustrating system usage and expansion. Forward bitting list, key cuts and key system schematic directly to Owner, by means as directed by Owner.
- f. Prepare key schedule by or under supervision of supplier, detailing Owner's final keying instructions for locks.

## F. Informational Submittals:

- 1. Provide Qualification Data for Supplier, Installer and Architectural Hardware Consultant.
- 2. Provide Product Data:
  - a. Certify that door hardware approved for use on types and sizes of labeled fire-rated doors complies with listed fire-rated door assemblies.
  - b. Include warranties for specified door hardware.

#### G. Closeout Submittals:

- 3. Operations and Maintenance Data: Provide in accordance with Division 01 and include:
  - a. Complete information on care, maintenance, and adjustment; data on repair and replacement parts, and information on preservation of finishes.
  - b. Catalog pages for each product.
  - c. Final approved hardware schedule edited to reflect conditions as installed.
  - d. Final keying schedule

- e. Copy of warranties including appropriate reference numbers for manufacturers to identify project.
- f. As-installed wiring diagrams for each opening connected to power, both low voltage and 110 volts.

# H. Inspection and Testing:

- 4. Submit written reports to the Owner and Authority Having Jurisdiction (AHJ) of the results of functional testing and inspection for:
  - a. fire door assemblies, in compliance with NFPA 80.
  - b. required egress door assemblies, in compliance with NFPA 101.

#### 1.04 QUALITY ASSURANCE

## A. Qualifications and Responsibilities:

- Supplier: Recognized architectural hardware supplier with a minimum of 5 years documented experience supplying both mechanical and electromechanical door hardware similar in quantity, type, and quality to that indicated for this Project. Supplier to be recognized as a factory direct distributor by the manufacturer of the primary materials with a warehousing facility in the Project's vicinity. Supplier to have on staff, a certified Architectural Hardware Consultant (AHC) or Door Hardware Consultant (DHC) available to Owner, Architect, and Contractor, at reasonable times during the Work for consultation.
- 2. Installer: Qualified tradesperson skilled in the application of commercial grade hardware with experience installing door hardware similar in quantity, type, and quality as indicated for this Project.
- 3. Architectural Hardware Consultant: Person who is experienced in providing consulting services for door hardware installations that are comparable in material, design, and extent to that indicated for this Project and meets these requirements:
  - a. For door hardware: DHI certified AHC or DHC.
  - b. Can provide installation and technical data to Architect and other related subcontractors.
  - c. Can inspect and verify components are in working order upon completion of installation.
  - d. Capable of producing wiring diagram and coordinating installation of electrified hardware with Architect and electrical engineers.
- 4. Single Source Responsibility: Obtain each type of door hardware from single manufacturer.

#### B. Certifications:

#### 1. Fire-Rated Door Openings:

- a. Provide door hardware for fire-rated openings that complies with NFPA 80 and requirements of authorities having jurisdiction.
- b. Provide only items of door hardware that are listed products tested by UL LLC, Intertek Testing Services, or other testing and inspecting organizations acceptable to authorities having jurisdiction for use on types and sizes of doors indicated, based on testing at positive pressure and according to NFPA 252 or UL 10C and in compliance with requirements of fire-rated door and door frame labels.

#### 2. Smoke and Draft Control Door Assemblies:

- a. Provide door hardware that meets requirements of assemblies tested according to UL 1784 and installed in compliance with NFPA 105
- b. Comply with the maximum air leakage of 0.3 cfm/sq. ft. (3 cu. m per minute/sq. m) at tested pressure differential of 0.3-inch wg (75 Pa) of water.

#### 3. Electrified Door Hardware

a. Listed and labeled as defined in NFPA 70, Article 100, by testing agency acceptable to authorities having jurisdiction.

## 4. Accessibility Requirements:

a. Comply with governing accessibility regulations cited in "REFERENCES" article 087100, 1.02.D3 herein for door hardware on doors in an accessible route. This project must comply with all Federal Americans with Disability Act regulations and all Local Accessibility Regulations.

## C. Pre-Installation Meetings

## 1. Keying Conference

- a. Incorporate keying conference decisions into final keying schedule after reviewing door hardware keying system including:
  - 1) Function of building, flow of traffic, purpose of each area, degree of security required, and plans for future expansion.
  - 2) Preliminary key system schematic diagram.
  - 3) Requirements for key control system.
  - 4) Requirements for access control.
  - 5) Address for delivery of keys.

#### 2. Pre-installation Conference

- a. Review and finalize construction schedule and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
- b. Inspect and discuss preparatory work performed by other trades.
- c. Inspect and discuss electrical roughing-in for electrified door hardware.
- d. Review sequence of operation for each type of electrified door hardware.
- e. Review required testing, inspecting, and certifying procedures.
- f. Review questions or concerns related to proper installation and adjustment of door hardware.

#### 3. Electrified Hardware Coordination Conference:

a. Prior to ordering electrified hardware, schedule and hold meeting to coordinate door hardware with security, electrical, doors and frames, and other related suppliers.

#### 1.05 DELIVERY, STORAGE, AND HANDLING

- A. Inventory door hardware on receipt and provide secure lock-up for hardware delivered to Project site. Promptly replace products damaged during shipping.
- B. Tag each item or package separately with identification coordinated with final door hardware schedule, and include installation instructions, templates, and necessary fasteners with each item or package. Deliver each article of hardware in manufacturer's original packaging.
- C. Maintain manufacturer-recommended environmental conditions throughout storage and installation periods.
- D. Provide secure lock-up for door hardware delivered to Project. Control handling and installation of hardware items so that completion of Work will not be delayed by hardware losses both before and after installation.

- E. Handle hardware in manner to avoid damage, marring, or scratching. Correct, replace or repair products damaged during Work. Protect products against malfunction due to paint, solvent, cleanser, or any chemical agent.
- F. Deliver keys to manufacturer of key control system for subsequent delivery to Owner.

## 1.06 COORDINATION

- A. Coordinate layout and installation of floor-recessed door hardware with floor construction. Cast anchoring inserts into concrete.
- B. Installation Templates: Distribute for doors, frames, and other work specified to be factory or shop prepared. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing door hardware to comply with indicated requirements.
- C. Security: Coordinate installation of door hardware, keying, and access control with Owner's security consultant.
- D. Electrical System Roughing-In: Coordinate layout and installation of electrified door hardware with connections to power supplies and building safety and security systems.
- E. Existing Openings: Where existing doors, frames and/or hardware are to remain, field verify existing functions, conditions and preparations and coordinate to suit opening conditions and to provide proper door operation.

## 1.07 WARRANTY

- A. Manufacturer's standard form in which manufacturer agrees to repair or replace components of door hardware that fail in materials or workmanship within published warranty period.
  - Warranty does not cover damage or faulty operation due to improper installation, improper use or abuse.
  - 2. Warranty Period: Beginning from date of Substantial Completion, for durations indicated in manufacturer's published listings.
    - a. Mechanical Warranty
      - 1) Locks
        - a) Mortise: 3 years
        - b) Cylindrical: 10 years
      - 2) Exit Devices
        - a) 3 years
      - 3) Closers
        - a) 25 years
      - 4) Automatic Operators
        - a) 2 years
    - b. Electrical Warranty
      - 1) Locks
        - a) 1 year
      - 2) Exit Devices
        - a) 1 year
      - 3) Closers
        - a) 2 years

# 1.08 MAINTENANCE

- A. Furnish complete set of special tools required for maintenance and adjustment of hardware, including changing of cylinders.
- B. Turn over unused materials to Owner for maintenance purposes.

#### PART 2 - PRODUCTS

## 2.01 MANUFACTURERS

- A. Approval of alternate manufacturers and/or products other than those listed as "Scheduled Manufacturer" or "Acceptable Manufacturers" in the individual article for the product category are only to be considered by official substitution request in accordance with the Instructions to Bidders.
- B. Approval of products from manufacturers indicated in "Acceptable Manufacturers" is contingent upon those products providing all functions and features and meeting all requirements of scheduled manufacturer's product.
- C. Where specified hardware is not adaptable to finished shape or size of members requiring hardware, furnish suitable types having same operation and quality as type specified, subject to Architect's approval.

#### 2.02 MATERIALS

#### A. Fabrication

- 1. Provide door hardware manufactured to comply with published templates generally prepared for machine, wood, and sheet metal screws. provide screws according to manufacturer's recognized installation standards for application intended.
- 2. Finish exposed screws to match hardware finish, or, if exposed in surfaces of other work, to match finish of this other work including prepared for paint surfaces to receive painted finish.
- 3. Provide concealed fasteners wherever possible for hardware units exposed when door is closed. Coordinate with "Metal Doors and Frames", "Flush Wood Doors", "Stile and Rail Wood Doors" to ensure proper reinforcements. Advise the Architect where visible fasteners, such as thru bolts, are required.
- B. Modification and Preparation of Existing Doors: Where existing door hardware is indicated to be removed and reinstalled.
  - 1. Provide necessary fillers, Dutchmen, reinforcements, and fasteners, compatible with existing materials, as required for mounting new opening hardware and to cover existing door and frame preparations.
  - 2. Use materials which match materials of adjacent modified areas.
  - 3. When modifying existing fire-rated openings, provide materials permitted by NFPA 80 as required to maintain fire-rating.
- C. Provide screws, bolts, expansion shields, drop plates and other devices necessary for hardware installation.
  - 1. Where fasteners are exposed to view: Finish to match adjacent door hardware material.

#### D. Cable and Connectors:

1. Where scheduled in the hardware sets, provide each item of electrified hardware and wire harnesses with number and gage of wires enough to accommodate electric function of specified hardware.

- 2. Provide Molex connectors that plug directly into connectors from harnesses, electric locking and power transfer devices.
- 3. Provide through-door wire harness for each electrified locking device installed in a door and wire harness for each electrified hinge, electrified continuous hinge, electrified pivot, and electric power transfer for connection to power supplies.

## 2.03 HINGES

- A. Manufacturers and Products:
  - 1. Scheduled Manufacturer and Product:
    - a. Ives 5BB series
  - 2. Acceptable Manufacturers and Products:
    - a. Hager BB1191/1279 series
    - b. McKinney TB series
    - c. Best FBB series

## B. Requirements:

- 1. Provide hinges conforming to ANSI/BHMA A156.1.
- 2. Provide five knuckle, ball bearing hinges.
- 3. 1-3/4 inch (44 mm) thick doors, up to and including 36 inches (914 mm) wide:
  - a. Exterior: Standard weight, bronze or stainless steel, 4-1/2 inches (114 mm) high
  - b. Interior: Standard weight, steel, 4-1/2 inches (114 mm) high
- 4. 1-3/4 inch (44 mm) thick doors over 36 inches (914 mm) wide:
  - a. Exterior: Heavy weight, bronze/stainless steel, 5 inches (127 mm) high
  - b. Interior: Heavy weight, steel, 5 inches (127 mm) high
- 5. 2 inches or thicker doors:
  - a. Exterior: Heavy weight, bronze or stainless steel, 5 inches (127 mm) high
  - b. Interior: Heavy weight, steel, 5 inches (127 mm) high
- 6. Adjust hinge width for door, frame, and wall conditions to allow proper degree of opening.
- 7. Provide three hinges per door leaf for doors 90 inches (2286 mm) or less in height, and one additional hinge for each 30 inches (762 mm) of additional door height.
- 8. Where new hinges are specified for existing doors or existing frames, provide new hinges of identical size to hinge preparation present in existing door or existing frame.
- 9. Hinge Pins: Except as otherwise indicated, provide hinge pins as follows:
  - a. Steel Hinges: Steel pins
  - b. Non-Ferrous Hinges: Stainless steel pins
  - c. Out-Swinging Exterior Doors: Non-removable pins
  - d. Out-Swinging Interior Lockable Doors: Non-removable pins
  - e. Interior Non-lockable Doors: Non-rising pins
- 10. Provide hinges with electrified options as scheduled in the hardware sets. Provide with number and gage of wires enough to accommodate electric function of specified hardware. Locate electric hinge at second hinge from bottom or nearest to electrified locking component. Provide mortar guard for each electrified hinge specified.

## 2.04 CONTINUOUS HINGES

#### A. Manufacturers:

- 1. Scheduled Manufacturer:
  - a. Ives
- 2. Acceptable Manufacturers:
  - a. Select
  - b. Roton
  - c. ABH

## B. Requirements:

- 1. Provide aluminum geared continuous hinges conforming to ANSI/BHMA A156.26, Grade 1.
- 2. Provide aluminum geared continuous hinges, where specified in the hardware sets, fabricated from 6063-T6 aluminum.
- 3. Provide split nylon bearings at each hinge knuckle for quiet, smooth, self-lubricating operation.
- 4. Provide hinges capable of supporting door weights up to 450 pounds, and successfully tested for 1,500,000 cycles.
- 5. On fire-rated doors, provide aluminum geared continuous hinges classified for use on rated doors by testing agency acceptable to authority having jurisdiction.
- 6. Provide aluminum geared continuous hinges with electrified option scheduled in the hardware sets. Provide with number and gage of wires enough to accommodate electric function of specified hardware.
- 7. Provide hinges 1 inch (25 mm) shorter in length than nominal height of door, unless otherwise noted or door details require shorter length and with symmetrical hole pattern.

## 2.05 ELECTRIC POWER TRANSFER

#### A. Manufacturers:

- 1. Scheduled Manufacturer and Product:
  - a. Von Duprin EPT-10
- 2. Acceptable Manufacturers and Products:
  - a. ABH PT1000
  - b. Securitron CEPT-10
  - c. Security Door Controls PTM

# B. Requirements:

- 1. Provide power transfer with electrified options as scheduled in the hardware sets. Provide with number and gage of wires enough to accommodate electric function of specified hardware.
- 2. Locate electric power transfer per manufacturer's template and UL requirements, unless interference with operation of door or other hardware items.

## 2.06 FLOOR CLOSERS

## A. Manufacturers:

3. Scheduled Manufacturer:

- a. Dormakaba
- 4. Acceptable Manufacturers:
  - b. Jackson
  - c. Rixson

## B. Requirements:

- 1. Provide floor closers complete with ball-bearing top pivot, floor plates, intermediate pivots and cement boxes unless indicated otherwise.
- 2. Provide one intermediate pivot for single-acting doors less than 91 inches (2311 mm) high and one additional intermediate pivot per leaf for each additional 30 inches (762 mm) in height or fraction thereof. Intermediate pivots spaced equally not less than 25 inches (635 mm) or not more than 35 inches (889 mm) on center, for doors over 121 inches (3073 mm) high.
- 3. Provide floor closers with adjustable swing speed, latch speed, back-check, and built in positive stop at specified degree of opening.
- 4. Spring Power: Continuously adjustable over full range of closer sizes, with reduced opening force for physically handicapped.
- 5. Hydraulic Regulation: By tamper-proof, non-critical valves. Provide separate adjustment for latch speed, general speed, and backcheck.
- 6. Provide appropriate model where floor closers are specified at fire rated openings.
- 7. Provide lead-lined model where floor closers are specified at lead-lined doors.
- 8. Provide pivots with electrified options as scheduled in the hardware sets. Provide with number and gage of wires enough to accommodate electric function of specified hardware. Locate electrified pivot nearest to electrified locking component. If manufacturer of electrified locking component requires another device for power transfer, then provide recommended power transfer device and appropriate quantity of pivots.
- 9. Provide mortar guard for each electric pivot specified, unless specified in hollow metal frame specification.

#### 2.07 PIVOT SETS

## A. Manufacturers:

- 1. Scheduled Manufacturer:
  - a. Ives
- 2. Acceptable Manufacturers:
  - a. Dormakaba
  - b. Rixson
  - c. ABH

#### B. Requirements:

- 1. Provide pivot sets complete with oil-impregnated top pivot, unless indicated otherwise.
- 2. Where offset pivots are specified, Provide one intermediate pivot for doors less than 91 inches (2311 mm) high and one additional intermediate pivot per leaf for each additional 30 inches (762 mm) in height or fraction thereof. Intermediate pivots spaced equally not less than 25 inches (635 mm) or not more than 35 inches (889 mm) on center, for doors over 121 inches (3073 mm) high.
- 3. Provide appropriate model where pivot sets are scheduled at fire rated openings.
- 4. Provide lead-lined model where pivot sets are specified at lead-lined doors.
- 5. Provide pivots with electrified options as scheduled in the hardware sets. Provide with number and gage of wires enough to accommodate electric function of specified hardware. Locate

- electrified pivot nearest to electrified locking component. If manufacturer of electrified locking component requires another device for power transfer, then provide recommended power transfer device and appropriate quantity of pivots.
- 6. Provide mortar guard for each electric pivot specified, unless specified in hollow metal frame specification.

#### 2.08 FLUSH BOLTS

- A. Manufacturers:
  - 1. Scheduled Manufacturer:
    - a. Ives
  - 2. Acceptable Manufacturers:
    - a. Rockwood
    - b. DCI
    - c. Trimco
- B. Requirements:
  - Provide automatic, constant latching, and manual flush bolts with forged bronze or stainlesssteel face plates, extruded brass levers, and with wrought brass guides and strikes. Provide 12 inch (305 mm) steel or brass rods at doors up to 90 inches (2286 mm) in height. For doors over 90 inches (2286 mm) in height increase top rods by 6 inches (152 mm) for each additional 6 inches (152 mm) of door height. Provide dust-proof strikes at each bottom flush bolt.

#### 2.09 COORDINATORS

- A. Manufacturers:
  - 1. Scheduled Manufacturer:
    - a. Ives
  - 2. Acceptable Manufacturers:
    - a. Rockwood
    - b. DCI
    - c. Trimco
- B. Requirements:
  - 1. Where pairs of doors are equipped with automatic flush bolts, an astragal, or other hardware that requires synchronized closing of the doors, provide bar-type coordinating device, surface applied to underside of stop at frame head.
  - 2. Provide filler bar of correct length for unit to span entire width of opening, and appropriate brackets for parallel arm door closers, surface vertical rod exit device strikes, or other stop mounted hardware. Factory-prepared coordinators for vertical rod devices as specified.

## 2.10 MORTISE LOCKS

- A. Manufacturers and Products:
  - 1. Scheduled Manufacturer and Product:

- a. Schlage L9000 series
- 2. Acceptable Manufacturers and Products:
  - a. Accurate 9000/9100 series
  - b. Sargent 8200 series
  - c. Best 45H series

## B. Requirements:

- 1. Provide mortise locks conforming to ANSI/BHMA A156.13 Series 1000, Grade 1, and UL Listed for 3-hour fire doors.
- 2. Indicators: Where specified, provide indicator window measuring a minimum 2-inch x 1/2 inch with 180-degree visibility. Provide messages color-coded with full text and/or symbols, as scheduled, for easy visibility.
- 3. Provide locks manufactured from heavy gauge steel, containing components of steel with a zinc dichromate plating for corrosion resistance.
- 4. Provide lock case that is multi-function and field reversible for handing without opening case. Cylinders: Refer to "KEYING" article, herein.
- 5. Provide locks with standard 2-3/4 inches (70 mm) backset with full 3/4 inch (19 mm) throw stainless steel mechanical anti-friction latchbolt. Provide deadbolt with full 1-inch (25 mm) throw, constructed of stainless steel.
- 6. Provide standard ASA strikes unless extended lip strikes are necessary to protect trim.
- 7. Provide electrified options as scheduled in the hardware sets. Where scheduled, provide switches and sensors integrated into the locks and latches. Provide motor based electrified locksets that comply with the following requirements:
  - a. Universal input voltage single chassis accepts 12 or 24VDC to allow for changes in the field without changing lock chassis.
  - b. Fail Safe/Fail Secure changing mode between electrically locked (fail safe) and electrically unlocked (fail secure) is field selectable without opening the lock case
  - c. Low maximum current draw maximum 0.4 amps to allow for multiple locks on a single power supply.
  - d. Low holding current maximum 0.01 amps to produce minimal heat, eliminate "hot levers" in electrically locked applications, and to provide reliable operation in wood doors that provide minimal ventilation and air flow.
  - e. Connections provide quick-connect Molex system standard.
- 8. Lever Trim: Solid brass, bronze, or stainless steel, cast or forged in design specified, with wrought roses and external lever spring cages. Provide thru-bolted levers with 2-piece spindles.
  - a. Provide levers with vandal resistant technology for use at heavy traffic or abusive applications.
  - b. Lever Design: Schlage see hardware groups.

#### 2.11 CYLINDRICAL LOCKS – GRADE 1

- A. Manufacturers and Products:
  - 1. Scheduled Manufacturer and Product:
    - a. Schlage ND series
  - 2. Acceptable Manufacturers and Products:
    - a. Sargent 11-Line

- b. Corbin-Russwin CL3100 series
- c. Best 9K series

## B. Requirements:

- Provide cylindrical locks conforming to ANSI/BHMA A156.2 Series 4000, Grade 1, and UL Listed for 3-hour fire doors.
- 2. Cylinders: Refer to "KEYING" article, herein.
- 3. Provide locks with standard 2-3/4 inches (70 mm) backset, unless noted otherwise, with 1/2-inch latch throw. Provide proper latch throw for UL listing at pairs.
- 4. Provide locksets with separate anti-rotation thru-bolts, and no exposed screws.
- 5. Provide independently operating levers with two external return spring cassettes mounted under roses to prevent lever sag.
- 6. Provide standard ASA strikes unless extended lip strikes are necessary to protect trim.
- 7. Provide electrified options as scheduled in the hardware sets.
- 8. Lever Trim: Solid cast levers without plastic inserts and wrought roses on both sides.
  - a. Provide levers with vandal resistant technology for use at heavy traffic or abusive applications.
  - b. Lever Design: Schlage Rhodes.

## 2.12 DEADLOCKS

- A. Manufacturers and Products:
  - 1. Scheduled Manufacturer and Product:
    - a. Schlage L400 series
  - 2. Acceptable Manufacturers and Products:
    - a. Best 38H series
    - b. Sargent 4870 series

# B. Requirements:

- 1. Provide mortise deadlock series conforming to ANSI/BHMA A156.
- 2. Cylinders: Refer to "KEYING" article, herein.
- 3. Provide deadlocks with standard 2-3/4 inches (70 mm) backset. Provide deadbolt with full 1-inch (25 mm) throw, constructed of stainless steel.
- 4. Provide manufacturer's standard strike.

## 2.13 EXIT DEVICES

- A. Manufacturers and Products:
  - 1. Scheduled Manufacturer and Product:
    - a. Von Duprin 98/35A series
  - 2. Acceptable Manufacturers and Products:
    - a. Precision APEX 2000 series
    - b. Sargent 19-43-GL-80 series
- B. Requirements:

- Provide exit devices tested to ANSI/BHMA A156.3 Grade 1 and UL listed for Panic Exit or Fire Exit Hardware.
- 2. Cylinders: Refer to "KEYING" article, herein.
- 3. Provide smooth touchpad type exit devices, fabricated of brass, bronze, stainless steel, or aluminum, plated to standard architectural finishes to match balance of door hardware.
- 4. Touchpad must extend a minimum of one half of door width. No plastic inserts are allowed in touchpads.
- 5. Provide exit devices with deadlatching feature for security and for future addition of alarm kits and/or other electrified requirements.
- 6. Provide exit devices with weather resistant components that can withstand harsh conditions of various climates and corrosive cleaners used in outdoor pool environments.
- 7. Provide flush end caps for exit devices.
- 8. Provide exit devices with manufacturer's approved strikes.
- 9. Provide exit devices cut to door width and height. Install exit devices at height recommended by exit device manufacturer, allowable by governing building codes, and approved by Architect.
- 10. Mount mechanism case flush on face of doors or provide spacers to fill gaps behind devices. Where glass trim or molding projects off face of door, provide glass bead kits.
- 11. Provide cylinder or hex-key dogging as specified at non fire-rated openings.
- 12. Removable Mullions: 2 inches (51 mm) x 3 inches (76 mm) steel tube. Where scheduled as keyed removable mullion, provide type that can be removed by use of a keyed cylinder, which is self-locking when re-installed.
- 13. Provide factory drilled weep holes for exit devices used in full exterior application, highly corrosive areas, and where noted in hardware sets.
- 14. Provide electrified options as scheduled.
- 15. Top latch mounting: double- or single-tab mount for steel doors, face mount for aluminum doors eliminating requirement of tabs, and double tab mount for wood doors.
- 16. Provide exit devices with optional trim designs to match other lever and pull designs used on the project.
- 17. Special Options:
  - a. **SI**: Provide dogging indicators for visible indication of dogging status.
  - b. **QM**: Rim Exit Devices: provide devices with damper-controlled re-latching to reduce operational noise. Where lever trim is specified, provide damper controlled lever return.
  - c. CVC: Concealed Vertical Cable Exit Devices: provide cable-actuated concealed vertical latch system in two-point for non-rated or fire rated wood doors up to a 90 minute rating and less bottom latch (LBL) configuration for non-rated or fire rated wood doors up to 20 minute rating. Vertical rods not permitted.
    - 1) Cable: Stainless steel with abrasive resistant coating. Conduit and core wire ends snap into latch and center slides without use of tools.
    - 2) Wood Door Prep: Maximum 1 inch x 1.1875 inch x 3.875 inches top latch pocket and 1 inch x 1.1875 inch x 5 inches bottom latch pocket which does not require the use of a metal wrap or edge for non-rated or fire rated wood doors up to a 45 minute rating.
    - 3) Latchbolts and Blocking Cams: Manufactured from sintered metal low carbon copperinfiltrated steel, with molybdenum disulfide low friction coating.
    - 4) Top Latchbolt: Minimum 0.38 inch (10 mm) and greater than 90<sup>-degree</sup> engagement with strike to prevent door and frame separation under high static load.
    - 5) Bottom Latchbolt: Minimum of 0.44-inch (11 mm) engagement with strike.
    - 6) Product Cycle Life: 1,000,000 cycles.
    - 7) Latch Operation: Top and bottom latch operate independently of each other. Top latch fully engages top strike even when bottom latch is compromised. Separate trigger mechanisms not permitted.
    - 8) Latch release does not require separate trigger mechanism.
    - 9) Cable and latching system characteristics:
      - a) Installed independently of exit device installation, and capable of functioning on door prior to device and trim installation.

- b) Connected to exit device at single point in steel and aluminum doors, and two points for top and bottom latches in wood doors.
- c) Bottom latch height adjusted, from single point for steel and aluminum doors and two points for wood doors, after system is installed and connected to exit device, while door is hanging
- d) Bottom latch position altered up and down minimum of 2 inches (51 mm) in steel and aluminum doors without additional adjustment. Bottom latch deadlocks in every adjustment position in wood doors.
- e) Top and bottom latches in steel and aluminum doors and top latch in wood doors may be removed while door is hanging.

## 2.14 ELECTRIC STRIKES

- A. Manufacturers and Products:
  - 1. Scheduled Manufacturer and Product:
    - a. Von Duprin 6000 Series.
  - 2. Acceptable Manufacturers and Products:
    - a. Folger Adam 300 Series
    - b. HES 1006 Series

## B. Requirements:

- 1. Provide electric strikes designed for use with type of locks shown at each opening.
- 2. Provide electric strikes UL Listed as burglary resistant that are tested to a minimum endurance test of 1,000,000 cycles.
- 3. Where required, provide electric strikes UL Listed for fire doors and frames.
- 4. Provide transformers and rectifiers for each strike as required. Verify voltage with electrical contractor.

## 2.15 POWER SUPPLIES

- A. Manufacturers and Products:
  - 1. Scheduled Manufacturer and Product:
    - a. Schlage/Von Duprin PS900 Series
  - 2. Acceptable Manufacturers and Products:
    - a. Precision ELR series
    - b. Sargent 3500 series

## B. Requirements:

- 1. Provide power supplies approved by manufacturer of supplied electrified hardware.
- Provide appropriate quantity of power supplies necessary for proper operation of electrified locking components as recommended by manufacturer of electrified locking components with consideration for each electrified component using power supply, location of power supply, and approved wiring diagrams. Locate power supplies as directed by Architect.
- 3. Provide regulated and filtered 24 VDC power supply, and UL class 2 listed.
- 4. Provide power supplies with the following features:
  - a. 12/24 VDC Output, field selectable.

- b. Class 2 Rated power limited output.
- c. Universal 120-240 VAC input.
- d. Low voltage DC, regulated and filtered.
- e. Polarized connector for distribution boards.
- f. Fused primary input.
- g. AC input and DC output monitoring circuit w/LED indicators.
- h. Cover mounted AC Input indication.
- Tested and certified to meet UL294.
- j. NEMA 1 enclosure.
- k. Hinged cover w/lock down screws.
- I. High voltage protective cover.

## 2.16 CYLINDERS

#### A. Manufacturers:

- 1. Scheduled Manufacturer and Product:
  - a. Match Existing
- 2. Acceptable Manufacturers and Products:
  - a. No Substitute

## B. Requirements:

 Provide permanent or interchangeable cylinders/cores to match Owner's existing key system, compliant with ANSI/BHMA A156.5; latest revision; cylinder face finished to match lockset, manufacturer's series as indicated. Refer to "KEYING" article, herein.

## 2.17 KEYING

## A. Scheduled System:

- 1. New factory registered system:
  - a. Provide a factory registered keying system, complying with guidelines in ANSI/BHMA A156.28, incorporating decisions made at keying conference.

OR

- 2. Existing factory registered system:
  - b. Provide cylinders/cores keyed into Owner's existing factory registered keying system. Comply with guidelines in ANSI/BHMA A156.28, incorporating decisions made at keying conference.

OR

- 3. Existing non-factory registered system:
  - c. Provide cylinders/cores keyed into Owner's existing keying system managed by Owner's locksmith, complying with guidelines in ANSI/BHMA A156.28, incorporating decisions made at keying conference. Contact information by Owner.
- B. Requirements:

# 1. Construction Keying:

- a. Replaceable Construction Cores. (OPTION: if using temporary construction cores in IC core cylinder in either F/S or S/F.)
  - 1) Provide temporary construction cores replaceable by permanent cores, furnished in accordance with the following requirements.
    - a) 3 construction control keys
    - b) 12 construction change (day) keys.
  - 2) Owner or Owner's Representative will replace temporary construction cores with permanent cores.

## 2. Permanent Keying:

- a. Provide permanent cylinders/cores keyed by the manufacturer according to the following key system.
  - 1) Master Keying system as directed by the Owner.
- b. Forward bitting list and keys separately from cylinders, by means as directed by Owner. Failure to comply with forwarding requirements will be cause for replacement of cylinders/cores involved at no additional cost to Owner.
- c. Provide keys with the following features:
  - 1) Material: Nickel silver; minimum thickness of .107-inch (2.3mm)
  - 2) Patent Protection: Keys and blanks protected by one or more utility patent(s).
  - 3) Geographically Exclusive: Where High Security or Security cylinders/cores are indicated, provide nationwide, geographically exclusive key system complying with the following restrictions.

#### d. Identification:

- 1) Mark permanent cylinders/cores and keys with applicable blind code for identification. Do not provide blind code marks with actual key cuts.
- 2) Identification stamping provisions must be approved by the Architect and Owner.
- 3) Stamp cylinders/cores and keys with Owner's unique key system facility code as established by the manufacturer; key symbol and embossed or stamped with "DO NOT DUPLICATE" along with the "PATENTED" or patent number to enforce the patent protection.
- 4) Failure to comply with stamping requirements will be cause for replacement of keys involved at no additional cost to Owner.
- 5) Forward permanent cylinders/cores to Owner, separately from keys, by means as directed by Owner.
- e. Quantity: Furnish in the following quantities.
  - 1) Change (Day) Keys: 3 per cylinder/core.
  - 2) (OPTION for interchangeable cores) Permanent Control Keys: 3.
  - 3) Master Keys: 6.

## 2.18 KEY CONTROL SYSTEM

#### A. Manufacturers:

- 1. Scheduled Manufacturer:
  - a. Telkee
- 2. Acceptable Manufacturers:
  - a. HPC
  - b. Lund

## B. Requirements:

- Provide key control system, including envelopes, labels, tags with self-locking key clips, receipt forms, 3-way visible card index, temporary markers, permanent markers, and standard metal cabinet, all as recommended by system manufacturer, with capacity for 150% of number of locks required for Project.
  - a. Provide complete cross index system set up by hardware supplier, and place keys on markers and hooks in cabinet as determined by final key schedule.
  - b. Provide hinged-panel type cabinet for wall mounting.

# 2.19 DOOR CLOSERS

#### A. Manufacturers and Products:

- 1. Scheduled Manufacturer and Product:
  - a. LCN 4010/4110/4020 series
- 2. Acceptable Manufacturers and Products:
  - b. Corbin-Russwin DC8000 series
  - c. Sargent 281 series

## B. Requirements:

- Provide door closers conforming to ANSI/BHMA A156.4 Grade 1 requirements by BHMA certified independent testing laboratory. Certify surface mounted mechanical closers to meet fifteen million (15,000,000) full load cycles. ISO 9000 certify closers. Stamp units with date of manufacture code.
- 2. Provide door closers with fully hydraulic, full rack and pinion action with high strength cast iron cylinder, and full complement bearings at shaft.
- 3. Cylinder Body: 1-1/2-inch (38 mm) diameter with 11/16-inch (17 mm) diameter double heat-treated pinion journal.
- 4. Hydraulic Fluid: Fireproof, passing requirements of UL10C, and requiring no seasonal closer adjustment for temperatures ranging from 120 degrees F to -30 degrees F.
- 5. Spring Power: Continuously adjustable over full range of closer sizes, and providing reduced opening force as required by accessibility codes and standards.
- 6. Hydraulic Regulation: By tamper-proof, non-critical valves, with separate adjustment for latch speed, general speed, and backcheck.
- 7. Provide closers with solid forged steel main arms and factory assembled heavy-duty forged forearms for parallel arm closers. When closers are parallel arm mounted, provide closers which mount within 6-inch (152 mm) top rail without use of mounting plate so that closer is not visible through vision panel from pull side.
- 8. Pressure Relief Valve (PRV) Technology: Not permitted.
- 9. Finish for Closer Cylinders, Arms, Adapter Plates, and Metal Covers: Powder coating finish which has been certified to exceed 100 hours salt spray testing as described in ANSI/BHMA Standard A156.4 and ASTM B117, or has special rust inhibitor (SRI).
- 10. Provide special templates, drop plates, mounting brackets, or adapters for arms as required for details, overhead stops, and other door hardware items interfering with closer mounting.

## 2.20 DOOR CLOSERS

#### A. Manufacturers and Products:

1. Scheduled Manufacturer and Product:

- a. LCN 4050A series
- 2. Acceptable Manufacturers and Products:
  - a. Norton 7500 series
  - b. Sargent 351 series

#### B. Requirements:

- 1. Provide door closers conforming to ANSI/BHMA A156.4 Grade 1 requirements by BHMA certified independent testing laboratory. ISO 9000 certify closers. Stamp units with date of manufacture code.
- 2. Provide door closers with fully hydraulic, full rack and pinion action with cast aluminum cylinder.
- 3. Closer Body: 1-1/2-inch (38 mm) diameter with 11/16-inch (17 mm) diameter heat-treated pinion journal and full complement bearings.
- 4. Hydraulic Fluid: Fireproof, passing requirements of UL10C, and all weather requiring no seasonal closer adjustment for temperatures ranging from 120 degrees F to -30 degrees F.
- 5. Spring Power: Continuously adjustable over full range of closer sizes, and providing reduced opening force as required by accessibility codes and standards.
- 6. Hydraulic Regulation: By tamper-proof, non-critical valves, with separate adjustment for latch speed, general speed, and back check.
- 7. Pressure Relief Valve (PRV) Technology: Not permitted.
- 8. Provide stick on templates, special templates, drop plates, mounting brackets, or adapters for arms as required for details, overhead stops, and other door hardware items interfering with closer mounting.

#### 2.21 ELECTRO-HYDRAULIC AUTOMATIC OPERATORS

#### A. Manufacturers and Products:

- 1. Scheduled Manufacturer and Product:
  - a. LCN 4600 series
- 2. Acceptable Manufacturers and Products:
  - a. Norton 6000 series
  - b. Besam Power Swing

# B. Requirements:

- Provide low energy automatic operator units with hydraulic closer complying with ANSI/BHMA A156.19.
- 2. Hydraulic Fluid: Fireproof, passing requirements of UL10C, and requiring no seasonal closer adjustment for temperatures ranging from 120 degrees F to -30 degrees F.
- 3. Provide units with conventional door closer opening and closing forces unless power operator motor is activated. Provide door closer assembly with adjustable spring size, back-check, and opening and closing speed adjustment valves to control door
- 4. Provide units with on/off switch for manual operation, motor start up delay, vestibule interface delay, electric lock delay, and door hold open delay.
- 5. Provide drop plates, brackets, and adapters for arms as required for details.
- 6. Provide wireless actuator switches and receivers for operation as specified.
- 7. Provide weather-resistant actuators at exterior applications.
- 8. Provide key switches with LED's, recommended and approved by manufacturer of automatic operator as required for function described in operation description of hardware group below. Cylinders: Refer to "KEYING" article, herein.

- 9. Provide complete assemblies of controls, switches, power supplies, relays, and parts/material recommended and approved by manufacturer of automatic operator for each individual leaf. Actuators control both doors simultaneously at pairs. Sequence operation of exterior and vestibule doors with automatic operators to allow ingress or egress through both sets of openings as directed by Architect. Locate actuators, key switches, and other controls as directed by Architect.
- 10. Provide units with vestibule inputs that allow sequencing operation of two units, and SPDT relay for interfacing with latching or locking devices.

### 2.22 DOOR TRIM

- A. Manufacturers:
  - 1. Scheduled Manufacturer:
    - a. Ives.
  - 2. Acceptable Manufacturers:
    - a. Trimco
    - b. Rockwood
- B. Requirements:
  - 1. Provide push plates, push bars, pull plates, pulls, and hands-free reversible door pulls with diameter and length as scheduled.

### 2.23 PROTECTION PLATES

- A. Manufacturers:
  - 1. Scheduled Manufacturer:
    - a. Ives
  - 2. Acceptable Manufacturers:
    - a. Trimco
    - b. Rockwood
- B. Requirements:
  - 1. Provide protection plates with a minimum of 0.050 inch (1 mm) thick, beveled four edges as scheduled. Furnish with sheet metal or wood screws, finished to match plates.
  - Sizes plates 2 inches (51 mm) less width of door on single doors, pairs of doors with a mullion, and doors with edge guards. Size plates 1 inch (25 mm) less width of door on pairs without a mullion or edge guards.
  - 3. At fire rated doors, provide protection plates over 16 inches high with UL label.

#### 2.24 OVERHEAD STOPS AND OVERHEAD STOP/HOLDERS

- A. Manufacturers:
  - 1. Scheduled Manufacturers:
    - a. Glynn-Johnson

- 2. Acceptable Manufacturers:
  - a. Rixson
  - b. ABH

## B. Requirements:

- 1. Provide overhead stop at any door where conditions do not allow for a wall stop or floor stop presents tripping hazard.
- 2. Provide friction type at doors without closer and positive type at doors with closer.

#### 2.25 DOOR STOPS AND HOLDERS

- A. Manufacturers:
  - 1. Scheduled Manufacturer:
    - a. Ives
  - 2. Acceptable Manufacturers:
    - a. Trimco
    - b. Rockwood
- B. Provide door stops at each door leaf:
  - 1. Provide wall stops wherever possible. Provide concave type where lockset has a push button of thumbturn.
  - 2. Where a wall stop cannot be used, provide universal floor stops.
  - 3. Where wall or floor stop cannot be used, provide overhead stop.
  - 4. Provide roller bumper where doors open into each other and overhead stop cannot be used.

### 2.26 THRESHOLDS

- A. Manufacturers:
  - 1. Scheduled Manufacturer:
    - a. Pemko
  - 2. Acceptable Manufacturers:
    - a. No Substitute
- B. Requirements:
  - 3. Provide thresholds as specified and per architectural details. Match finish of other items.
  - 4. For Level floor use 2548A
  - 5. For 3/8" offset use 200A x 228 A
  - 6. For 1/2" offset use R.50.SMRAK
  - 7. For 3/4" offset use R.75.SMRAK
  - 8. Over 3/4" offset use R.VARI/AK

# 2.27 SILENCERS

A. Manufacturers:

- 1. Scheduled Manufacturer:
  - a. Ives
- 2. Acceptable Manufacturers:
  - a. Rockwood
  - b. Trimco

### B. Requirements:

- 1. Provide "push-in" type silencers for hollow metal or wood frames.
- 2. Provide one silencer per 30 inches (762 mm) of height on each single frame, and two for each pair frame.
- 3. Omit where gasketing is specified.

## 2.28 ROLLER LATCHES

- A. Manufacturers:
  - 1. Scheduled Manufacturer:
    - a. Ives
  - 2. Acceptable Manufacturers:
    - a. Rockwood
    - b. Trimco
- B. Requirements:
  - 1. Provide roller latches with 4-7/8 inches (124 mm) strike at single doors to fit ANSI frame prep. If dummy levers are used in conjunction with roller latch mount roller latch at a height as to not interfere with proper mounting and height of dummy lever.
  - 2. Provide roller latches with 2-1/4 inches (57 mm) full lip strike at pair doors. Mount roller in top rail of each leaf per manufacturer's template.

## 2.29 MAGNETIC HOLDERS

- A. Manufacturers:
  - 1. Scheduled Manufacturer:
    - a. LCN
  - 2. Acceptable Manufacturers:
    - a. Rixson
    - b. Sargent
- B. Requirements:
  - 1. Provide wall or floor mounted electromagnetic door release as specified with minimum of 25 pounds of holding force. Coordinate projection of holder and armature with other hardware and wall conditions to ensure that door sits parallel to wall when fully open. Connect magnetic holders on fire-rated doors into the fire control panel for fail-safe operation.

#### 2.20 FINISHES

- A. Finish: BHMA 626/652 (US26D); except:
  - 1. Hinges at Exterior Doors: BHMA 630 (US32D)
  - 2. Aluminum Geared Continuous Hinges: BHMA 628 (US28)
  - 3. Push Plates, Pulls, and Push Bars: BHMA 630 (US32D)
  - 4. Protection Plates: BHMA 630 (US32D)
  - 5. Overhead Stops and Holders: BHMA 630 (US32D)
  - 6. Door Closers: Powder Coat to Match
  - 7. Wall Stops: BHMA 630 (US32D)
  - 8. Latch Protectors: BHMA 630 (US32D)
  - 9. Weatherstripping: Clear Anodized Aluminum
  - 10. Thresholds: Mill Finish Aluminum

### PART 3 - EXECUTION

# 3.01 EXAMINATION

- A. Prior to installation of hardware, examine doors and frames, with Installer present, for compliance with requirements for installation tolerances, labeled fire-rated door assembly construction, wall and floor construction, and other conditions affecting performance. Verify doors, frames, and walls have been properly reinforced for hardware installation.
- B. Field verify existing doors and frames receiving new hardware and existing conditions receiving new openings. Verify that new hardware is compatible with existing door and frame preparation and existing conditions.
- C. Examine roughing-in for electrical power systems to verify actual locations of wiring connections before electrified door hardware installation.
- D. Submit a list of deficiencies in writing and proceed with installation only after unsatisfactory conditions have been corrected.

#### 3.02 PREPARATION

- A. Where on-site modification of doors and frames is required:
  - 1. Carefully remove existing door hardware and components being reused. Clean, protect, tag, and store in accordance with storage and handling requirements specified herein.
  - 2. Field modify and prepare existing doors and frames for new hardware being installed.
  - 3. When modifications are exposed to view, use concealed fasteners, when possible.
  - 4. Prepare hardware locations and reinstall in accordance with installation requirements for new door hardware and with:
    - a. Steel Doors and Frames: For surface applied door hardware, drill and tap doors and frames according to ANSI/SDI A250.6.
    - b. Wood Doors: DHI WDHS.5 "Recommended Hardware Reinforcement Locations for Mineral Core Wood Flush Doors."
    - c. Doors in rated assemblies: NFPA 80 for restrictions on on-site door hardware preparation.

### 3.02 INSTALLATION

A. Mount door hardware units at heights to comply with the following, unless otherwise indicated or required to comply with governing regulations.

- 1. Standard Steel Doors and Frames: ANSI/SDI A250.8.
- 2. Custom Steel Doors and Frames: HMMA 831.
- 3. Interior Architectural Wood Flush Doors: ANSI/WDMA I.S. 1A
- 4. Installation Guide for Doors and Hardware: DHI TDH-007-20
- B. Install door hardware in accordance with NFPA 80, NFPA 101 and provide post-install inspection, testing as specified in section 1.03.E unless otherwise required to comply with governing regulations.
- C. Install each hardware item in compliance with manufacturer's instructions and recommendations, using only fasteners provided by manufacturer.
- D. Do not install surface mounted items until finishes have been completed on substrate. Protect all installed hardware during painting.
- E. Set units level, plumb and true to line and location. Adjust and reinforce attachment substrate as necessary for proper installation and operation.
- F. Drill and countersink units that are not factory prepared for anchorage fasteners. Space fasteners and anchors according to industry standards.
- G. Install operating parts so they move freely and smoothly without binding, sticking, or excessive clearance.
- H. Hinges: Install types and in quantities indicated in door hardware schedule but not fewer than quantity recommended by manufacturer for application indicated.
- I. Construction Cores Lock Cylinders:
  - 1. Install construction cores to secure building and areas during construction period.
  - 2. Replace construction cores with permanent cores as indicated in keying section.
  - 3. Furnish permanent cores to Owner for installation.
- J. Wiring: Coordinate with Division 26, ELECTRICAL and Division 28 ELECTRONIC SAFETY AND SECURITY sections for:
  - 1. Conduit, junction boxes and wire pulls.
  - 2. Connections to and from power supplies to electrified hardware.
  - 3. Connections to fire/smoke alarm system and smoke evacuation system.
  - 4. Connection of wire to door position switches and wire runs to central room or area, as directed by Architect.
  - 5. Connections to panel interface modules, controllers, and gateways.
  - 6. Testing and labeling wires with Architect's opening number.
- K. Key Control System: Tag keys and place them on markers and hooks in key control system cabinet, as determined by final keying schedule.
- L. Door Closers: Mount closers on room side of corridor doors, inside of exterior doors, and stair side of stairway doors from corridors. Mount closers so they are not visible in corridors, lobbies and other public spaces unless approved by Architect.
- M. Closer/Holders: Mount closer/holders on room side of corridor doors, inside of exterior doors, and stair side of stairway doors.
- N. Power Supplies: Locate power supplies as indicated or, if not indicated, above accessible ceilings or in equipment room, or alternate location as directed by Architect.

- O. Thresholds: Set thresholds in full bed of sealant complying with requirements specified in Division 07 Section "Joint Sealants."
- P. Stops: Provide floor stops for doors unless wall or other type stops are indicated in door hardware schedule. Do not mount floor stops where they may impede traffic or present tripping hazard.
- Q. Perimeter Gasketing: Apply to head and jamb, forming seal between door and frame.
- R. Meeting Stile Gasketing: Fasten to meeting stiles, forming seal when doors are closed.
- S. Door Bottoms and Sweeps: Apply to bottom of door, forming seal with threshold when door is closed.

#### 3.03 ADJUSTING

- A. Initial Adjustment: Adjust and check each operating item of door hardware and each door to ensure proper operation or function of every unit. Replace units that cannot be adjusted to operate as intended. Adjust door control devices to compensate for final operation of heating and ventilating equipment and to comply with referenced accessibility requirements.
  - 1. Spring Hinges: Adjust to achieve positive latching when door can close freely from an open position of 30 degrees.
  - 2. Electric Strikes: Adjust horizontal and vertical alignment of keeper to properly engage lock bolt.
  - 3. Door Closers: Adjust sweep period to comply with accessibility requirements and requirements of authorities having jurisdiction.
- B. Final Adjustment: Wherever hardware installation is made more than one month prior to acceptance or occupancy of a space or area, return to the work during the week prior to acceptance or occupancy, and make final check and adjustment of all hardware items in such space or area. Clean operating items as necessary to restore proper function and finish of hardware and doors. Adjust door control devices to compensate for final operation of heating and ventilating equipment.
- C. Instruct Owner's personnel in proper adjustment and maintenance of hardware and hardware finishes during the final adjustment of hardware.
- D. Continued Maintenance Service: Approximately six months after the acceptance of hardware in each area, the Installer, accompanied by a representative of the latch and lock manufacturer, shall return to the project and re-adjust every item of hardware to restore to proper function of doors and hardware. Consult with and instruct the Owner's personnel in recommended additions to the maintenance procedures. Replace hardware items which have deteriorated or failed due to faulty design, materials, or installation of hardware units. Prepare a written report of current and predictable problems (of substantial nature) in the performance of the hardware.

# 3.04 CLEANING AND PROTECTION

- A. Clean adjacent surfaces soiled by door hardware installation.
- B. Clean operating items per manufacturer's instructions to restore proper function and finish.
- C. Provide final protection and maintain conditions that ensure door hardware is without damage or deterioration at time of Substantial Completion.

### 3.05 DOOR HARDWARE SCHEDULE

- A. The intent of the hardware specification is to specify the hardware for interior and exterior doors, and to establish a type, continuity, and standard of quality. However, it is the door hardware supplier's responsibility to thoroughly review existing conditions, schedules, specifications, drawings, and other Contract Documents to verify the suitability of the hardware specified.
- B. Discrepancies, conflicting hardware, and missing items are to 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.
- C. Hardware items are referenced in the following hardware schedule. Refer to the above specifications for special features, options, cylinders/keying, and other requirements.
- D. Hardware Sets:

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# HARDWARE SET NO. 01 - SINGLE CLASSROOM SECURITY - EXISTING FRAME Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
1	EA	CONT. HINGE	224XY	628	IVE
1	EA	CLASSROOM SECURITY	ND75BDC RHO XN12-035	626	SCH
2	EA	SFIC CORE	BEST - TO MATCH EXISTING SYSTEM	626	BES
1	EA	SURFACE CLOSER	4011	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	WALL STOP	WS406/407CVX	630	IVE
1	EA	GASKETING	188SBK PSA	BK	ZER

#### **EXISTING FRAME:**

NOTE: CONTRACTOR TO FILL/PATCH ANY OLD HARDWARE PREPARATIONS IN EXISTING FRAME THAT WILL BE NO LONGER USED WITH NEW DOOR/HARDWARE. CONTRACTOR IS RESPONSIBLE FOR ANY NEW MORTISES/HARDWARE PREPARATION TO EXISTING FRAME TO ACCOMMODATE NEW DOOR AND HARDWARE.

# HARDWARE SET NO. 01A - SINGLE CLASSROOM SECURITY - EXISTING FRAME Provide each SGL door(s) with the following:

		` '			
QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
1	EA	CONT. HINGE	224XY	628	IVE
1	EA	CLASSROOM SECURITY	ND75BDC RHO XN12-035	626	SCH
2	EA	SFIC CORE	BEST - TO MATCH EXISTING	626	BES
			SYSTEM		
1	EA	OH STOP	90S	630	GLY
1	EA	SURFACE CLOSER	4011	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	WALL STOP	WS406/407CVX	630	IVE
1	EA	GASKETING	188SBK PSA	BK	ZER

#### **EXISTING FRAME:**

NOTE: CONTRACTOR TO FILL/PATCH ANY OLD HARDWARE PREPARATIONS IN EXISTING FRAME THAT WILL BE NO LONGER USED WITH NEW DOOR/HARDWARE. CONTRACTOR IS RESPONSIBLE FOR ANY NEW MORTISES/HARDWARE PREPARATION TO EXISTING FRAME TO ACCOMMODATE NEW DOOR AND HARDWARE.

# HARDWARE SET NO. 02 - SINGLE CLASSROOM SECURITY - EXISTING FRAME Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FII	NISH	MFR
1	EA	CONT. HINGE	224XY	62	8	IVE
1	EA	CLASSROOM SECURITY	ND75BDC RHO XN12-035	62	6	SCH
2	EA	SFIC CORE	BEST - TO MATCH EXISTING SYSTEM	62	6	BES
1	EA	SURFACE CLOSER	4111 EDA	68	9	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	63	0	IVE
1	EA	WALL STOP	WS406/407CVX	63	0	IVE
1	EΑ	GASKETING	188SBK PSA	Bk	(	ZER.

#### **EXISTING FRAME:**

NOTE: CONTRACTOR TO FILL/PATCH ANY OLD HARDWARE PREPARATIONS IN EXISTING FRAME THAT WILL BE NO LONGER USED WITH NEW DOOR/HARDWARE. CONTRACTOR IS RESPONSIBLE FOR ANY NEW MORTISES/HARDWARE PREPARATION TO EXISTING FRAME TO ACCOMMODATE NEW DOOR AND HARDWARE.

# HARDWARE SET NO. 03 - SINGLE STAFF RESTROOM - EXISTING FRAME Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
1	EA	CONT. HINGE	224XY	628	IVE
1	EA	FACULTY RESTROOM	L9485T 06A 09-544 L283-722	630	SCH
1	EA	FSIC CORE	30-120 CKC	626	SCH
1	EA	SURFACE CLOSER	4111 EDA	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	WALL STOP	WS406/407CVX	630	IVE
1	EA	GASKETING	188SBK PSA	BK	ZER

#### **EXISTING FRAME:**

NOTE: CONTRACTOR TO FILL/PATCH ANY OLD HARDWARE PREPARATIONS IN EXISTING FRAME THAT WILL BE NO LONGER USED WITH NEW DOOR/HARDWARE. CONTRACTOR IS RESPONSIBLE FOR ANY NEW MORTISES/HARDWARE PREPARATION TO EXISTING FRAME TO ACCOMMODATE NEW DOOR AND HARDWARE.

# HARDWARE SET NO. 04 - SINGLE STOREROOM - EXISTING FRAME Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
1	EA	CONT. HINGE	224XY	628	IVE
1	EA	STOREROOM LOCK	ND80BDC RHO	626	SCH
2	EA	SFIC CORE	BEST - TO MATCH EXISTING SYSTEM	626	BES
1	EA	SURFACE CLOSER	4011	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	WALL STOP	WS406/407CVX	630	IVE
1	EA	GASKETING	188SBK PSA	BK	ZER

### **EXISTING FRAME:**

NOTE: CONTRACTOR TO FILL/PATCH ANY OLD HARDWARE PREPARATIONS IN EXISTING FRAME THAT WILL BE NO LONGER USED WITH NEW DOOR/HARDWARE. CONTRACTOR IS RESPONSIBLE FOR ANY NEW MORTISES/HARDWARE PREPARATION TO EXISTING FRAME TO ACCOMMODATE NEW DOOR AND HARDWARE.

#### HARDWARE SET NO. 04A - SINGLE STOREROOM

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
1	EA	CONT. HINGE	224XY	628	IVE
1	EA	STOREROOM LOCK	ND80BDC RHO	626	SCH
2	EA	SFIC CORE	BEST - TO MATCH EXISTING SYSTEM	626	BES
1	EA	SURFACE CLOSER	4011	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	WALL STOP	WS406/407CVX	630	IVE
1	EA	GASKETING	188SBK PSA	BK	ZER

# HARDWARE SET NO. 05 - PAIR CLASSROOM SECURITY

Provide each PR door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
2	EA	CONT. HINGE	224XY	628	IVE
1	EA	CONST LATCHING BOLT	FB61T	630	IVE
1	EA	CLASSROOM SECURITY	ND75BDC RHO XN12-035	626	SCH
2	EA	SFIC CORE	BEST - TO MATCH EXISTING SYSTEM	626	BES
1	EA	COORDINATOR	COR X FL	628	IVE
2	EA	OH STOP	90S	630	GLY
2	EA	SURFACE CLOSER	4011	689	LCN
2	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	GASKETING	870AA-S	AA	ZER
2	EA	DOOR BOTTOM	369AA	AA	ZER
1	EA	MOUNTING BRACKET	870SPB FOR RIM STRIKE AND/OR CLOSER		ZER

# HARDWARE SET NO. 06 - SINGLE EXIT - LOCKDOWN - EXISTIG FRAME Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
1	EA	CONT. HINGE	224XY	628	IVE
1	EA	FIRE EXIT HARDWARE	QM-98-L-F-2SI-06	626	VON
1	EA	RIM CYLINDER	1E72	626	BES
1	EA	SURFACE CLOSER	4111 EDA	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	WALL STOP	WS406/407CVX	630	IVE
1	EA	MAG HOLDER	RE-USE EXISTING		
1	EA	GASKETING	870AA-S	AA	ZER
1	EA	DOOR BOTTOM	369AA	AA	ZER
1	EA	MOUNTING BRACKET	870SPB FOR RIM STRIKE AND/OR CLOSER		ZER

## **EXISTING FRAME:**

NOTE: CONTRACTOR TO FILL/PATCH ANY OLD HARDWARE PREPARATIONS IN EXISTING FRAME THAT WILL BE NO LONGER USED WITH NEW DOOR/HARDWARE. CONTRACTOR IS RESPONSIBLE FOR ANY NEW MORTISES/HARDWARE PREPARATION TO EXISTING FRAME TO ACCOMMODATE NEW DOOR AND HARDWARE.

# HARDWARE SET NO. 07 - SINGLE EXIT - LOCKED

Provide	each	SGL	door(s	s)	with	the	following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
1	EA	CONT. HINGE	224XY	628	IVE
1	EA	FIRE EXIT HARDWARE	98-L-NL-F-06	626	VON
1	EA	RIM CYLINDER	1E72	626	BES
1	EA	SURFACE CLOSER	4011	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	WALL STOP	WS406/407CVX	630	IVE
1	EA	GASKETING	188SBK PSA	BK	ZER

# HARDWARE SET NO. 08 - SINGLE EXTERIOR ALUMINUM AND GLASS

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
1	EA	CONT. HINGE	112XY	628	IVE
1	EA	PANIC HARDWARE	CD-35A-NL-OP-388	626	VON
1	EA	RIM CYLINDER	1E72	626	BES
1	EA	MORTISE CYLINDER	1E74	626	BES
1	EA	90 DEG OFFSET PULL	8190EZHD 10" STD	630-	IVE
				316	
1	EA	OH STOP & HOLDER	90H	630	GLY
1	EA	SURFACE CLOSER	4021	689	LCN
1	EA	FLUSH CEILNG MTG	4020-18G SRT	689	LCN
		PLATE			
1	EA	PERIMETER GASKETING	BY DOOR MANUFACTURER		
1	EA	THRESHOLD	SEE BELOW		PEM

# HARDWARE SET NO. 09 - SINGLE ALUMINUM AND GLASS BULLET AND BLAST RESISTANT - 60 MINUTE RATED

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
1	EA	MORTISE CYLINDER	1E74	626	BES
			GC TO COORDINATE KEYING		
			WITH BALANCE OF OPENINGS		
1	EA	BALANCE OF HARDWARE	BY DOOR MANUFACTURER		

# HARDWARE SET NO. 10 - PAIR EXITS - EXISTING FRAME

Provide each PR door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
2	EA	CONT. HINGE	224XY	628	IVE
1	EA	FIRE EXIT HARDWARE	98-L-BE-F-06	626	VON
2	EA	SURFACE CLOSER	4111 EDA	689	LCN
2	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
2	EA	MAG HOLDER	RE-USE EXISTING		
1	EA	GASKETING	188SBK PSA	BK	ZER

#### **EXISTING FRAME:**

NOTE: CONTRACTOR TO FILL/PATCH ANY OLD HARDWARE PREPARATIONS IN EXISTING FRAME THAT WILL BE NO LONGER USED WITH NEW DOOR/HARDWARE. CONTRACTOR IS RESPONSIBLE FOR ANY NEW MORTISES/HARDWARE PREPARATION TO EXISTING FRAME TO ACCOMMODATE NEW DOOR AND HARDWARE.

## HARDWARE SET NO. 10A - PAIR EXITS - EXISTING FRAME

Provide each PR door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
2	EA	CONT. HINGE	224XY	628	IVE
1	EA	FIRE EXIT HARDWARE	98-L-BE-F-06	626	VON
2	EA	SURFACE CLOSER	4011	689	LCN
2	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
2	EA	MAG HOLDER	RE-USE EXISTING		
1	EA	GASKETING	188SBK PSA	BK	ZER

#### **EXISTING FRAME:**

NOTE: CONTRACTOR TO FILL/PATCH ANY OLD HARDWARE PREPARATIONS IN EXISTING FRAME THAT WILL BE NO LONGER USED WITH NEW DOOR/HARDWARE. CONTRACTOR IS RESPONSIBLE FOR ANY NEW MORTISES/HARDWARE PREPARATION TO EXISTING FRAME TO ACCOMMODATE NEW DOOR AND HARDWARE.

# HARDWARE SET NO. 11 - PAIR DOUBLE EGRESS - MAG HOLD OPEN Provide each PR door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
2	EA	CONT. HINGE	224XY	628	IVE
2	EA	FIRE EXIT HARDWARE	9827-EO-F-LBRAFL-499F	630	VON
2	EA	SURFACE CLOSER	4011	689	LCN
4	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
2	EA	MAGNET	SEM7830 12V/24V/120V PROVIDE EXTENSIONS AS REQUIRED	689	LCN
1	EA	GASKETING	188SBK PSA	BK	ZER

# HARDWARE SET NO. 12 - PAIR EXTERIOR ALUMINUM AND GLASS - REUSE EXISTING ACCESS CONTROL

Provide each PR door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
2	EA	CONT. HINGE	112XY	628	IVE
1	EA	REMOVABLE MULLION	KR4954	689	VON
1	EA	PANIC HARDWARE	CD-35A-EO	626	VON
1	EA	PANIC HARDWARE	CD-35A-NL-OP-388	626	VON
1	EA	RIM CYLINDER	1E72	626	BES
3	EA	MORTISE CYLINDER	1E74	626	BES
1	EA	ELECTRIC STRIKE	RE-USE EXISTING		
2	EA	90 DEG OFFSET PULL	8190EZHD 10" STD	630-	IVE
				316	
2	EA	OH STOP & HOLDER	90H	630	GLY
2	EA	SURFACE CLOSER	4021	689	LCN
2	EA	FLUSH CEILNG MTG	4020-18G SRT	689	LCN
		PLATE			
1	EA	PERIMETER GASKETING	BY DOOR MANUFACTURER		
1	EA	THRESHOLD	SEE BELOW		PEM
2	EA	DOOR POSITION SWITCH	RE-USE EXISTING		

NOTE: THRESHOLD:

FOR LEVEL FLOOR USE: 2548A FOR 3/8" OFFSET USE: 200A X 228 A FOR 1/2" OFFSET USE: R.50.SMRAK

FOR 3/4" OFFSET USE: R.75.SMRAK OVER 3/4" OFFSET USE: R.VARI/AK

# HARDWARE SET NO. 13 - PAIR EXTERIOR ALUMINUM AND GLASS - REUSE EXISTING ACCESS CONTROL

Provide each PR door(s) with the following:

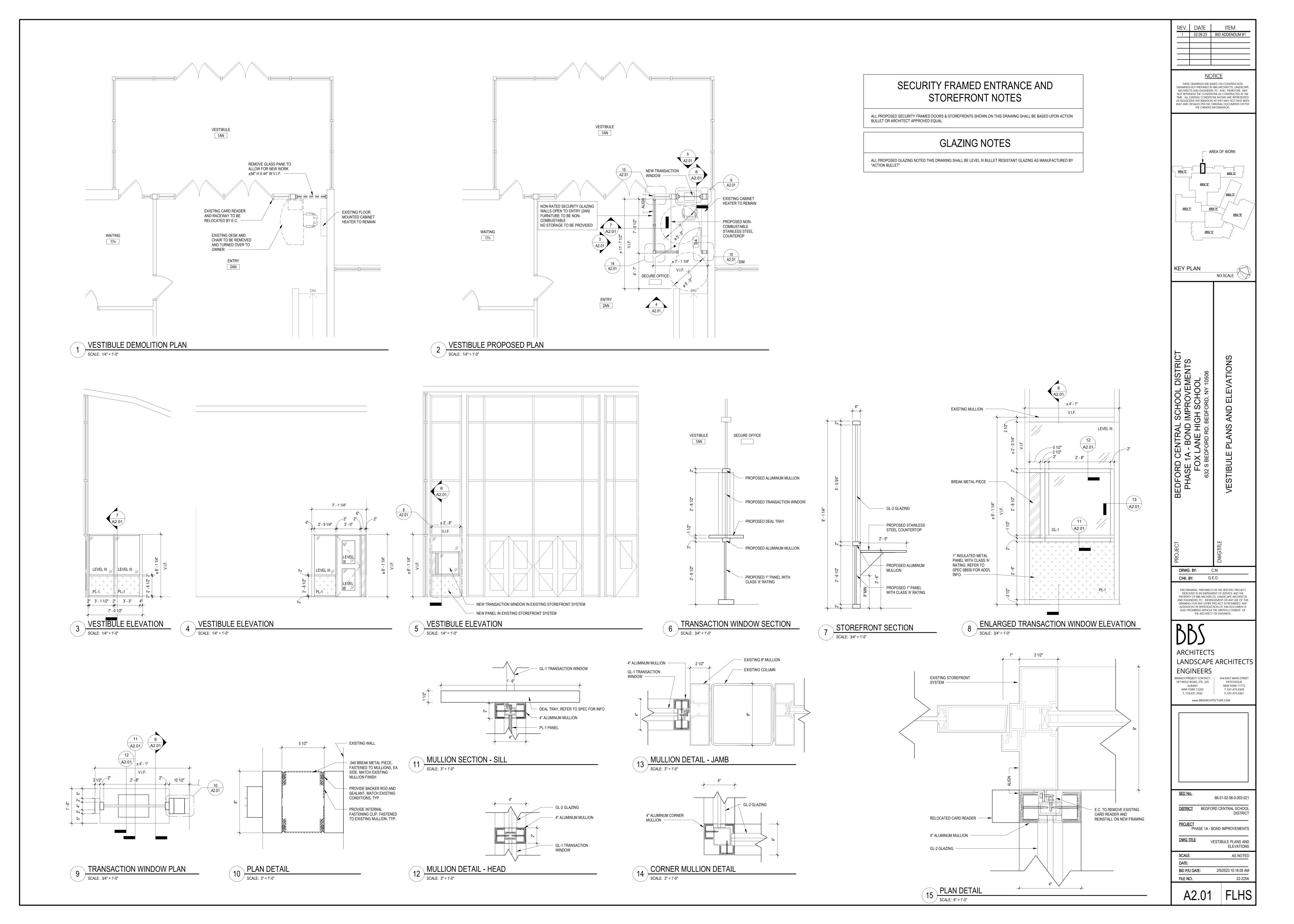
QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
2	EA	CONT. HINGE	112XY	628	IVE
1	EA	REMOVABLE MULLION	KR4954	689	VON
1	EA	PANIC HARDWARE	CD-35A-EO	626	VON
1	EA	PANIC HARDWARE	CD-35A-NL-OP-388	626	VON
1	EA	RIM CYLINDER	1E72	626	BES
3	EA	MORTISE CYLINDER	1E74	626	BES
2	EA	90 DEG OFFSET PULL	8190EZHD 10" STD	630-	IVE
				316	
2	EA	OH STOP & HOLDER	90H	630	GLY
2	EA	SURFACE CLOSER	4021	689	LCN
2	EA	FLUSH CEILNG MTG	4020-18G SRT	689	LCN
		PLATE			
1	EA	PERIMETER GASKETING	BY DOOR MANUFACTURER		
1	EA	THRESHOLD	SEE BELOW		PEM

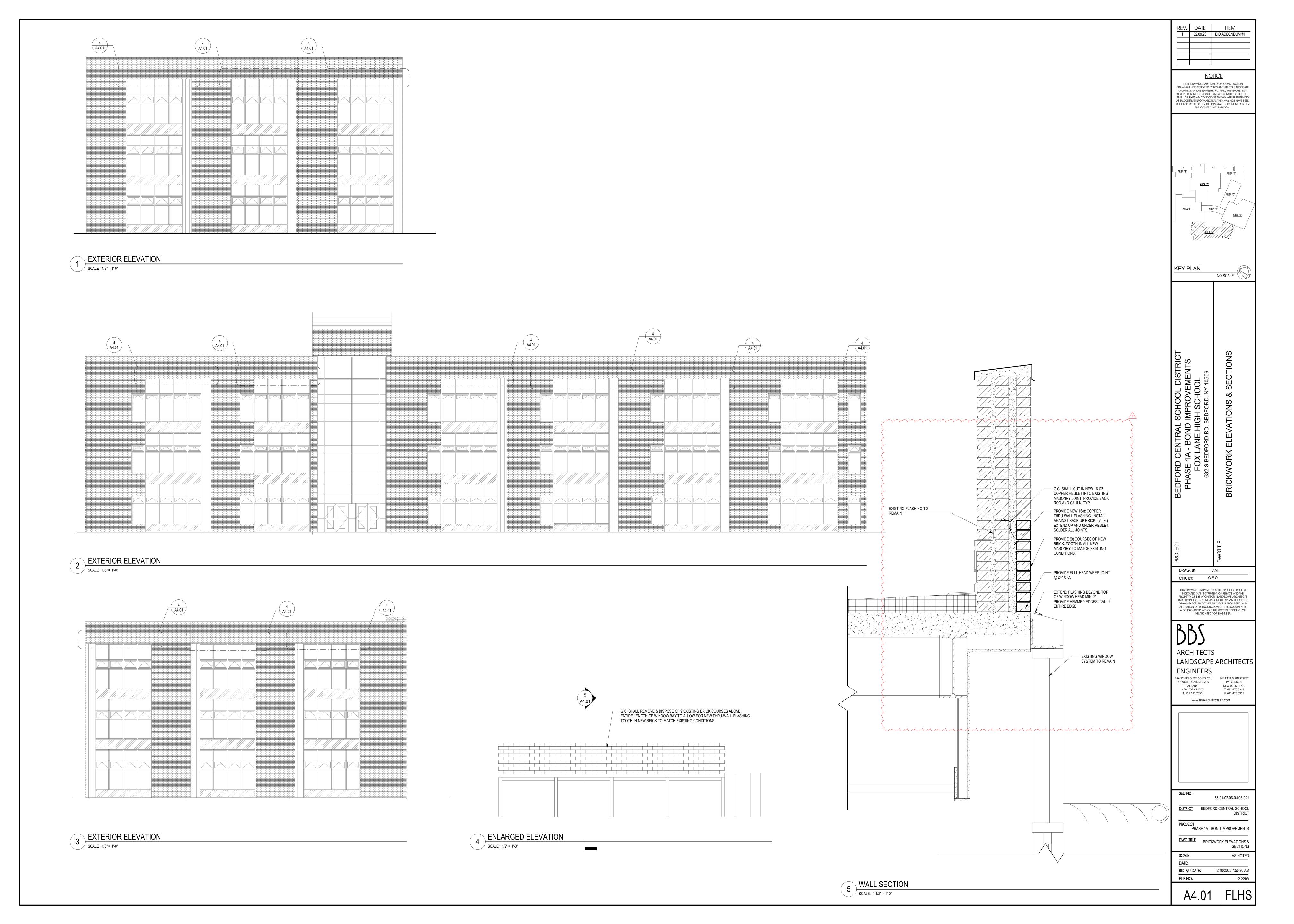
NOTE: THRESHOLD:

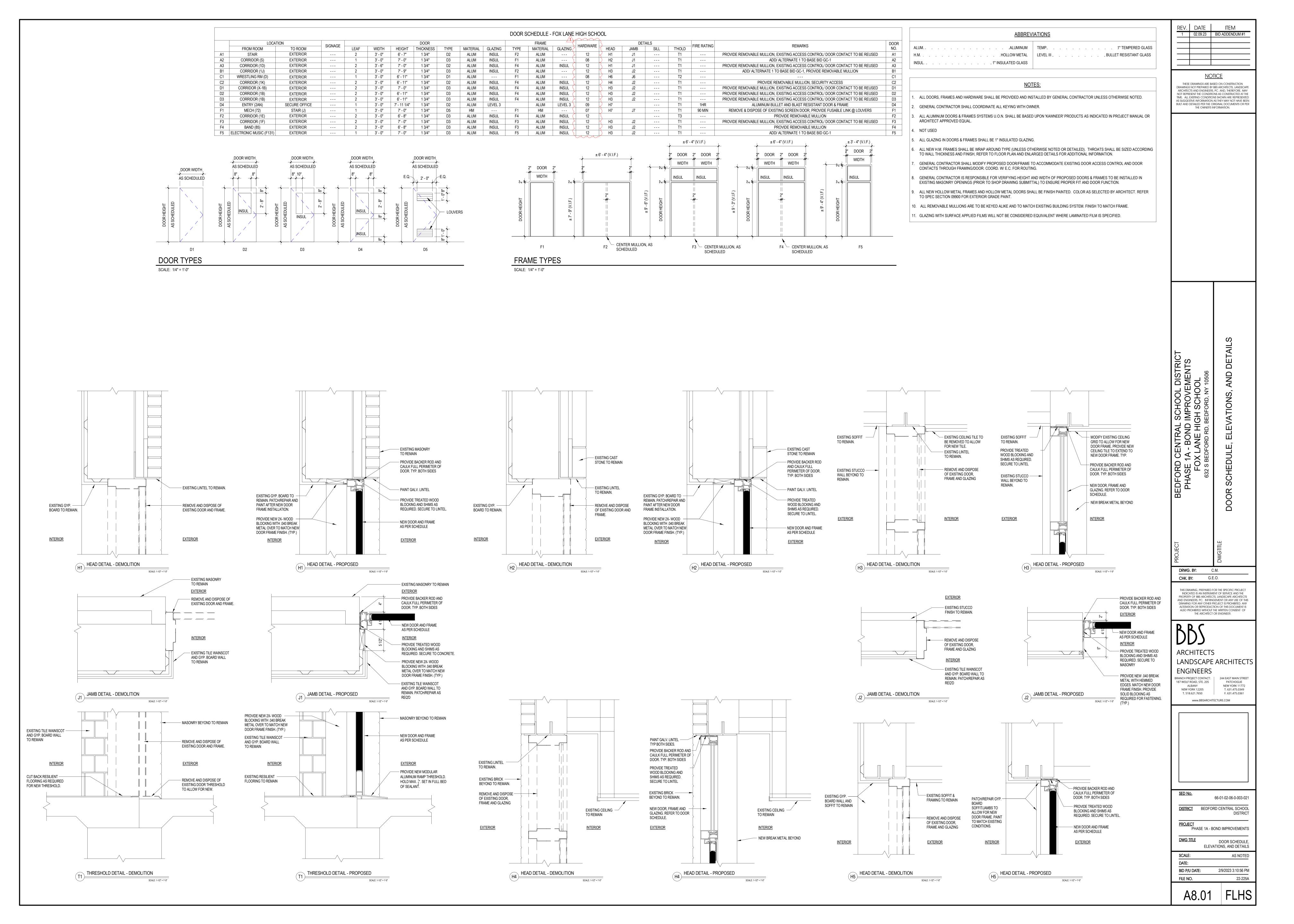
FOR LEVEL FLOOR USE: 2548A FOR 3/8" OFFSET USE: 200A X 228 A FOR 1/2" OFFSET USE: R.50.SMRAK

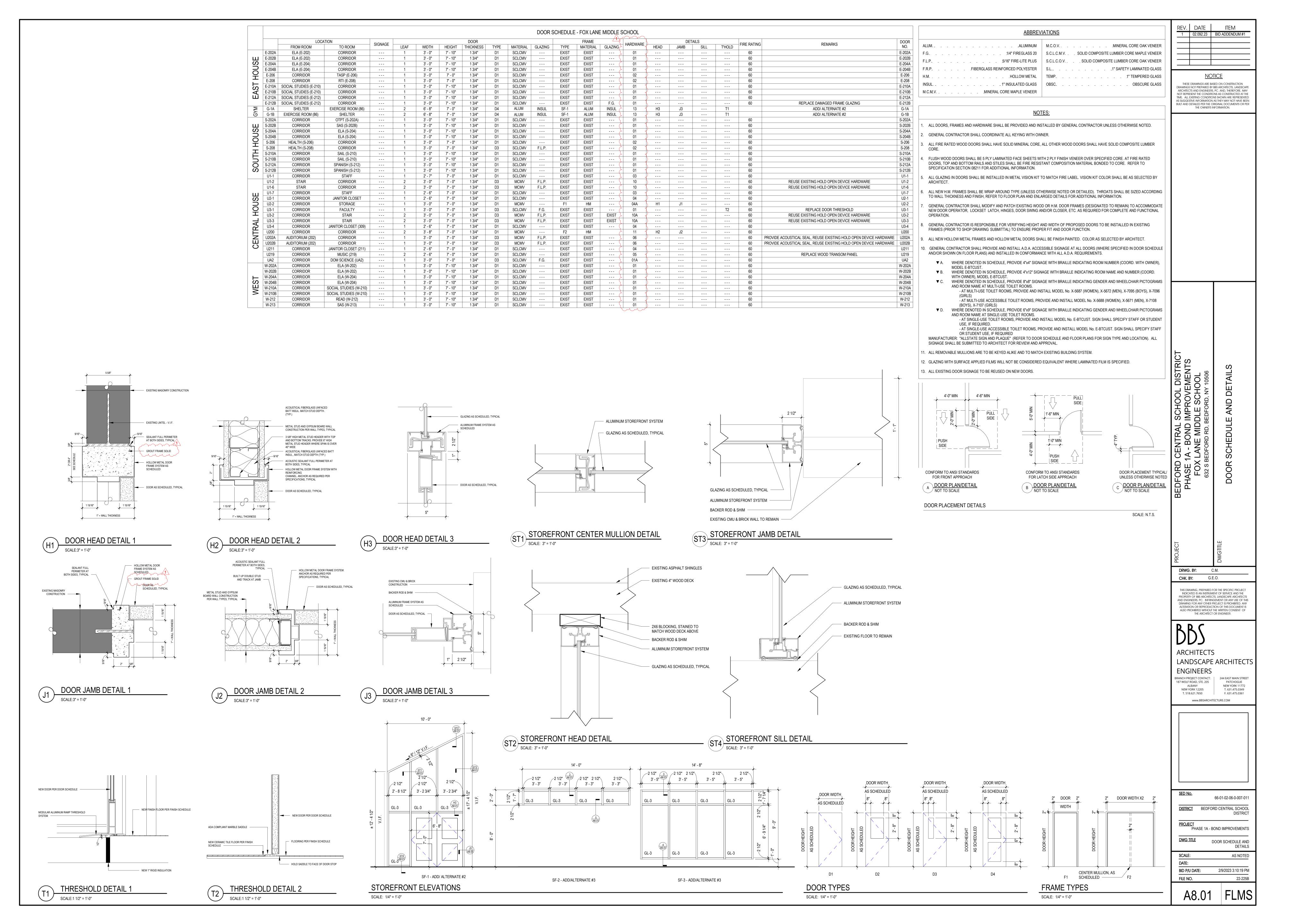
FOR 3/4" OFFSET USE: R.75.SMRAK OVER 3/4" OFFSET USE: R.VARI/AK

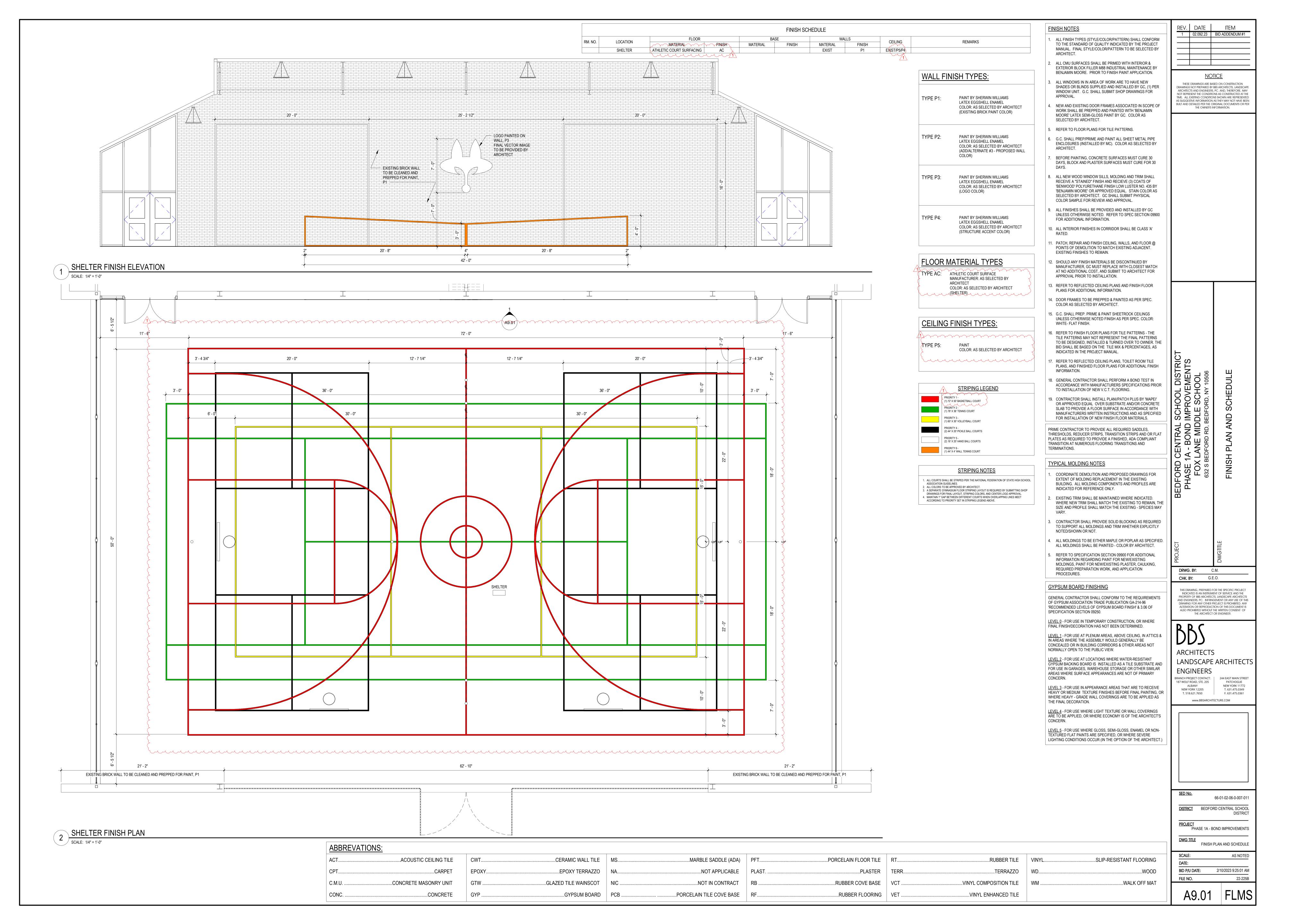
# **END OF SECTION**

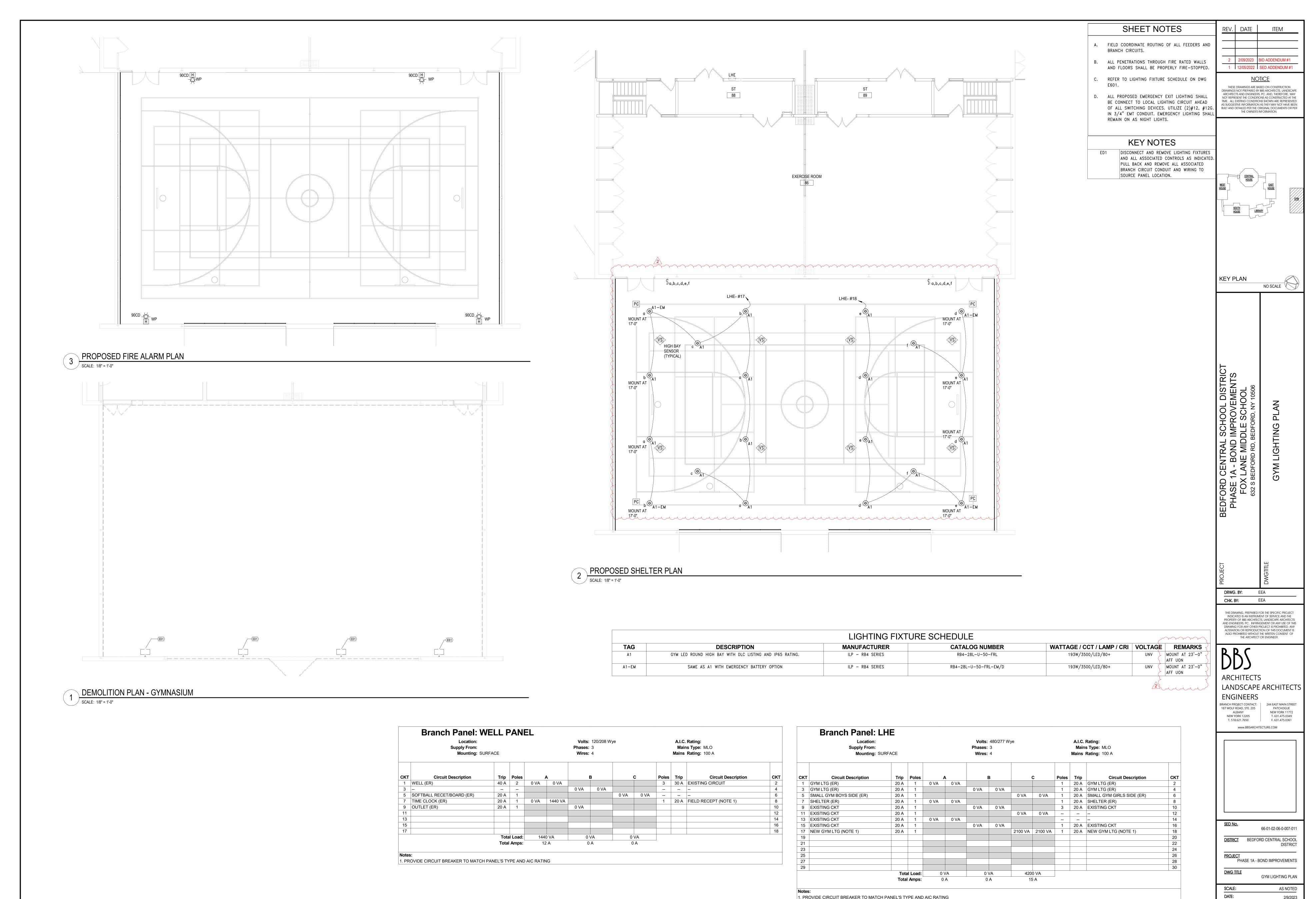












1. PROVIDE CIRCUIT BREAKER TO MATCH PANEL'S TYPE AND AIC RATING

BID P/U DATE:

FILE NO.

