# BBS ARCHITECTS LANDSCAPE ARCHITECTS ENGINEERS

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

December 1, 2022

# **BID ADDENDUM No. 1**

Re:

Bond Improvements Phase 2 Briarcliff Manor Union Free School District SED No. 66-14-02-02-0-004-023 (HSMS) SED No. 66-14-02-02-0-002-021 (ES) BBS File No 21-274C, 21-274D

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:

# Pre-bid walk through attendance sheets are included in this addendum for reference.

# PROJECT MANUAL MODIFICATIONS

- 1. <u>Specification Section B-Table of Contents</u>
  - a. The attached section shall replace the one in the bid documents.
- 2. <u>Specification Section G Instructions to Bidders</u>
  - a. The attached section shall replace the one in the bid documents.
- 3. <u>Specification Section 00000 General Requirements</u>
  - a. The attached section shall replace the one in the bid documents.
- Specification Section 08121 Demountable Panel partition (Genius Architectural Wall)

   The attached section shall be added to the bid documents.
- 5. <u>Specification Section 08620 Unit Skylights</u>
  - a. The attached section shall be added to the bid documents.

# 6. <u>Specification Section 08800 – Glass and Glazing</u>

- a. The attached section shall replace the one in the bid documents.
- 7. <u>Specification Section 08806 Fire Rated Glazing</u>
  - b. The attached section shall replace the one in the bid documents.
- Specification Section 08710 DOOR HARDWARE

   The attached section shall be added to the bid documents.
- Specification Section 09500 INTERACTIVE ACOUSTICAL PANEL SYSTEM

   The attached section shall be added to the bid documents.

# CONSTRUCTION DRAWING MODIFICATIONS

# MIDDLE SCHOOL/HIGH SCHOOL

# <u>General</u>

<u>Drawing T0.01 TITLE SHEET</u>

 Construction Drawing is hereby deleted and replaced with the attached.

# ARCHITECTURAL

- <u>Drawing A2.02 PROPOSED FIRST FLOOR PLAN AREA D</u>
   a. Construction Drawing is hereby deleted and replaced with the attached.
- <u>Drawing A8.01 DOOR SCHEDULE AND DETAILS</u>
   a. Construction Drawing is hereby deleted and replaced with the attached.
- <u>Drawing A8.02 STOREFRONT PLANS AND DETAILS</u>
   a. Construction Drawing is hereby deleted and replaced with the attached.
- 5. Drawing A8.03 STOREFRONT PLANS AND ELEVATIONS
  - b. Construction Drawing is hereby deleted and replaced with the attached.
- 6. Drawing A8.04 STOREFRONT PLANS AND ELEVATIONS
  - a. Construction Drawing is hereby deleted and replaced with the attached.
- <u>Drawing A8.05 STOREFRONT PLANS AND ELEVATIONS</u>
   a. Construction Drawing is hereby deleted and replaced with the attached.
- <u>Drawing A9.01 STOREFRONT PLANS AND ELEVATIONS</u>
   a. Construction Drawing is hereby deleted and replaced with the attached.
- 9. Drawing A9.02 FINISH FLOOR PLAN
  - a. Construction Drawing is hereby deleted and replaced with the attached.
- 10. Drawing A10.02 REFLECTED CEILING FIRST FLOOR PLAN AREA D
  - a. Construction Drawing is hereby deleted and replaced with the attached.
- 11. Drawing A11.01 ENLARGED RESTROOM PLANS & ELEVATIONS
  - a. Construction Drawing is hereby deleted and replaced with the attached.

# 12. Drawing A11.02 ENLARGED RESTROOM ELEVATIONS

- a. Construction Drawing is hereby deleted and replaced with the attached.
- 13. Drawing A11.03 ENLARGED RESTROOM ELEVATIONS
  - a. Construction Drawing is hereby deleted and replaced with the attached.
- 14. <u>Drawing A11.04 ENLARGED EQIPMENT PLANS & DETAILS</u> a. Construction Drawing is hereby deleted and replaced with the attached.
- 15. Drawing A11.07 ENLARGED EQIPMENT PLANS & DETAILS
  - a. Construction Drawing is hereby <u>deleted</u> from the bid documents.

# **ELECTRICAL**

- <u>Drawing E0.01 GENERAL NOTES, SYMOBOLS AND ABBREVIATIONS</u>
   a. Construction Drawing is hereby deleted and replaced with the attached.
- Drawing E1.01 PARTIAL DEMOLITION FIRST AND SECOND FL PLAN AREA A & C

   Construction Drawing is hereby deleted and replaced with the attached.
- <u>Drawing E1.02 PARTIAL DEMOLITION FIRST FL PLAN AREA D</u>
   a. Construction Drawing is hereby deleted and replaced with the attached.
- 4. Drawing E3.01 PARTIAL FIRST FL LIGHTING PLAN AREA A & C
  - a. Construction Drawing is hereby deleted and replaced with the attached.
- <u>Drawing E3.02 PARTIAL FIRST FL LIGHTING PLAN AREA D</u>
   a. Construction Drawing is hereby deleted and replaced with the attached.
- <u>Drawing E4.01 PARTIAL FIRST FL POWER PLAN AREA A & C</u>
   a. Construction Drawing is hereby deleted and replaced with the attached.
- <u>Drawing E4.02 FIRST FLOOR PROPOSED PLAN AREA D</u>
   a. Construction Drawing is hereby deleted and replaced with the attached.
- <u>Drawing E4.03 PARTIAL SECOND FLOOR & ROOF PLAN AREA D & E</u>
   a. Construction Drawing is hereby deleted and replaced with the attached.
- 9. Drawing E5.01 PARTIAL FIRST FL SYSTEMS PLAN AREA A & C
  - a. Construction Drawing is hereby deleted and replaced with the attached.
- 10. Drawing E5.02 PARTIAL FIRST FLOOR PROPOSED SYSTEMS PLANS AREA D
  - a. Construction Drawing is hereby deleted and replaced with the attached.
- 11. Drawing E5.03 ELECTRICAL ADD-ALTERNATE PLANS
  - a. Construction Drawing is hereby deleted and replaced with the attached.
- 12. Drawing E8.01 PANELBOARD DIRECTORIES
  - a. Construction Drawing is hereby deleted and replaced with the attached.
- 13. Drawing E10.01 SCHEDULES

a. Construction Drawing is hereby deleted and replaced with the attached.

# 14. Drawing E10.05 ELECTRICAL DETAILS

a. Construction Drawing is hereby deleted and replaced with the attached.

# TODD ELEMENTARY SCHOOL

# ARCHITECTURAL

- 16. Drawing A1.01 DEMO PLAN RESTROOM AND VESTIBULE
  - b. Construction Drawing is hereby deleted and replaced with the attached.
- 17. <u>Drawing A1.02 PROPOSED RESTROOMS AND VESTIBULE</u> a. Construction Drawing is hereby deleted and replaced with the attached.
- Drawing A8.01 DOOR SCHEDULE, FINISH SCHEDULE AND DETAILS

   Construction Drawing is hereby deleted and replaced with the attached.
- <u>Drawing A10.01 -REFLECTED CEILING PLANS</u>
   a. Construction Drawing is hereby deleted and replaced with the attached.

# Response to Contractors Written RFI's

1. Question: Drawing A8.0 MSHS door schedule is missing the hardware sets except for doors 113a and 113b. Drawing A8.01 TES door schedule is also missing the hardware sets except for door 334. Please provide hardware sets on the door schedules along with hardware set information in the specifications/ Drawing A11.07 HSMS is blank. Please clarify.

**BBS Response:** Refer to revised door schedules and hardware sets included in this addendum. Drawing A11.07 shall be removed from the bid documents.

2. Question: Drawing A8.01 MSMS door schedule calls out AWD for doors 109B, 166, 167. Please clarify. Drawing A10.02 appears to show ACT 4 as 2'x2' ACT, and ACT as Decoustics. Drawing A9.01 ACT 4 is called out as Decoustics. ACT 5 is called out as 2' by 2' 1935 Ulitma tiles. Pease clarify all ACT for the correct type. Drawing A9.02 shows the same flooring designation in rooms 107, 108, 112, 113, 114,115, 116. Drawing A9.01 on the finish schedule calls LVT in rooms 107, 108, 112, 114 but carpet in room s 114, 115, 116. Please clarify floor types. Drawing A8.01 Calls out door 113B, drawing A2.02 does not show this door number. Please clarify.

**BBS Response:** Refer to revised finish floor plan and schedules and Drawing A2.02 included in this addendum.

3. Question: Metal Framed skylights – 08630 missing specification section 08630, please provide.

**BBS Response:** Specification section 08630 is included in bid documents for the large skylight. Refer to Section 08620 included in this addendum for Unit Skylights.

4. Question: Acoustical Ceiling Baffles, No spec.

BBS Response: Refer to section 09515 included in this addendum.

5. Question: Acoustical wall panel, no spec, please confirm locations of acoustical wall panels. DWG A9.01 finish schedule shows quiet room only. At all walls floor to new ceiling per A11.04 detail 24? DWG A5.01 section 3 notes acoustical wall panels, what is the extent in light well and dimensions?

**BBS Response:** Refer to spec section 09500 and revised drawing A5.01 included in this addendum.

6. Question: Drawing MS/HS M5.01 is missing from the bid set, Please advise. Drawings HSMS M1.07 and HS/MS M3.04 are in the bid set but not on the cover sheet. Are these 2 drawings part of the bid? Please advise.

**BBS Response:** Drawing M5.01 shall be omitted from the bid documents. Refer to Revised title sheet included in this addendum including Drawings M1.07 & M3.04.

7. Question: In the Multiple contract summary it states the mechanical contractor is responsible for excavating and backfilling for all MEP installations. Please confirm that this is MC Responsibility. (Section 01-12-00 MCS-10)

Please confirm who is responsible for temporary sanitary facilities?

**BBS Response:** General contractor shall provide excavation and backfilling for below slab MEP connections. General Contractor shall provide sanitary facilities as per section 01 50 00

8. Question: P2.01 Sanitary and vent piping detail. There is a note #11 indicating that the PC coordinate the trenching for a storm piping underground tie in (12"). Is the GC responsible for opening up the concrete and trenching to expose the existing storm pipe? How about the sanitary piping, is GC responsible for that trench work also?

**BBS Response:** The general contractor shall provide saw cutting, demolition, excavation, backfilling and new concrete slab patching for under slab plumbing.

# END of Addendum #1

**DDS** Architects, Landscape Architects and Engineers, P.C.



<u>Owner/School District</u>: Briarcliff Manor UFSD <u>Meeting</u>: Pre-Bid Walk Through <u>Date:</u> 11/21/2021 <u>Project Name</u>: Briarcliff Manor UFSD <u>Location</u>: MS/HS <u>Time</u>: 3:30 pm

	Sign in Log		
Name - PRINT	Company	Email	Initials
Nick Surfado	SAVIN	NEWCLODOGANINENGINEEK. LC	M N
PEPIN ACCILIEN	SAUN	Baccilien & Savinen Fineers.	Ciun
John Necl	Renu	Joer Compy, Con	M
KEN BAVKELO	BMVF5D	KBAVIELLO & BRIARCHITSCHUGU, 0121	, KNR
STU GORDON	BBS ARCH	Jordon@bbsemil.con	F
GREG OCONNOR	BBS ARCH	OCOMON@ 665ARCH.COM	90-
Dove Sturela	ALC BRIJENT Electric	DSTACKCALCART, WELECTIC. 200	22Q.
STEVEN MGRDITCHIAN	PIEROTTI CORP.	STEVEMOPIEROTTICORP. COM	sun
JOANN GODISEL	- PIAZZA	JEDDSELLGODCEMALLO	METEN
Kevin VANDOVER	C:W	KUANDOUER@ Carey and Waish . CON	1 KU



Improving Quality of Life

<u>Owner/School District</u>: Briarcliff Manor UFSD <u>Meeting</u>: Pre-Bid Walk Through Date: 11/21/2021 <u>Project Name</u> : Briarcliff Manor UFSD <u>Location</u>: Todd ES <u>Time</u> : 4:30 pm

# Sign in Log PLEASE PRINT CLEARLY Initials\_ Email Name - PRINT Company IN SAVINANGINEEDS, CO SAVIN PIEROTTI CORP. STEVEMOPIEROTTICORS, COM STEVEN MORDITCHIAN al ny. (on PEILIEN Saving ha inports. Com 2 BRCA .5 alle an GORDA STU Cić ( Ent G BBS AncH OCONNER @ pos ANCA. Com M ck 5 Connor KBAV/EZES C PRIAKUITECTERUS, 01204 AVIELO VRN EN

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- 20. Required Bid Information
- 1. DOCUMENTS (ISSUANCE AND RESTRICTIONS)
  - A. Bid documents may be examined at the applicable office of the Architect, BBS Architects, Landscape Architects & Engineers, P.C., 244 East Main Street, Patchogue New York or 187 Wolf Road, Albany New York between the hours of 9 a.m. and 4 p.m. daily except Saturdays, Sundays, and holidays.
  - B. A deposit, refundable in accordance with the Invitation to Bidders, is required for each set of Bid Documents.
  - C. Bid documents are comprised of all bid-related documents including, but not limited to, the Invitation to Bidders, Instructions to Bidders, Supplementary Information to Bidders, if any, Bid Proposal Forms, Addenda issued prior to the bid date, and the Contract Documents. Contract Documents consist of the form of Agreement between the Owner and the Contractor, other documents enumerated in the Agreement between the Owner and the Contractor ("the Agreement"), Conditions of the Contract (General, Supplementary and other conditions or provisions), Drawings, Specifications and all addenda issued prior to execution of the Contract and modifications issued after execution of the Contract.

# 2. QUALIFICATIONS OF BIDDERS

A Bidder must present information and/or documentation proving that:

A. It has the financial capability to produce and execute the project within the time periods specified;

- B. It possesses a minimum of five years continuous experience as a firm doing business under the same name, engaged principally as a contractor for the Work proposed.
- C. It has completed at least five similar projects, listing type and scope of work, names and addresses of owners and dates of Contract completion (the Owner has the right to verify the documentation as well as examine other aspects of the Bidder's work record);
- D. It can provide tabulation of equipment and facilities at its disposal to do the proposed Work;
- E. It has a current bonding capacity to accommodate proposed Work
- F. It has the experienced staff and technical organization necessary for the Project;
- G. It maintains an office with full-time employees in a commercial space;
- H. It intends to complete at least 25 percent of the Work with its own forces (General Conditions, Mobilization, etc. will not count toward the 25 percent;
- I. It is not currently involved in bankruptcy proceedings;
- J. It is licensed to perform the Work it is bidding on in the jurisdiction the Work will take place; and
- K. It has the insurance required by the Contract Documents to protect the Owner or is able to obtain the required insurance.
- L. The Bidder must provide a complete Schedule of Values on an AIA form G703. This Schedule must be revised and resubmitted until satisfactory to the Architect. All project phases, activities and work items must be broken out individually with lines for both labor and materials. In addition to this and to the required retainage, the Schedule of Values must be structured with the following values:

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General Conditions:	5%	of	overall	contract	value	į
Bonds and Insurance:	4%	of	overall	contract	value 🖌	1
Submittals:	1%	of	overall	contract	value	j
Punch List:	3%	of	overall	contract	value 🖌	!
Closeout and O&M Manual:	2%	of	overall	contract	value	)
					7	١.

- M. The Bidder is required to complete and submit the "Statement/Proof of Bidder's Qualifications" form contained herein.
- N. It is assumed that in preparing this bid, the Bidder has already compiled this information, and that it is being made available for reference with completing this package. All information contained above <u>must</u> be submitted to the Architect prior to award of the Contract. Failure to provide this information may result in disgualification of the Bidder.
- 3. COMPLIANCE WITH APPLICABLE LAWS AND REGULATIONS

- A. Bidder must comply with applicable federal, state, and local laws as well as all ordinances, rules, and regulations affecting the Work.
- B. The provisions of General Municipal Law, Section 103A, as it relates to refusal to testify or sign a waiver of immunity against prosecution and the submittal of bids and transactions with the State of New York, or a political subdivision thereof, governs work under this contract.
- C. Wage rates as determined by the New York State Department of Labor pursuant to the labor laws of the State of New York apply to all Work under this Contract.
- D. In accordance with the requirements of General Municipal Law § 103g, the Bidder is required to include with its bid either (1) the 'Certification of Compliance with the Iran Divestment Act" or (2) the form entitled "Declaration of Bidder's Inability to Provide Certification of Compliance with the Iran Divestment Act."

4. <u>SINGLE PRIME CONTRACTS</u> (Applicable to Todd Elementary School Base Gid GC-2 Only)

A. Where the project cost does not exceed \$1,500,000 and the Owner has decided to solicit bids from one general contractor, the Bidder must submit with its bid a separate sealed list that names each subcontractor that the Bidder will use to perform Work on the Contract, and the agreed-upon amount to be paid to each, for: (A) plumbing and gas fitting; (B) steam heating, hot water heating, ventilating and air condition apparatus and (C) electric wiring and standard illuminating fixtures.

After the low bid is announced, the sealed list of subcontractors submitted with the low bid will be opened and the names of the subcontractors will be announced, and thereafter any change of subcontractor or agreed-upon amount to be paid to each will require the approval of the Owner, upon a showing presented to the Owner of legitimate construction need for the change, which will be open to public inspection. Legitimate construction need includes, but is not limited to, a change in project specifications, a change in material costs, a change to subcontractor status as determined pursuant to New York Labor Law § 222(2)(e), or the subcontractor has become otherwise unwilling, unable or unavailable to perform the subcontract. The sealed list of subcontractors submitted by all other bidders will be returned to them unopened after the Contract award.

#### 5. EXAMINATION OF DOCUMENTS AND SITE

A. Bidder must visit sites of proposed Work and be fully familiarized with conditions as they exist, as well as the character of the operations to be carried on under the proposed Contract.

- B. Bidder must make all necessary on-site investigations so as to understand facilities, difficulties, and restrictions attending the execution of the Work including access to and conditions of the Work sites and properties.
- C. A Bidder will be presumed to have visited the site prior to submission of a proposal and to have familiarized itself with surface and subsurface conditions, existing structures and any and all conditions that may in any way affect the Work. Failure to have so acted will in no way relieve a Bidder from its obligation to perform the proposed Work for the consideration set forth in its bid.
- D. At the time of the opening of bids, each Bidder will be presumed to have read and to be thoroughly familiar with the Drawings and Contract Documents, including all addenda. The failure or omission of any Bidder to receive or examine any form, instrument or document will in no waive relieve any Bidder from its obligation to perform the proposed Work for the consideration set forth in its bid.
- E. If, prior to the submission of its bid, a Bidder fails to notify the Architect in writing of the existence of any condition, ambiguity, inconsistency or error in any of the Contract Documents, or to a conflict between provisions in any Contract Document and provisions of applicable laws, regulations, ordinances, or codes, its bid will be conclusively presumed to have been based upon the interpretation of the ambiguity or inconsistency, or the directions correcting the error or conflict which may subsequently be given by the Architect.

# 6. AMBIGUITIES, INTERPRETATIONS, AND ADDENDA

- A. No oral interpretations, instructions, or explanations of the Bid Documents will be given prior to the opening of the bids. Discrepancies, ambiguities, or doubts as to the intent of a Bid Document should be communicated to the Architect in writing for interpretation.
- B. Interpretations of, clarifications of, amendments to or corrections to the Bid Documents will be made in writing in the form of addenda forwarded to each person to whom or each entity to which Bid Documents have been issued and will become part of the Bid Documents. Each Bidder must acknowledge receipt on the Bid Proposal Forms. Replies issued in any other manner will not be binding. The Architect will not be responsible for oral clarifications.

# 7. PRE-BID CONFERENCE

- A. When indicated in the Invitation to Bidders, a pre-bid conference will be held, at which time the Architect will have a representative available to respond to questions regarding the Bid Documents.
- B. Addenda clarifying pertinent questions or concerns raised at the pre-bid conference, requiring modification of the Bid Documents, will be issued for the record and become part of the Bid Documents.

- C. Notice as to the time and place of the pre-bid conference is stated in the Invitation to Bidders.
- 8. BASIS OF BID PERFORMANCE AND QUALITY STANDARDS
  - A. GENERAL: To establish performance and quality standards for the products, materials, and equipment required in the Work, the Contract Documents detail performance criteria, or specify two or more items or materials which are presumed to be equal. This method of establishing a level of quality is not intended to exclude products that are equivalent in quality, performance, appearance, and function to those specified.
  - B. EQUIVALENTS: The Bidder may propose to use in the Work an equivalent item in lieu of that specified with NO CHANGE to the Bid Amount. The Bidder, proposing to utilize this equivalent procedure, must provide a detailed descriptive submission of the proposed material, equipment, or method being offered as equal to those specified, including an explanation of all deviations from the product specified in the Contract Documents. The Bidder is responsible to prove equality and, in that regard, must supply all additional information requested by the Architect, as well as pay for any required testing to support these claims. Further, the Architect is to be the sole judge of product equivalency for the purpose intended, considering equality, workmanship, aesthetics, services, maintenance, economy, and reliability of operation.

If the Bidder has used equivalents as the basis of the bid, the "Proposed Equivalent Form", which is included in the Project Manual following the Bid Proposal Form, must be submitted as an attachment to the Bid Form or within 72 hours after the bid or prior to the award of the Contract. This form may be reproduced, if necessary, for a full listing of equivalents to be considered. This does not exclude the Bidder from submitting equivalents after the award of Contract. The intent of this process is that, if the Bidder is already aware of an equivalency submission, the risk of acceptance can be reduced by verifying equivalency and, therefore, the bid price prior to award. The risk of whether proposed equivalents are accepted is borne by the Bidder.

- C. SUBSTITUTIONS: For consideration by the Owner, the Bidder may propose to use in the Work substitute items in lieu of those specified, which do not meet the project performance and quality criteria, and can be furnished and installed at a reduced cost (credit) to the Owner with no impact on the Work being done by others.
  - 1. Proposed substitutions must be submitted with the bid or within 72 hours after the bid or prior to the award of the Contract, on the Proposed Substitution Form, which is in the Project Manual following the Proposed Equivalent Form. The Bidder must list any and all deviations from the Contract Documents as well as the corresponding credit amount to be deducted from the Base Bid Proposal if the substitution is accepted by the Owner. This does not exclude the Bidder from submitting a substitution for consideration after the award of the Contract.

- Substitutions cannot be used as the basis of the bid, they must be listed separately and will be evaluated on a case by case basis. All base bid amounts must be based on the specified materials or acceptable equivalents.
- 3. In no way will the proposed substitutions influence the successful bidder selection process. Substitutions may not be used to arrive at the lowest qualified bid amount.
- 4. If a substitution is accepted, the Bidder must coordinate the installation of the substitute and make all associated changes required. The Bidder also waives any claim for additional cost associated with the substitute which becomes apparent before, during, or after installation. The Bidder agrees to bear any and all additional costs to all other contractors or subcontractors which are caused by the incorporation of the substitution.

# 9. PREPARATION, IDENTIFICATION, AND SUBMISSION OF PROPOSAL

A. Bidders must submit triplicate copies of the Bid Proposal Forms (one marked 'Official Tender' and others marked 'Copy'), properly signed and completed in every respect pursuant to these Instructions to Bidders, in an opaque, sealed envelope plainly and prominently marked:

"Sealed Bid	for	(Project	Name)	

Bid	Date	,	20	,	bv	(Name/Address	of
				,	/	(	

Bidder)."

- B. Attached to the Bid Proposal Forms envelope, Bidders must submit Bid Security pursuant to Paragraph 10 of these Instructions to Bidders.
- C. All bids will be held for a period of 45 calendar days after their receipt and opening, during which time the Owner has the right to enter into a contract, and the bid securities of the three lowest bidders will be held until the execution of the Contract.
- D. The Owner reserves the right to reject any or all bids proposals and to waive any or all informalities, defects or irregularities in the bid proposals. The Owner reserves the right to make partial awards based on low bids for each item or may select to award on total low bid.
- E. Once the Bid Proposal Forms have been submitted in the sealed envelope, there can be no alterations or amendments; external markings or separate supplementary information will, in no way, affect the sealed bid information. Any necessary adjustment to the proposal must be made prior to its submission and be part of the enclosed sealed bid.
- F. All costs in connection with preparation and submission of bid proposals shall be borne by the Bidders.

- G. A Bidder must submit promptly, upon request of the Owner or Architect, documentary evidence as to its financial, technical, and practical ability to carry out the Work.
- H. A Bidder may withdraw its bid, either in person or by telegraphic or written request, at any time prior to the scheduled closing time for the receipt of bids. Negligence on the part of the Bidder in preparing its bid confers no right for the withdrawal of the bid after it has been opened.
- 10. BID SECURITY
  - A. **Each base bid** must be accompanied by bid security of not less than five percent (5%) of the amount of the bid (including base bids and alternates), which may be a certified check, cashier's check, bank draft, or bid bond executed by a Surety Company authorized to do business in the State of New York and made payable to the Owner.
    - 1. Bid Security must be submitted in a separate sealed envelope clearly identifying the company and project as well as the name and address of the Surety Company.
    - 2. Each bond must be accompanied by a Power of Attorney, giving names of Attorneys-in-fact, and the extent of their bonding authority. All bonds must be countersigned by a resident Agent and with a Surety Company or Corporation meeting the following qualifications:
      - a. Surety must be licensed to do business in the State of New York.
      - b. Surety must be listed on the current U.S. Treasury Department Circular 570 entitled "Companies Holding Certificates of Authority" from the Secretary of the Treasury under the Act of Congress approved July 30, 1974 (6 U.S.C., Sec. 6-13), as Acceptable Sureties on Federal Bonds.
      - c. The Surety must be rated as equal to "A-" or better as to "Policy Holder Ratings" by "Best's Key Rating Guide."
      - d. The bonding limit for each Bidder cannot exceed the amount listed on the above referenced U.S. Treasury Department List for the Surety issuing the bond.
      - e. All Surety companies are subject to approval and may be rejected by the Owner without cause, in the same manner that bids may be rejected.
      - f. In the event any of the requirements outlined herein are not complied with, the Owner will have the right to reject the bid.
  - B. Bid security will be returned to all except the three lowest bidders, after formal analysis and evaluation of bids. No bid will be held beyond the 45-day period stipulated above.

- C. Remaining bid security will be returned to bidders after Owner and the successful bidder have executed the Agreement and the Owner has received and approved performance and payment bonds.
- D. If the Agreement has not been executed within the specified period of time after the bid opening, the bid security of any Bidder will be returned upon its request, provided it has not been notified of acceptance of its bid prior to the date of its request.

# 11. RECEIPT AND OPENING OF BIDS

A. Bids will be received up to the time and at the location indicated for the opening in the Invitation to Bidders, after which they will be visibly opened and read aloud, and the contents made known to all interested parties present. Each Bidder assumes the risk of any delay in the mail or in handling of mail by employees of the Owner or others.

# 12. MODIFICATION OR WITHDRAWAL OF PROPOSAL

- A. Bid may not be modified after it has been deposited with Owner.
- B. Bid may not be withdrawn after time set for receipt of bids.
- C. Withdrawn bid may not be resubmitted.
- D. Bid withdrawn after opening of bids will result in forfeiture of bid security.

# 13. DISQUALIFICATION OF PROPOSAL

- A. The Bidder acknowledges the right of the Owner to reject any or all bids. The Owner reserves the right to reject any or all bids proposals and to waive any or all informalities, defects or irregularities in the bid proposals.
- B. Bid may be disqualified and rejected under any or all of the following conditions:
  - 1. If the Bidder fails to furnish the required bid security, or to submit data required by the Contract Documents, or if the Bid is in any way incomplete or irregular.
  - 2. If the Bid has not been deposited at the designated location prior to the date and time for receipt as indicated in the Invitation to Bidders and these Instructions to Bidders.
  - 3. If there is reason to believe that a Bidder has submitted more than one bid for the same project.
  - 4. If there is reason to believe that collusion exists among Bidders.
  - 5. A Bidder's failure to establish to Owner's satisfaction:
    - a. Proof of ownership, control, or ability to procure necessary plant and equipment to commence the Work at the time prescribed and thereafter prosecute and complete at the rate, or within the time specified.

- b. That Bidder is not already obligated by prior commitment to other work as to likely delay start, prosecution, or completion of the Work required by the Contract Documents.
- c. That Bidder proposes to use reliable and responsible subcontractors or suppliers.

## 14. AWARD OF CONTRACT

- A. The Contract will be awarded to the lowest qualified responsible Bidder, provided its bid is reasonable and it is in the best interest of the Owner to accept.
- B. 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, or substitutions, if any, which the Owner elects to accept after the opening of bids.
- C. The Owner reserves the right to make partial awards based on low bids for each item or may select to award on total low bid.

#### 15. EXECUTION OF AGREEMENT

- A. The Agreement will be prepared by Owner.
- B. The Agreement must be executed in triplicate within ten calendar days after notification of award at which time the successful contractor must deliver to the Owner all the necessary counterparts of the Agreement in the form set forth in the Bid and Contract Documents.
- C. Performance and payment bonds must be submitted in the form of A.I.A. Document A312, covering performance as well as labor and material payment and extended for the period of time stipulated in Article 11 of the General and/or Supplementary General Conditions, "Bonds and Insurance". An executed bond must be issued by a surety company licensed in New York State.
- D. At the time of execution of the Agreement and prior to the start of construction operations, the successful bidder must furnish documentation in the form and amounts required by the provisions of the Contract Documents that set forth the insurance requirements.
- E. The successful bidder must submit Schedule of Values, as per A.I.A. Form G702A and provide breakdown of costs.
- F. The successful Bidder, upon its failure or refusal to execute and deliver the required documentation, including but not limited to the Agreement and required bonds and proof of insurance within ten calendar days after the Bidder received notice of the acceptance of its bid, will forfeit to the Owner, as liquidated damages for such failure or refusal, the security deposited with its bid.

## 16. TAXES AND PERMITS

- A. Material purchased for use in the construction of buildings owned by the Owner are exempt from Federal excise and State sales taxes when the materials are incorporated into and become part of the completed improvement.
- B. Materials, appliances, tools, equipment, or fuel costs which do not become part of the completed improvement will be subject to all applicable taxes.
- C. The Owner is not subject to Federal Tax on transportation of property.
- D. Local Building Permit will not be required.
- E. Exemption certificates will be furnished by Owner for purchases of materials where material is to be incorporated into Work, upon receipt of a copy of the supplier's invoice showing items, net prices, and federal excise tax separately.

## 17. SUBCONTRACTOR'S LISTING

For multiple prime contracts, a listing of all subcontractors and major material suppliers (including address, telephone number, and name of individual to contact) whose services are proposed to be employed on the project must be submitted within 15 calendar days after signing of the Agreement.

18. TIME OF COMPLETION

A. Bidder shall refer to section 01 13 00 Milestone schedule for time of completion.

19. CONDITIONS OF WORK OPERATIONS

 $\dots$ 

- A. Work under the Contract must be executed and pursued without interruption of or interference with the Owner's operations.
- B. Work operations, access to buildings, and extent of movement of personnel within buildings must be coordinated with and limited by Owner.
- C. Contractor must notify Owner in writing at least 24 hours in advance to advise of intended Work operations to be scheduled and receive approval prior to starting Work.

## 20. REQUIRED BID INFORMATION:

- A. In addition to any other information/documentation required by these Instructions to Bidders or other Bid Documents, the following information/documentation must be submitted with each bid to be considered a complete and responsive bid. Failure to include any required document in the bid submission may lead to disqualification or rejection of a bid, at the sole discretion of the Owner.
  - 1) Bid Proposal Form

- 2) Proposed Equivalent Form
- 3) Proposed Substitution Form
- 4) List of Subcontractors Provide in a sealed envelope along with bid. (If a Single Prime Contract - See Paragraph 4(A) of these Instructions to Bidders).
- 5) Iran Divestment Act Forms (Certification of Compliance or Declaration of Inability), signed and notarized
- 6) Bid Bond/Security
- 7) Information/documentation required by Paragraph 2 of these Instructions for Bidders and the Statement/Proof of Bidder's Qualifications Form.

END OF SECTION

# DIVISION 1 - GENERAL REQUIREMENTS

#### SECTION 1A - SCHEDULES AND REPORTS

#### CONTENTS:

- 1. Summary of the Work
- 2. Laws, Ordinances, Taxes, and Permits
- 3. Plan of Operations and Progress Schedule
- 4. Sequence of Work
- 5. Contractor's Examination
- 6. Notification of Owner and Architect
- 7. Access and Movement of Materials and Personnel
- 8. Job Meetings
- 9. Equal Opportunity
- 10. Wage Rates

### 1. SUMMARY OF THE WORK:

A. All work as shown on the drawings and as specified herein.

# 2. LAWS, ORDINANCES, TAXES, AND PERMITS:

- A. Taxes and Permits:
  - 1. Exempt from New York State Sales Tax.
  - 2. Exempt from Federal Excise Tax.
  - 3. Not subject to building permit fees.

# B. Laws and Ordinances:

The Project is subject to and Contractor shall comply with:

- 1. New York State Wage Rate Requirements.
- 2. Federal Occupational Safety and Health Administration Standards.
- 3. Applicable local, state, and other governing safety regulations.

#### 3. PLAN OF OPERATIONS AND PROGRESS SCHEDULES:

- A. In order to facilitate coordination and fitting, the Contractor shall prepare a "Plan of Operations and Progress Schedule" which shall show concisely the manner in which work will be started, prosecuted, and completed.
- B. After approval of the above document, the Contractor shall be responsible for seeing that it is adhered to and for ascertaining that proper coordination is maintained between work of all Contracts.

# 4. SEQUENCE OF WORK:

- A. It is intended that the work under this Contract be executed without interruption of and with minimum interference with school operations.
- B. Notify utility companies as required by local ordinance and State Law.
- C. Ascertain location of utilities inside and outside of building before commencing demolition work of any kind.
- D. Take precautions to protect the adjacent spaces and surfaces from flying or falling debris. Prevent dust and dirt from rising and clean any dust created by this work.
- E. Contractor shall not employ any labor, materials, or means whose employment or utilization during the course of the work tend to or in any way cause or result in strikes, work stoppages, delays, suspension of work, or similar troubles by workmen under his employ, his Subcontractors, or any of the trades working in or about the premises where work of this Contract is being performed.
- F. The work shall be done with due care; the Contractor will be held responsible for any damage which may be caused thereby to any part or parts of existing structures, site, or items designated to remain. Before proceeding with demolition work, ascertain need for and accomplish any required protection measures. Embedded anchorage and attachments shall be removed to permit proper patching. Contractor will be liable for damage caused to any parts of existing structure or work designated to remain.
- G. Where removal work occurs or where new and old work join, the immediate adjacent surfaces or so much thereof as is required by the involved conditions shall be cut, removed, patched, repaired, or refinished, and left in as good a condition as existed prior to the commencing of the work. The materials and workmanship employed shall conform to that of the original work.
- H. The Contractor shall establish and maintain a rate of work progress so as to insure completion of the construction operations within the time stipulated in the Agreement.
- I. Where materials or construction are to be applied or attached to existing surfaces or construction and to have included in his bid all costs for preparatory work on such surfaces or construction as necessary to permit the proper execution of the required work.
- J. Upon completion of all work under this Section, the Contractor shall remove all tools, materials, plant, apparatus, and rubbish of any sort. The premises shall be left clean, neat, and orderly to the entire satisfaction of the Architect.

# 5. CONTRACTOR'S EXAMINATION:

A. Contractor shall take all field measurements as required and shall satisfy himself as to the nature of equipment and facilities required for and the conditions under which he will be obliged to carry out the execution of the work in every particular which might in any way affect the cost thereof. The submission of a Proposal will be construed as conclusive evidence that such an examination has been made, and no subsequent claims for additional costs of labor, materials, appliances, equipment, etc., or for difficulties encountered which could have been foreseen has such an examination been made, will be recognized.

# 6. NOTIFICATION OF OWNER AND ARCHITECT:

- A. Before starting any work relating to existing utilities or school services, the Contractor will be required to give 24 hours notice to the Architect and Owner and obtain their approval in writing before proceeding with such work.
- B. All work involving active utility or school service shall be performed with the utmost dispatch and without discontinuance or disruption of such services except as and when approved by the Owner.

# 7. ACCESS AND MOVEMENT OF MATERIALS AND PERSONNEL:

- A. The direction of the Owner as to access to the existing building and the limits within which each Contractor shall control the movements of his personnel and materials shall be strictly followed. Generally, the movement of Contractor's personnel within the premises shall be restricted to the minimum necessary for the performance of required work. Under no circumstances shall Contractor's personnel at any time enter upon any portions of the building or premises where such entry is not strictly necessitated by the work required under this Contract. The Contractor shall rigidly enforce these restrictions; violation thereof shall be cause for dismissal of the offender.
- B. Delivery of equipment and materials shall be confined to the limits designated, and storage shall be where directed by the Owner. Temporary enclosures necessary for such storage shall be provided by the Contractor and shall be removed when no longer required.
- C. All work in the existing building shall be performed with the least possible annoyance to the occupants of the building.

#### 8. JOB MEETINGS:

A. Pre-Construction Conference: Upon receiving notice that he has been awarded the Construction Contract for the project, and within ten (10) days of such notice, the Contractor shall make an appointment to meet with the Architect and his representative(s), and shall also instruct his Subcontractors or their representatives to be made personally known to each other and to plan and initiate the most favorable course of the upcoming construction work. B. Regular Job Meeting: The Contractor, Architect, and those Subcontractors whose presence is necessary, shall attend periodic meetings for the purpose of discussing the progress and execution of the work. These meetings shall be held at a time and place designated by the Owner's Representative. The proceedings of these meetings will be recorded by the Owner's Representative and a copy will be subsequently furnished the Contractor for his use. It will be the Contractor's responsibility to distribute copies, as may be required, to his Subcontractors.

# 9. EQUAL OPPORTUNITY (LABOR LAW SECTION 220-3):

- A. The Contractor shall not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. The Contractor shall take affirmative action to insure that applicants are employed and that employees are treated during employment without regard to their race, color, religion, sex, or national origin. such action shall include, but not be limited to, the following: employment, upgrading, demotion or transfer, recruitment or recruitment advertising, layoff or termination, rates of pay or other forms of compensation, and selection for training including apprenticeship. The Contractor agrees to post, in conspicuous places available to employees and applicants for employment, notices to be provided setting forth the provisions of the non-discrimination clause.
- B. The Contractor shall, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, or national origin.
- C. The Contractor shall send to each labor union or representative of workers with which he has a collective bargaining agreement or other Contract or understanding a notice to be provided advising the said labor union or worker's representatives of the Contractor's commitments under this section and shall post copies of the notice in conspicuous places available to employees and applicants for employment.
- D. The Contractor shall comply with Executive Order 11246, Federal Equal Employment Opportunity, unless exempt, in accordance with Section 203 of this order.

# 10. WAGE RATES:

- A. The Labor Law of New York State provides, among other things, that it shall be the duty of the fiscal officer to make a determination of the schedule of wages to be paid to all laborers, workmen, and mechanics employed on public work projects including supplements for welfare, pension, retirement, vacation, and other benefits, in accordance with prevailing practice in the locality. The Contractor shall comply with all requirements of this law as it applies to this project and locality.
- B. The rates of wages determined by the New York State Industrial Commissioner pursuant to the Labor Law are set forth as per the schedule contained within this Project Manual.

# DIVISION 1 - GENERAL REQUIREMENTS

#### SECTION 1B - TEMPORARY SERVICES AND MISCELLANEOUS REQUIREMENTS

#### CONTENTS:

- 1. Scope
- 2. Temporary Utilities
- 3. Temporary Barricades
- 4. Fire Protection
- 5. Parking and Traffic Control
- 6. Restoration of Premises
- 7. Cutting and Patching
- 8. Rough Openings and Routine Items
- 9. Water Tightness
- 10. Miscellaneous Requirements

# 1. SCOPE:

A. Provide, maintain, and remove when no longer required temporary services and utilities as specified, except as may be otherwise provided by the Owner; include costs of obtaining permits, labor, equipment, fixtures, lamps, and similar items as well as duties, levies, or taxes imposed.

# 2. TEMPORARY UTILITIES:

- A. Water and electricity for construction purposes in quantities judged reasonable by the Architect will be furnished to the Contractor by the Owner without charge. The Contractor shall ascertain where these services will be available, make temporary connections as required, and remove same upon completion.
- B. Temporary toilets: The Owner will allow the use of certain toilets within the building during the course of the work, maintain in sanitary condition, and, upon completion of the work, surrender them to the Owner in as good condition as found.

# 3. TEMPORARY BARRICADES:

- A. Temporary closures and barricades, as may be required to maintain and protect the new and existing work and to protect the public from danger, shall be provided.
- B. Protect temporary closures and barricades to guard new and existing work from vandalism during and after working hours.

#### 4. FIRE PROTECTION AND PREVENTION:

A. Each Prime Contractor shall take all precautions required to prevent fires as a result of his operations. Flame cutting torches, blow torches, or welding tools shall be used in strict accordance with applicable safety rules and regulations.

- B. When welding tools or torches of any type are in use, the Prime Contractor using such equipment shall have available a fire extinguisher of the Multi-Purpose Type ABC in the immediate vicinity of the work. The fire extinguishers shall be provided and maintained by said Contractor in usable condition at all times.
- C. In addition to the requirements of Paragraphs A and B above, the General Work Contractor shall provide fire extinguishers in working order located at intervals throughout the construction operations. These extinguishers shall not be removed from their mounting except to be tested or for the purpose of fighting a fire. They shall be relocated as necessary by the General Work Contractor when progress of the work demands. These fire extinguishers will remain the property of the General Work Contractor.
- D. Keep fire hydrants on or adjacent to the work accessible to fire fighting equipment at all times.

#### 5. PARKING AND TRAFFIC CONTROL:

- A. Parking on site will be at the Owner's discretion and approval only.
- B. Protect existing roads and repair damage caused to road or site.

#### 6. RESTORATION OF PREMISES:

- A. Walls and floor areas and any other surfaces that are broken, damaged, pitted, or otherwise defective as a result of receiving, handling, or storage of materials or the performance of any work under any Contract, or by reason of neglect of any Contractor, shall be fully restored to the satisfaction of the Owner, and the full cost, therefore, shall be borne by the Contractor.
- B. Sites shall be cleaned daily and restored to original condition at completion of construction operations.
- C. Roll-offs shall be located so as not to interfere with school operations, and paving or landscaping shall be restored when removals are completed.

## 7. CUTTING AND PATCHING:

- A. Cutting and patching covers adjustment to, necessary reworking, or removal of elements of construction in both new and existing work to comply with work of the Contract documents. The following definitions for cutting and patching apply:
  - <u>Cutting</u>: Physical modification or removal of construction work (walls, floors, ceilings, roofs, etc.) or installed materials (doors, windows, panels, etc.), both new, factory-finished, and existing.
  - 2. <u>Patching</u>: Restoration or replacement of construction work (walls, floors, ceilings, roofs, etc.), both new, factoryfinished, and existing. Patching shall include installation of new finish, materials, and reconstruction of walls, floors, etc. All patching shall match adjacent materials and finishes unless otherwise indicated.

- B. Each Prime Contractor, unless otherwise indicated, shall hire a qualified General Contractor to provide all equipment, labor, material, and incidentals necessary for cutting and patching as required for the installation of his work in new or existing walls, floors, and ceilings.
- C. Each Prime Contractor will be held responsible for his own and his Subcontractors' work in cutting and patching and the correction of the work of other Prime Contractors if damaged by him.
- D. Each Prime Contractor shall bear the expense of all cutting, patching, repairing, or replacing of the work of other trades made necessary by any fault, error, or tardiness on the part of or damage done by him. He shall employ and pay the Contractor whose work is involved.
- E. In existing structures, each Prime Contractor shall, unless otherwise indicated, hire a General Contractor to do all cutting, patching, repairing, or replacing of General Work required for the removal of existing work or installation of his new work. Secure approval before cutting.
- F. In no case may floors, walls, or ceilings that are waterproofed be cut for the admission of any equipment or materials nor may any structural member be pierced without written permission.
- G. Where roofing or waterproofing membranes must be cut to accommodate the work of any Prime Contractor, such Prime Contractor shall employ a qualified roofing Contractor to do all required cutting, patching, and repairs of the roofing or waterproofing, and then only after approval of the methods proposed by the Architect and/or any agency that may have a roof bond or guarantee/warranty in force.
  - 1. Approval of all materials, methods, and roofing Contractor used in cutting, patching, and repairing existing roofing membrane shall be obtained from agency, or agencies, holding a roof bond or guarantee/warranty in force.

## 8. ROUGH OPENINGS AND ROUTINE ITEMS:

- A. Each Prime Contractor will provide all openings, chases, recesses, lintels, and bucks in new or existing construction that are required for the admission of his work.
- B. Each Prime Contractor shall furnish all necessary information (i.e. location and size of openings, chases, etc., and other built-in field conditions) to the other Prime Contractors in ample time for the installation of his work.
  - 1. Ample time shall mean:
    - a. In concrete work, before reinforcing is placed.
    - In masonry, before wall construction reaches location of opening, chase, or other item.
    - c. In drywall, before second or finish face is applied.
  - 2. This paragraph shall not be construed to include any items in earth such as trenches, etc.

# 9. WATER TIGHTNESS:

- A. Each Prime Contractor shall be held responsible for the water tightness of his respective products, materials, and workmanship as installed in the job. This includes all work either specified to be watertight or inferred by general practice to be watertight. All walls, roofs, glazing, windows, doors, sleeves, through foundation or walls, flashings, and other items shall be in a watertight condition before final payment is requested.
- B. If a Prime Contractor feels that the details or materials, as drawn or specified, are not satisfactory to produce a watertight job, he shall so inform the Architect before installation. The Prime Contractor shall submit his proposed substitution or alternative method of doing the work for the Architect's approval. Any approved change shall be executed by the Prime Contractor and made watertight at no additional cost to the Owner.
- C. Any proposed changes encountered during the bidding procedure may be submitted in the proper form and time to the Architect for consideration as a change to be covered by ADDENDA.

#### 10. MISCELLANEOUS REQUIREMENTS:

- A. Contractor shall verify all existing conditions prior to proceeding with new work installations.
- B. Contractor shall be responsible for all verification of dimensions shown.
- C. Contractor shall retain all existing fire exit locations with the school complex during construction as necessary to provide safe egress to all inhabitants as per State and Local Codes.
- D. Contractor shall seal all areas of construction to prevent dust and debris from entering areas other than location of installation.
- E. Contractor shall meet all OSHA requirements for sanding and sealing as required.
- F. Contractor shall protect all existing walls, equipment, and apparatus from damage during the construction process.
- G. Contractor shall construct Architect/O.S.H.A. approved, code compliant barricades and construction area separation between all proposed work and student occupied spaces. There shall be no interference with required educational capabilities during the construction of this project while classes are in session.
- H. Contractor shall relocate any existing H.V.A.C. intake/discharge units as to prevent the distribution of any demolition/construction related fumes and dust during the course of the entire project. Relocate same to original functioning position upon project completion.

- I. All construction materials, equipment, personnel, debris, dust, fumes, noise, smells, etc. shall be isolated from building occupants and other vehicular traffic by way of "special necessary construction" during the entire construction process. provide all required temporary stairs, ramps, fire alarm systems, fire extinguishers, illuminated exit signs, door hardware, and floor finishes needed to maintain all occupied spaces safe and code compliant at all times.
- J. Contractor must provide schedules of work which include a minimum of 48 hours or manufacturer's recommended time for "baking out" and exhausting of volatile organic compounds used during construction prior to building occupancy. Provide and maintain at the site "MSDS" forms indicating safe times before occupancy of spaces.
- K. The District must provide a continuously updated written emergency exit plan which provides for the relocation of all students and staff immediately upon a break in the above required "separation of construction areas" as to minimize exposure to all students and staff. Coordinate with all contractors, building staff, and students for their use.

# DIVISION 1 - GENERAL REQUIREMENTS

#### SECTION 1C - INSURANCE REQUIREMENTS

#### CONTENTS:

- 1. General Requirements
- 2. Certificates of Insurance
- 3. Types of Coverage and Minimum Limits
- 4. Continuity

#### 1. GENERAL REQUIREMENTS:

- A. In addition to the requirements specified under Article 11 of the General Conditions and the insurance required by law, the Contractor shall, before commencing work under this Contract and during the period of construction to the date of final acceptance by the Owner, purchase, effect, and maintain insurance coverage as described in this section.
- B. No Subcontractor shall be permitted to undertake any portion of this Contract without first having presented to the Contractor certification attesting to similar coverages as are required of the Contractor under this section. Such certification shall be issued to and in a form acceptable to the Contractor.
- C. Not withstanding any terms, conditions or provisions, in any other writing between the parties, the Contractor agrees to effectuate the naming of the Owner and the Architect as additional insureds on the Contractor's insurance policies, with the exception of Workers' Compensation and NY State Disability.
- D. Each policy naming the Owner and Architect and Construction Manager as additional insureds must:
  - 1. Be an insurance policy from an A.M. Best A-rated or better insurer, licensed to conduct business in New York State; and
  - 2. State that the Contractor's coverage is primary and noncontributory coverage for the Owner, its Board of Education, employees and volunteers with a waiver of subrigation in favor of the Owner.
- E. The Contractor agrees to indemnify the Owner for any applicable deductibles and self-insured retentions.

# 2. CERTIFICATES OF INSURANCE:

A. Certificates of Insurance shall be transmitted in duplicate to the Architect for forwarding to the Owner, and any Certificate found to be incomplete or not according to the proper form will be returned as being unsatisfactory. A letter of transmittal from each insurance company involved must be submitted certifying that the certificate is issued pursuant to their authorization.

- B. The Owner, Architect, Constuction Manager must be listed as an additional insured by using standard or other endorsements that extend coverage to the Owner, Architect and Constuction Manager for both on-going operations (CG 20 38) and products and completed operations (CG 20 37), latest version. The decision to accept an endorsement rests solely with the Owner. A completed copy of the endorsements must be attached to the Certificate of Insurance. Contracts with subcontractors shall require them to provide the same additional insured coverages and documents.
- C. The certificate of insurance must describe the services provided by the contractor (ie. Roofing, carpentry or plumbing, etc.) that are covered by the liability policies.
- D. At the Owner's request, the Contractor will provide copies of the declarations pages of the liability and umbrella/excess policies with a list of endorsements and forms. If so requested, the Contractor will provide a copy of the policy endorsements and forms.
- E. There will be no coverage restrictions and/or exclusions involving New York State Labor Law statutes or gravity related injuries.
- F. A fully completed New York Construction Certificate of Liability Insurance addendum (ACORD 855 2014/05) must be included with the certificates of insurance. For any "Yes" answers on Items G through L on this addendum, additional details must be provided to the Owner in writing. Policy exclusions may not be accepted.

## G. Certificates shall contain:

- 1. Name and address of the insured.
- 2. Job location and title of the Contract.
- 3. Policy number and expiration date.
- 4. Issuance date of Certificate.
- 5. Types of coverage included.
- 6. Limit of Liability for each type used.
- 7. Types of operations covered (Classifications).
- 8. Types of operations or of coverages specifically excluded.
- 9. Thirty (30) day cancellation or non-renewal notice.
- 10. Owner, Architect or Owner representatives as additional insured.
- 11. Hold Harmless Clause indemnifying Owner, Architect, construction manager or Owner representatives
- 12. Name of Insurance Company.
- 13. Counter Signature of Resident Agent in State of project location.
- H. No Certificate covering policies containing escape clauses or exclusions contrary to the Owner's interests will be accepted.
- I. The delivery of Certificates of Insurance authorizes the Owner or Architect to make direct inquiry of and to receive direct response from the insurance carrier regarding questions arising during the performance of the Work which are pertinent to the coverages under the policies.

# 3. TYPES AND MINIMUM LIMITS OF COVERAGE:

- A. The Contractor will obtain and keep in full force and effect during the term of the Contract, at the Contractor's sole cost and expense, the following insurance:
- B. Commercial General Liability Insurance
  - o \$1,000,000 per occurrence/ \$2,000,000 aggregate
  - o \$2,000,000 Products and Completed Operations
  - o \$1,000,000 Personal and Advertising Injury
  - o \$100,000 Fire Damage
  - o \$10,000 Medical Expense
  - o The general aggregate must apply on a per-project basis.
- C. Automobile Liability
  - o \$1,000,000 combined single limit for owned, hired and borrowed and non-owned motor vehicles.
- D. Workers' Compensation and NYS Disability Insurance
  - o Statutory Workers' Compensation (C-105.2 or U-26.3); and New York State Disability Insurance (DB-120.1) for all employees. Proof of coverage must be on the approved specific form, as required by the New York State Workers' Compensation Board. ACORD certificates are not acceptable. A person seeking an exemption must file a CE-200 form with New York State. The form can be completed and submitted directly to the Workers' Compensation Board online.
- E. Builders Risk
  - o Must be purchased by the Contractor to include the interests of the Owner and Contractor jointly in a form satisfactory to the Owner. The limits must reflect the total completed value - all material and labor costs and provide coverage for fire, lightning, explosion, extended coverage, vandalism, malicious mischief, windstorm, hail and/or flood.
- F. Umbrella/Excess Liability Insurance
  - Umbrella/Excess coverage must be on a follow-form basis over the Auto Libaility and General Libailty covderages.
  - o \$5 million each Occurnece and Aggregate for general construction work and no work at elevation (1 story - 10 feet) or project value less than or equal to \$1,000,000.
  - o \$10 million each Occurrence and Aggregate for high-risk construction, work at elevation (>1 story or 10 feet) or project value greater than \$1,000,000.
- G. Asbestos/Lead Abatment/Pollution Liability Insurance
  - o \$2,000,000 per Occurrence/\$2,000,000 Aggregrate, including products and completed operations. Such insurance shall include coverage for the Contractors operations including, but not limited to, removal, replacement, enclosure, encapsulation and/or disposal of asbestos, or any other hazardous material, along with related pollution events, including coverage for third-party

GENERAL-12 Rev. September 2022 liability claims for bodily injury, property damage and clean-up costs. If a retroactive date is used, it shall pre-date the inception of the Contract.

- o If the Contractor is using motor vehicles for transporting hazardous materials, the Contractor must maintain pollution liability broadened coverage (ISO Endorsement CA 9948) as well as proof of MCS 90. Coverage shall fulfill all requirements of these specifications and shall extend for a period of three (3) years following acceptance by the Owner of the the Certificate of Completion.
- o Testing Company Errors and Omission Insurance: \$1,000,000 per Occurrence/\$2,000,000 Aggregate for the testing and other professional acts of the Contractor under the OCntract with the Owner.
- H. <u>Owners Contractors Protective (OCP) Insurance</u>: The Contractor will obtain and keep in full force and effect during the term of this Contract, at the Contractor's sole cost and expense, Owners Contractors Protective (OCP) Insurance. The Owner will be the Named Insured on all OCP policies and there will be no additional insureds.
  - For projects less than or equal to \$1,000,000 and work on one (1) story (10 feet) only; \$1 million per occurrence, \$2 million aggregate with the Owner as the Named Insured.
  - For projects greater than \$1,000,000 and/or work over one (1) story (10 feet); \$2 million per occurrence, \$4 million aggregate with the Owner as the Named Insured.
  - 3. For all projects where General Liability, Auto and Umbrella/Excess Coverage is with non-licensed and non-admitted carriers in New York State; \$2 million per occurrence, \$4 million aggregate with the Owner as the named Insured.
- I. <u>Contractor's Contingent Liability</u>: The Contractor shall procure, pay for, and maintain such insurance as will protect the Contractor from his contingent liability for damages and for injury to the person or property of another which may arise from the operations of all Subcontracts under this Contract.
- J. <u>Contractor's and Employees' Equipment:</u> The Contractor assumes responsibility for all injury to or destruction of the Contractor's materials, tools, machinery, equipment, appliances, shoring, scaffolding, false and form work, and personal property of Contractor's employees from whatever cause arises.

# 4. CONTINUITY:

A. Contractor acknowledges that failure to obtain the foregoing insurance on behalf of the Owner constitutes a material breach of contract and subjects the Contractor to liability for damages, indemnification and all other legal remedies available to the Owner. The Contractor must provide the Owner with a certificate of insurance , evidencing the above requirements have been met, prior to the commencement of work.
- B. The Contractor acknowledges that its failure to obtain or keep current the insurance coverage required by this Addendum shall constitute a material breach of Contract and subjects the Contractor to liability for damages, including but not limited to direct, indirect, consequential, special and such other damages the Owner sustains as a result of such breach. In addition, the Contractor shall be responsible for the indemnification to the Owner and the Architect, of any and all costs associated with such lapse in coverage, including but not limited to reasonable attorney's fees.
- C. The Contractor shall require all Subcontractors to carry the same insurance coverages and limits of liability, as are required to be carried by the Contractor and adjusted to the nature of Subcontractors' operations and submit proof of same to the Owner for approval prior to start of any Work. The Contractor shall also require that Subcontractors require Sub-Subcontractors to carry the same insurance coverages and limits of liability, as are required to be carried by the Contractor and adjusted to the nature of Sub-Subcontractors' operations and submit proof of same to the Owner for approval prior to the start of any Work. This includes, but is not limited to requiring that Subcontractors and Sub-Subcontractors name the Owner as an additional insured by using endorsements CG 2038 and CG 2037 or their equivalents and providing Acord 855 NY Form. In the event the Contractor fails to obtain the required certificates of insurance and other required proof of insurance from the Subcontractor or its subs and a claim is made or suffered, the Contractor shall, to the fullest extent of the law, indemnify, defend, and hold harmless the Owner, the Owner's Board of Education, the Architect, Engineers, Consultants, and Sub-consultants and their agents, employees, officers, or representatives from any and all claims for which the required insurance would have provided coverage. This indemnity obligation is in addition to any other indemnity obligation provided in the Contract.
- D. The Contractor assumes responsibility for all injury or destruction of the Contractor's materials, tools, machinery, equipment, appliances, shoring, scaffolding, false and form work, and personal property of the Contractor's employees from whatever cause arises. Any policy of insurance secured covering the Contractor or Subcontractors leased or hired by them and any policy of insurance covering the Contractor or Subcontractors against physical loss or damage to such property shall include an endorsement waiving the right of subrogation against the Owner for any loss or damage to such property.
- E. The Owner in good faith may adjust and settle a loss with the Contractor's insurance carrier.
- F. The Owner and the Contractor waive all rights against each other and any of their Subcontractors, Sub-subcontractors, agents and employees for damages caused by fire or other perils to the extent of actual recovery of any insurance proceeds under any property insurance policy procured, pursuant to this Addendum, or other property insurance applicable to the Contractor's Work.

- G. Before commencement of its Work, the Contractor shall obtain and pay for such insurance as may be required to comply with its obligations pursuant to the Contract, including, but not limited to any indemnification and hold harmless provisions.
- H. Review and acknowledgment of the Certificate of Insurance or other proof of insurance by the Owner or the Architect shall not relieve or decrease the liability of the Contractor hereunder.
- I. If the terms of policies expire before the Contract is completed or during the period of completed operations coverage, and the Contractor fails to maintain continuance of such insurance, the Owner is entitled to provide protection for itself, to pay premiums therefor, and to charge the cost thereof to the Contractor.
- J. In the event of loss by fire or other insured hazard during the term of the Contract, the Contractor shall cooperate with the Owner and Architect and the insurance adjusters in all procedures incidental to the expeditious adjustment of the loss and shall during this period maintain progress of construction. The Contractor will not be relieved from his obligations for the proper execution of his Contract except that the time of completion may be extended for such number of days as may have been delayed by reason of such loss, as determined by the Architect.

### DIVISION 1 - GENERAL REQUIREMENTS

#### SECTION 1D - PRODUCT APPROVAL STANDARD

#### CONTENTS:

- 1. Definitions
- 2. Proof of Compliance
- 3. Inclusion of Specification of Non-Specified Products
- 4. Consideration of Equivalents After Award of Contract

#### 1. DEFINITIONS:

- A. The term "product" shall include material, equipment, assembly methods, manufacturer, brand, tradename, or other description.
- B. Reference to be approved equal or similar terms mean that approval of the Architect is required.

### 2. PROOF OF COMPLIANCE:

- A. Whenever the Contract Documents require that a product be in accordance with Federal Specifications, ASTM Designation, ANSI Specification, or other Association Standard, the Contractor shall present an affidavit from the manufacturer of a proposed product certifying that it complies therewith.
- B. Where requested or specified, submit supporting test data to substantiate compliance.

### 3. INCLUSION IN SPECIFICATION OF NON-SPECIFIED PRODUCTS:

- A. If a Contractor has based his bid upon products, materials, or items not specifically described or named in the specifications, he may be required, prior to Award of Contract, to submit the names, types, brand, or manufacturer of products included in his bid for the specified items.
- B. Supporting data documenting wherein the proposed materials, products, or equipment may vary from those specified may be required and will be the responsibility of the Contractor.
- C. The risk of whether bid equivalents will be accepted will be borne by the Contractor.

#### 4. CONSIDERATION OF EQUIVALENTS AFTER AWARD OF CONTRACT:

- A. Equivalent products will be considered after Award of Contract if:
  - 1. Previously accepted or specified product is not available because of strike, lock out, bankruptcy, or discontinuance of its manufacture.
  - 2. Specified performance or guarantee cannot be attained in the Contractor's judgement.

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- B. Additional products, when submitted for consideration, must be accompanied by documentation attesting to the foregoing and establish equivalency in the judgement of the Architect, the burden of proof for which shall be the Contractors.
- C. Request for product changes, other than equivalents, if accepted, shall be effected by Change Order.

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## DIVISION 1 - GENERAL REQUIREMENTS

### SECTION 1E - ALTERNATES

#### 1. GENERAL REQUIREMENTS:

- A. Each Contractor shall state in his Proposal the amount to be added or deducted from his Base Bid for the difference in cost between the work described under each Alternate and the corresponding work specified under his Base Bid.
- B. Alternate bids shall reflect the increase or decrease in cost of all work of every nature which may be affected thereby, and no subsequent claims for extras by reason of the Contractor's failure to observe this requirement will be considered.
- C. Except as otherwise described or approved, material and workmanship required by the Alternates differ from the requirements shown on the drawings or specified for corresponding items, the Alternate's construction and materials will be subject to the approval of the Architect.
- D. Submit shop drawings and samples of the work under each accepted Alternate as per "General Conditions" requirements.

END OF SECTION

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### DIVISION 8 - DOORS AND WINDOS

### SECTION 08121 - DEMOUNTABLE PANEL PARTITION (GENIUS Architectural Wall)

### PART 1 - GENERAL

## 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.
- B. Specifications throughout all Divisions of the Project Manual are directly applicable to this Section, and this Section is directly applicable to them.

#### 1.2 SUMMARY

- A. Section Includes:
  - 1. Non-Progressive, movable and reconfigurable system of unitized or pre-assembled panels, from a single manufacturer.
  - 2. Trim, Sealants, Hardware and Accessories.

### 1.3 RELATED SECTIONS

- 1. Door Hardware Section 08710
- 2. Glass and Glazing Section 08800

#### 1.4 PERFORMANCE REQUIREMENTS

- A. Installer Qualifications: Engage an experienced installer who has successfully completed demountable partition installations similar in material, design, and extent to that indicated for this Project and is mutually accepted by the manufacturer and the customer.
- B. Performance Bond: The successful demountable manufacturer should have the ability to provide a performance bond to insure Project completion.
- C. Structural Performance: Provide demountable partitions capable of withstanding the effects of gravity loads and the following loads and stresses within limits and under conditions indicated:
  - Load-Bearing Capacity of Panel System: Two shelving units loaded with 300 lb each (180 lb inside - 120 lb on top) and 1 worksurface with 270 lb meeting the distributed functional load requirement when tested according to BIFMA X 5.6-2003, Section 6, Table 1.
  - 2. Transverse-Load Capacity of Panel System:
    - a. Interior wall panel deflections cannot exceed 1/120 of the span for flexible facing material or 1/240 of the span for brittle facing materials under 5 psf (0.240 kN/m<sup>2</sup>) uniform transverse design load per the 2018 IBC Table 1604.3. Interior wall panel deflections for glass panel frames cannot exceed 1/175 of the span or 0.75 inches, whichever is less under a 5 psf (0.240 kNm<sup>2</sup>) uniform transverse design load per the 2018 IBC Table 2403.3.
    - b.2018 IBC Section 1607.15: Interior demountable partition or butt-glazed entrances/storefronts wall products that exceed 6 feet (1829 mm) in height, including their finish materials, have adequate strength to resist the loads which they are subjected but not less than a horizontal load of 5 psf (0.240 kN/m<sup>2</sup>).
    - c.Seismic Performance: Provide demountable partitions capable of withstanding the effects of earthquake motions determined according to ASCE 7 Minimum Design Loads for Buildings and Other Structures.
- D. Sound Control: Solid panels provide an overall sound transmission class of not less than 44 STC rating in accordance with ASTM E-90, ASTM E412 when recessed ceiling channel, recessed panel connectors and wallposts are used. Solid panels provide an overall sound transmission class of not less than 48 STC rating in accordance with ASTM E90, ASTM E412 when flush

ceiling channel, flush panel connectors and U-channels are used.

- E. Fire Retardancy: No flammable materials are used in the manufacture of the wall system. Provide independent laboratory tests for surface-burning characteristics of panel finishes in accordance with ASTM E-84 (UL 723). Flame Spread/Smoke Development: Class A for powder-coat finish and steel, and 100% Polyester or Recycled Polyester fabric per IBC, Section 803.1.2.
- F. Electrical Components, Devices and Accessories: UL listed and labeled as defined in NFPA 70, Article 110, by a testing agency acceptable to authorities have jurisdiction, and marked for intended use.
- G. Indoor Air Quality: Demountable partition wall manufacturer's non-wood products must meet the SCS Indoor Advantage™ Gold Certification or equivalent. Conforms to indoor air concentrations meeting ANSI/BIFMA Furniture Emissions Standard (M7.1/X7.1-2011 R2016), CDPH/EHLB Standard Method (CA 01350) v1.2-2017 AND ANSI/BIFMA e3-2019 (Credit 7.6.1, 7.6.2, 7.6.3) conducted in an independent third-party air quality testing laboratory.
- H. FSC is available by request. FSC Chain of Custody Certification number is SCS-COC-002476.
- I. Combustibility Performance: Products have finishes and construction acceptable for use in Non-Combustible buildings, in accordance with Chapters 6 and 8 of the International Building Code, 2018 Edition.
- J. 2010 ADA:

Doors Clear Width (ADA 404.2.3) Suggested Specification. Doorways have a minimum clear opening of 32" (815 mm) with the door open 90°, measured between the face of the door and the opposite stop, and have 80" (2030 mm) minimum clear headroom.

Doors Opening Force (ADA 404.2.9) Suggested Specification. Interior hinged, sliding or folding doors require no more than five pounds of force to open.

Doors Door Hardware (ADA 404.2.7) Suggested Specification. Door handles are levers that can be operated with a closed fist. Hardware is mounted no higher than 48" (1220 mm) above finished floor and a minimum of 34" above finished floor.

- K. Certification: Include supporting certified laboratory testing data indicating that material meets specified test requirements.
- L. Mock up for Verification Purposes: In a location designated by the Architect, install a full scale installation incorporating at least one of each type of panel, and accessory required, illustrating each installation condition. Retain mock up installation until completion of total installation or dismantle earlier at the direction of the Architect. Materials used for the mock up installation will not be considered part of either the base contract materials or the attic stock materials. If life cycle costs of the product are important decision criteria, the mock up installation and reconfiguration should be timed, and the reuse of components should be evaluated.

### 1.5 SUBMITTALS

- A. Product Data: Product data on physical characteristics, durability, resistance to fading, and flame spread characteristics for each type of partition and accessory.
- B. Shop Drawings: Shop drawings showing location and extent of partitions. Include plans, elevations, sections, details, and attachments to other work.

C. Samples:

- Samples for Initial Selection: Samples for initial selection purposes in form of manufacturer's standard color charts showing full range of colors, textures, and patterns available for each type of material exposed to view.
- Samples for verification: For each type of exposed finish required, prepared on Samples of size indicated below.

- a.Panel Finish Face: Manufacturer's standard-size unit, but not less than 3 inches (75 mm) square.
- b.Base Trim: 12-inch- (300-mm-) long Samples.
- c.Door Finish Face: Manufacturer's standard-size unit, but not less than 3 inches (75 mm) square.
- d.Glazing: Manufacturer's standard-size unit, but not less than 3 inches (75 mm) square.
- D. Product Test Reports: Based on evaluation of comprehensive tests performed by a qualified testing agency, for each type of demountable partition.
- E. Contract Closeout Information:

1.Warranty.

- Maintenance Data: For demountable partitions to include in maintenance manuals.

   Recommended cleaning materials and warning about cleaning methods that could be detrimental to finishes and performance.
  - b. Installation manual detailing methods to move reuse and adjust demountable product.

## 1.6 PROJECT CONDITIONS

- A. Delivery, Storage, and Handling: Deliver materials to Project Site in original factory wrappings and containers/skids, clearly labeled with identification of manufacturer, brand name, model number and order number. Store materials in original undamaged packages and containers, inside well ventilated area protected from weather, moisture, soiling, extreme temperatures, humidity; store product according to installation manual and away from other trades.
- B. Environmental Limitations: Do not deliver or install demountable partition components until building is enclosed and finishing operations, including ceiling and floor-covering installation and painting, are complete.
- C. Field Measurements: Indicate measurements on Shop Drawings.
- D. Coordination of Work: Coordinate layout and installation of demountable partition components with other units of Work. Installation of ceilings, floor coverings, lighting fixtures, HVAC equipment, and fire-suppression systems should be completed before demountable partitions are installed.
- E. Special Requirements: Comply with instructions and recommendations of manufacture for special delivery, storage, and handling requirements.

## 1.7 EXTRA MATERIALS

Deliver to the Owner, not less than three percent of the Project total for each component panel and accessory of each type, color, and finish of demountable partition system exclusive of material required to properly complete installation. Furnish accessory components and installation tools as indicated on schedule. Furnish extra materials from same production run as materials installed. Package extra materials with protective covering, identified with appropriate labels.

## 1.8 WARRANTY

Demountable system glazed units, door frames, and related components to be without defects in material or workmanship for a period of ten (10) years from the date of delivery. Wood doors are warranted for ten (10) years from the date of delivery, subject to the manufacturer's terms and conditions. Third party supplied product such as door hardware and film applied to glass will be warranted based on their own warranty terms.

This warranty does not cover defects or damage resulting from accidents, misuse, improper relocation methods or transfer to storage. Plastic laminates, and wood veneer finishes are not warranted against fading or wearing, or if improperly cleaned or treated by the Owner or by others.

### 1.9 NON-OBSOLESCENCE

Demountable system components and parts, with exception of third party supplied product (such as door hardware, glass, film applied to glass) are guaranteed to be compatible and available for

purchase for ten years from the date of the original order.

### PART 2 - PRODUCTS

- 2.1 DEMOUNTABLE PANEL PARTITIONS
  - A. Products: Subject to compliance with requirements, provide the Basis-of-Design Product, or architect approved equal.
  - B. Basis-of-Design Product: Subject to compliance with requirements, provide KI "Genius Wall"
  - C. Solid Panels With Steel Substrate: 8.89 cm (3<sup>1</sup>/2") thick and consisting of an aluminum extruded frame construction, two removable panel shell assemblies each composed of one sheet of 22-gauge steel glued to vertical / horizontal stiffeners and intermediate horizontal stiffeners, non-toxic fiberglass insulation, and the base assembly. Top of panel engages the ceiling channel. Aluminum frames (including glass panels) as a standard will have cavities on each side to accommodate cabling. Field notching the horizontal frame members will also allow easy cable access from the ceiling or the floor. As standard, solid panel vertical frame posts can be slotted for hang-on furniture and the slots concealed by a dual durometer PVC gasket which is 1" wide and recessed from panel face or by a flush-to-panel face connector. Component bracketry is optional. Panels to contain integral, adjustable bottom connectors, and the panel shells to be equipped with a mushroom-shaped extrusion that forms a compression fit with the vertical frame for easy removal from the frame structure.
    - Type: Factory finished
       Panel Thickness: Manufacturer's standard, 3<sup>1</sup>/2" thickness.
       Panel Width: As indicated on drawings.
       Panel Finish: [Powder-coat finish]
       Panel Color and Pattern: [As selected by Architect from manufacturer's full range]
       Magnetic Accessory
  - D. Aluminum Glass Framing: 1.Frame Finishes: [Factory-applied powder-coat paint] 2.Frame Color: [As selected by Architect from manufacturer's full range]. 3.Glass frame Vertical Dimensions: [1.9"][3.5"] 4.Glass Panel Configuration: [Single Center mounted]
  - E. Panel Connector or Joint Closure: 1.Connector Type: [Flush] 2.Finish: [As selected by Architect from manufacturer's full range]
  - F. Trim: Base trim is continuous, factory-finished, snap-on type or recessed; adjustable for variations in floor. Ceiling trim is continuous and compensates for ceiling irregularities. 1.Base Trim Profile: [Flush] 2.Flush Base Trim Height: [4"] 3.Ceiling Trim Profile: [Flush}
    - 4.Exposed-Metal Trim Finish: [Factory-applied powder-coat paint]
    - 5. Trim Color: [As selected by Architect from manufacturer's full range]
  - I. Aluminum Door Leaves: Manufacturer's standard aluminum extrusion and fully glazed.
     1. Door Finish: [Factory-applied powdercoat].
  - J. Door Frames: Manufacturer's standard aluminum extrusion, factory
    - machined to receive hardware, for  $1^3/4''$  (45 mm) doors.
    - 1. Frame Finishes: [Factory-applied powder-coat paint].
    - 2. Frame Color: [As selected by Architect from manufacturer's full range]
    - 3. Frame Height: [Ceiling height]
    - 4. Frame Type: [Single butt-hung
  - K. Door Hardware: As specified in Hardware Section 08710

- L. Glass and Glazing: Safety glazing in compliance with Glass and Glazing Section 08800.
   1. Single Glazed Thickness: 3/8" (GLAZING TYPE GL-1)
- M. Solid Panel Acoustical Rating: [STC 48 Flush Ceiling Channel, No Slotting]
- N. Seals: Manufacturer's standard.

## 2.2 FABRICATION

A. Demountable Panels: Factory-assembled, flush, hollow unit construction; with faces smooth and free buckles, oil canning, and seam; and insulated with solidly packed, formaldehyde free insulation. Fabricate panels for installation with concealed fastening devices and pressure-fit components that will not damage ceiling or floor coverings. Fabricate panels with continuous light-and-sound seals at floor, ceiling, and other locations where panels abut fixed construction.

1.Factory glaze panels to the greatest extent possible.

- B. Components: Fabricate components for installation with concealed fastening devices and pressurefit members that will not damage ceiling or floor coverings. Fabricate for installation with continuous seals at floor, ceiling, and other locations where partition assemblies about fixed construction and for installation and for installation of sound attenuation insulation in partition cavities.
- 2.3 FINISHES, GENERAL
  - A. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.
  - B. Appearance of Finished Work: Variations in appearance of abutting or adjacent pieces are acceptable if they are within one-half of the range of approved Samples. Noticeable variations in the same piece are not acceptable. Variations in appearance of other components are acceptable if they are within the range of approved samples and are assembled or installed to minimize contrast.

### PART 3 - EXECUTION

### 3.1 PREPARATION

- A. Prior to installation of demountable partition system, clean floor to remove dust, debris, and loose particles.
- B. Illuminate areas of installation to provide an ambient light level of at least 100 foot candles measured in the area where partitions are to be installed.
- C. Maintain temperature in the area of installation at a constant minimum of 65 degrees F with relatively humidity less than 70 percent for a period of 48 hours prior to installation and during installation process.
- D. General Contractor will deliver all GWB construction interfacing with the demountable partition system in true and plumb condition.
- E. For manufacturer to accept responsibility of dimensional compatibility between demountable partition wall system and GWB construction, manufacturers have access to the completed GWB for accurate field measuring eight weeks prior to requiring product on site to commence installation. If time line does not permit the eight weeks lead time, demountable manufacturers provide "hold-to" dimensions for the General Contractor. General Contractor then assumes responsibility that GWB construction delivers on "hold-to" dimensions.
- F. Demountable manufacturer determines that conditions are acceptable to receive the work of this section. Do not proceed with the work until satisfactory conditions have been corrected in a manner acceptable to installer. Starting of work shall be construed as acceptance of conditions.

# 3.2 INSTALLATION

- A. Install demountable partition systems rigid, level, plumb, and aligned. Install seals to prevent light and sound transmission at connections to floors. ceilings, fixed walls, and abutting surfaces.
  - 1. Installation Tolerance: Install each demountable partition so surfaces vary not more than 1/8 inch (3 mm) from the plane formed by the faces of adjacent partitions.
- $\boldsymbol{B}.$  Do not alter ceiling suspension system.
- C. Install door-and-frame, solid panel and frame, and glazing-and-glazing-frame assemblies securely anchored to partitions and with doors aligned and fitted. Install and adjust door hardware for proper operation.
- 3.3 DEMONSTRATION

A. Engage a factory-authorized service representative to demonstrate and train Owner's maintenance personnel to adjust, operate, and maintain demountable partitions. Refer to Division 01 Section "Demonstration and Training."

# END OF SECTION

### DIVISION 8 - GLASS AND WINDOWS

# SECTION 08620 - UNIT SKYLIGHTS

### PART 1 - GENERAL

- 1.1 SECTION INCLUDES
  - A. Dynamic dome unit skylight with prefabricated roof curbs, for flat, low-slope and steep-slope roofing applications.
- 1.2 RELATED REQUIREMENTS
  - A. Section 06100 Rough Carpentry for site-built wood roof curbs and nailers for unit skylights.
  - B. Division 07 roofing section for flashing and roofing terminations at unit skylight curbs.
- 1.3 REFERENCE STANDARDS
  - A. General: Applicable edition of references cited in this Section is current edition published on date of issue of Project specifications, unless otherwise required by building code in force.
  - B. American Architectural Manufacturers Association (<u>www.aama.net</u>), Window & Door Manufacturers Association (<u>www.wdma.com</u>), Canadian Standards Association (<u>www.csagroup.org/us/en/services</u>)
    - AAMA/WDMA/CSA 101/I.S.2/A440 North American Fenestration Standard/ Specification for Windows, Doors, and Skylights (NAFS)
    - 2. CSA A440S1 Canadian Supplement to AAMA/WDMA/CSA 101/I.S.2/A440
    - 3. AAMA 502 Voluntary Specification for Field Testing of Newly Installed Fenestration Products
    - AAMA 2603 Voluntary Specification, Performance Requirements and Test Procedures for Pigmented Organic Coatings on Aluminum and Panels
  - C. ASTM International: www.astm.org:
    - 1. ASTM D1003 Standard Test Method for Haze and Luminous Transmittance of Transparent Plastics
    - ASTM E108 Standard Test Methods for Fire Tests of Roof Coverings
    - 3. ASTM E283 Standard Test Method for Determining Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen
    - 4. ASTM E331 Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Uniform Static Air Pressure Difference
    - ASTM E408 Standard Test Methods for Total Normal Emittance of Surfaces Using Inspection-Meter Techniques
    - 6. ASTM E1886 Standard Test Method for Performance of Exterior Windows, Curtain Walls, Doors, and Impact Protective Systems Impacted by Missile(s) and Exposed to Cyclic Pressure Differentials

- ASTM E1996 Standard Specification for Performance of Exterior Windows, Curtain Walls, Doors, and Impact Protective Systems Impacted by Windborne Debris in Hurricanes
- D. Code of Federal Regulations:
  - 29 CFR 1910.29 Occupational Safety and Health Standards: Fall protection systems and falling object protection - criteria and practices.
- E. Factory Mutual (FM): www.fmglobal.com

1. FM 4431 - Approval Standard for Skylights

- F. Illuminating Engineering Society of North America (IESNA):
   www.ies.org:
  - 1. IESNA The Lighting Handbook.
- G. Leadership in Energy and Environmental Design (LEED): www.usgbc.org/leed
- H. National Fenestration Rating Council: www.nfrccommunity.org:
  - NFRC 100 Procedure for Determining Fenestration Product Ufactors
  - NFRC 200 Procedure for Determining Fenestration Product Solar Heat Gain Coefficient and Visible Transmittance at Normal Incidence
- I. National Fire Protection Association: www.nfpa.org:
  - 1. NFPA 70 National Electrical Code
- 1.4 COORDINATION
  - A. Coordinate dimensions, locations, and details of skylight curbs specified in Section 06100 "Rough Carpentry". Verify requirements for roofing system terminations.
  - B. Coordinate unit skylight interior termination locations with structural layout, ceiling layouts, and other ceiling-mounted items.
- 1.5 PREINSTALLATION MEETINGS
  - A. Preinstallation Conference: Conduct conference at Project site prior to delivery of unit skylight and installation of roof deck.
- 1.6 ACTION SUBMITTALS
  - A. Product Data: For unit skylights. Include standard construction details, product performance characteristics, and material descriptions, dimensions of individual components and profiles, and finishes.

- Include test reports of qualified independent testing agency or third party certificates verifying compliance with performance requirements.
- B. Operation and Maintenance Data.
- 1.7 QUALITY ASSURANCE
  - A. Manufacturer Qualifications: A qualified manufacturer listed in this Section with minimum 30 years' experience in the US manufacturing similar products in successful use on similar projects and able to provide unit skylights meeting requirements.
    - Approval of Manufacturers and Comparable Products: Submit the following in accordance with project substitution requirements, within time allowed for substitution review:
      - a. Completed and signed Substitution Request form.
      - b. Product data, including photometric data and independent test data indicating compliance with requirements.
      - c. Sample product warranty.

# 1.8 WARRANTY

- A. Manufacturer's Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of skylights that fail in materials or workmanship under normal use within specified warranty period.
  - 1. Failures include, but are not limited to, the following:
    - a. Deterioration of metals, metal finishes, dome, and other materials beyond normal weathering.
    - b. Breakage of polycarbonate glazing.
    - c. Product leaks.
  - 2. Warranty Period:
    - a. 15 Years: Polycarbonate dome skylights including water penetration and hail breakage for hailstones 2 inches and less in diameter. Mill finished aluminum skylight frames.
    - b. 10 Years: Yellowing of acrylic and polycarbonate skylight domes.
    - c. 5 Years: Acrylic and impact modified acrylic dome skylights, skylight model CDS with polycarbonate dome, aluminum curbs, external safety cage, internal safety screen accessory, internal security bars accessory, ventilation curb extension.
    - d. 1 Year: Steel curbs

## PART 2 - PRODUCTS

### 2.1 MANUFACTURERS

- A. Basis-of-Design Product: Subject to compliance with requirements, provide products of VELUX America LLC, Greenwood, SC 29648, www.veluxusa.com.
- B. Substitutions: As permitted under Instructions to Bidders and Section 01300 "Substitution Procedures".
- C. Source Limitations: Obtain unit skylights through single source from single manufacturer.
- 2.2 DYNAMIC DOME UNIT SKYLIGHT (Curb Mount Model CMD)
  - A. System Description: Dynamic dome, curb mounted fixed skylight utilizing extruded aluminum frame counter-flashing with welded corners, a PVC inner frame allowing condensation drainage, structural sealant, [integral double sided insulated aluminum curb] and accessories, as required to meet installation and performance requirements indicated. Dynamic dome skylights shall be suitable for installation on roof pitches ranging from 0 degrees up to 60 degrees from horizontal.
    - Basis of Design: VELUX America LLC, Model [CMD] Dynamic Dome Skylight.
    - 2. [Energy Dome: Outer dome [clear polycarbonate (LuxGuard)] 0.118 inches in thickness with UV blocking cap layer] [infrared blocking acrylic (Satin Sky 2) 0.118 inches in thickness]. [Middle dome clear acrylic 0.118 inches in thickness.] Inner glazing flat 3/8 inches thick, clear multi-walled polycarbonate filled with Lumira aerogel] [incased in tray with 0.5 inch diameter security bars].
  - B. Aluminum Frame Counter-flashing: Maintenance-free, extruded aluminum, grade 6063-T6, 0.08 inch (2.0 mm) thick with [mill] [neutral grey powder coat] finish. Counter-flashing frames completely welded in corners and counter flashes curb a minimum of 1.625 inches (41 mm). Provide aluminum frame with at least 0.5 inch (12 mm) continuous ledge on each side of the skylight that is a pinch free access for stacking, manual transportation and mounting of skylights.
    - 1. Unit Sizes: [2496]
  - C. 100% Thermally Broken PVC inner-frame for Condensation Drainage: Factory applied white PVC inner-frame assembly providing a thermal break weather seal and drainage for condensation. The inner-frame design allows positive condensation to the exterior of the curb without exposed drainage openings in the aluminum frame that can introduce air infiltration into the skylight. The PVC inner-frame construction consists of coextruded fins allowing for a dry installation of skylight to the curb, eliminating weather seal strips or caulking at the top of the curb.

D. Structural Sealant: Factory applied InstantGlaze sealant, bonding the dome to the aluminum frame and suitable for external exposure.

### 2.3 ACCESSORIES-FALL PROTECTION AND SECURITY

A. Exterior safety screen accessory: Fall protection screen attaches directly to the skylight frame and provides fall protection coverage over the exterior of the skylight dome. Safety screen constructed from a minimum 0.1875 inches steel mesh with a 4 inch on center grid spacing. Exterior safety screen shall meet fall protection requirements by supporting a minimum static load of 400 pounds per square foot. Safety screen accessory width and length designation shall be [2496] Basis of Design: VELUX America LLC, Model CAE.

### 2.4 PERFORMANCE REQUIREMENTS

- A. Unit Skylight Standard, Dynamic Dome model[s] [CMD2] [and] [DMD2] certified to AAMA/WDMA/CSA 101/I.S.2/A440 (NAFS-17 or previous) as follows:
  - 1. Design Pressure (DP): Minimum DP = +/-30 psf (+/-14.40 KPa). Dome shall not invert at positive design pressure.
  - Water Test Pressure: Minimum 15 psf (720 Pa) with no leakage at 5 gallons per minute spray rate.
  - 3. Air Leakage Rate: Maximum 0.061 cfm/ft<sup>2</sup> (0.3 L/s/m<sup>2</sup>)
- B. Daylighting: Provide daylighting photometric performance comparable to basis of design product at layout indicated, based upon daylighting profile of March 21, 9:00 am local time, at Project location by simulation in accordance with IESNA guidelines.
- C. Dome Hail Resistance: Exterior dome tested in accordance with Factory Mutual 4430 to meet severe hail with 2.0 inch ice balls.
- D. Energy Performance ratings for any size commercial [CMD- curb] [DMD- deck] mounted unit skylight with dynamic dome as follows:
  - 1. Thermal Transmittance: NFRC 100 maximum U-factor:
    - a. [Double Dome:

b.

- 1) [LuxGuard ([CMD2] [DMD2] P1C2): 0.65]
- 2) [Impact Modified Acrylic ([CMD2] [DMD2] S1N2): 0.64]]
  [EcoSky:
  - 1) [Infrared blocking acrylic over acrylic ([CMD2] [DMD2] E2A1): 0.65]
  - 2) [Infrared blocking acrylic over multiwall polycarbonate filled with Lumira aerogel ([CMD4] [DMD4] E2L2): 0.36]]
- 2. Solar Heat-Gain Coefficient (SHGC): NFRC 200 maximum SHGC:

- a. [Double Dome:
  - 1) [LuxGuard ([CMD2] [DMD2] P1C2): 0.46]
- 2) [Impact Modified Acrylic ([CMD2] [DMD2] S1N2): 0.48]] b. [EcoSky:
  - 1) [Infrared blocking acrylic over acrylic ([CMD2] [DMD2] E2A1): 0.37]
  - 2) [Infrared blocking acrylic over multiwall polycarbonate filled with Lumira aerogel ([CMD4] [DMD4] E2L2): 0.28]]
- 3. Visible Light Transmittance (VLT) and Percent Haze: ASTM D 1003:
  - a. [Double Dome:
    - 1) [LuxGuard ([CMD2] [DMD2] P1C2): VLT = 61.9%, Haze = 100%]
    - 2) [Impact Modified Acrylic ([CMD2] [DMD2] S1N2): VLT =
      68.9%, Haze = 100%]]
  - b. [Energy Dome:
    - 1) [Infrared blocking acrylic over acrylic ([CMD2] [DMD2] E2A1): VLT = 56.8%, Haze = 99.8%]
    - 2) [Infrared blocking acrylic over multiwall polycarbonate filled with Lumira aerogel ([CMD4] [DMD4] E2L2): VLT = 33.6%, Haze = 100%]]
- E. Fall Protection Standard Compliance: 29 CFR 1910.29: Skylight [dome], [safety screen] [security bars] tested to support a minimum of 400 pounds over 1 square foot of the surface.
- 2.5 MATERIALS
  - A. Joint Sealants: As specified in Section 079200 "Joint Sealants."
  - B. Mastic Sealants: Polyisobutylene; nonhardening, nonskinning, nondrying, nonmigrating sealant.
- 2.6 FINISHES
  - A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.
  - B. Appearance of Finished Work: Noticeable variations in same piece are not acceptable. Variations in appearance of adjoining components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

# PART 3 - EXECUTION

- 3.1 EXAMINATION
  - A. Examine openings, substrates, structural support, anchorage, and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.

B. Proceed with unit skylight installation only after unsatisfactory conditions have been corrected.

## 3.2 INSTALLATION

- A. Install unit skylights in accordance with manufacturer's written instructions and approved shop drawings. Coordinate installation of units with installation of substrates, air and vapor retarders, roof insulation, roofing membrane, and flashing as required to ensure that each element of the Work performs properly and that finished installation is weather tight.
  - 1. Anchor unit skylights securely to supporting substrates.
  - 2. Install unit skylights on curbs specified in another section with tops of curbs parallel to finished roof slope.
- B. Where metal surfaces of unit skylights will contact incompatible metal or corrosive substrates, including preservative-treated wood, apply bituminous coating on concealed metal surfaces, or provide other permanent separation recommended in writing by unit skylight manufacturer.
- C. For custom flashings, install unit skylight curb counter-flashing to produce weatherproof seal with curb and overlap with roofing system termination at top of curb.
- 3.3 FIELD QUALITY CONTROL
  - A. Work will be considered defective if it does not pass inspections.
  - B. Additional testing and inspections, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.
  - C. Prepare inspection reports.
- 3.4 CLEANING AND PROTECTION
  - A. Clean exposed unit skylight surfaces according to manufacturer's written instructions. Touch up damaged metal coatings and finishes. Remove excess sealants, glazing materials, dirt, and other substances.
  - B. Replace glazing that has been damaged during construction period.
  - C. Protect unit skylight surfaces from contact with contaminating substances resulting from construction operations.

END OF SECTION

### DIVISION 8 - DOORS AND WINDOWS

#### SECTION 087100 - DOOR HARDWARE

#### PART 1 - GENERAL

### 1.01 SUMMARY

- A. Section includes:
  - 1. Mechanical and electrified door hardware
  - 2. Field verification, preparation and modification of existing doors and frames to receive new door hardware.
- B. Section excludes:
  - 1. Windows
  - 2. Cabinets (casework), including locks in cabinets
  - 3. Signage
  - 4. Toilet accessories
  - 5. Overhead doors

## C. Related Sections:

- Division 01 Section ''Alternates'' for alternates affecting this section.
- 2. Division 06 Section ''Rough Carpentry''
- 3. Division 06 Section ''Finish Carpentry''
- 4. Division 07 Section ''Joint Sealants'' for sealant requirements applicable to threshold installation specified in this section.
- 5. Division 08 Sections:
  - a. ''Metal Doors and Frames''
    b. ''Flush Wood Doors''
- 6. Division 09 sections for touchup, finishing or refinishing of existing openings modified by this section.

## 1.02 REFERENCES

- A. UL Underwriters Laboratories
  - UL 10B Fire Test of Door Assemblies
     UL 10C Positive Pressure Test of Fire Door Assemblies
     UL 1784 Air Leakage Tests of Door Assemblies
     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

- A. General:
  - 1. Submit in accordance with Conditions of Contract and Division 01 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.
    - c. Highlight, encircle, or otherwise specifically identify on submittals: deviations from Contract Documents, issues of incompatibility or other issues which may detrimentally affect the Work.
- B. Action Submittals:
  - 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.
  - 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.
  - 3. 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.
- 4. 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.
- C. 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.
- D. Closeout Submittals:
  - 1. 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.
- E. Inspection and Testing:
  - 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:
  - 1. 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 Underwriters Laboratories, 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 0.3inch wg (75 Pa) of water.
  - 3. 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:
      - 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.

### 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.
  - 1. 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) Schlage L Series: 3 years2) Closers
      - a) LCN 4000 Series: 30 years
    - b. Electrical Warranty
      - 1) Closers
        - a) LCN: 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. The Owner requires use of certain products for their unique characteristics and project suitability to ensure continuity of existing and future performance and maintenance standards. After investigating available product offerings, the Awarding Authority has elected to prepare proprietary specifications. These products are specified with the notation: ''No Substitute.''
- B. Approval of manufacturers and/or products other than those listed as ''Scheduled Manufacturer'' or ''Acceptable Manufacturers'' in the individual article for the product category shall be in accordance with QUALITY ASSURANCE article, herein.
- C. 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.

D. 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
  - 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.
  - 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.

### 2.03 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.
- 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.

# 2.04 MORTISE LOCKS

- A. Manufacturers and Products:
  - 1. Scheduled Manufacturer and Product:
    - a. Schlage L9000 series
  - 2. Acceptable Manufacturers and Products:
    - a. Sargent 8200 series
    - b. 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.
  - 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.
  - 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 antifriction 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. Provide electrified options as scheduled in the hardware sets. Where scheduled, provide switches and sensors integrated into the locks and latches.

- 7. 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. Vandlguard: Provide levers with vandal resistant technology for use at heavy traffic or abusive applications.
  - b. Lever Design: 06A

# 2.05 CYLINDERS

- A. Manufacturers and Products:
  - 1. Scheduled Manufacturer and Product:
    - a. Best
  - 2. Acceptable Manufacturers and Products:
    - a. No Substitute
- B. Requirements:
  - 1. Provide cylinders/cores, 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. Nickel silver bottom pins.

## 2.06 KEYING

- A. Scheduled System:
  - 1. Existing factory registered system:
    - a. 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.

## 2.07 DOOR CLOSERS

- A. Manufacturers and Products:
  - 1. Scheduled Manufacturer and Product:
    - a. LCN 4010/4110/4020 series
  - 2. Acceptable Manufacturers and Products:
    - a. Corbin-Russwin DC8000 series
    - b. 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.
  - Provide door closers with fully hydraulic, full rack and pinion action with high strength cast iron cylinder, and full complement bearings at shaft.
  - Cylinder Body: 1-1/2-inch (38 mm) diameter with 11/16-inch (17 mm) diameter double heat-treated pinion journal.
  - 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.
  - 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.

## 2.08 ELECTRO-MECHANICAL CLOSER/HOLDERS

- A. Manufacturers:
  - 1. Scheduled Manufacturer:

a. LCN

- 2. Acceptable Manufacturers:
  - a. Norton
  - b. Rixson
- B. Requirements:
  - 1. Provide single-point or multi-point hold-open electro-mechanical closer/holders as specified. Coordinate voltage requirements and provide transformer if necessary.
  - Provide closer/holders that function as full rack and pinion door closer when current is interrupted or continuous hold-open is not engaged.
  - 3. Provide door closers with fully hydraulic, full rack and pinion action with high strength cylinder and full complement bearings at shaft.
  - 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.
  - Hydraulic Regulation: By tamper-proof, non-critical valves, with separate adjustment for latch speed, general speed, and backcheck.
  - 7. Pressure Relief Valve (PRV) Technology: Not permitted.
  - 8. 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.

### 2.09 PROTECTION PLATES

- A. Manufacturers:
  - 1. Scheduled Manufacturer:

a. Ives

- 2. Acceptable Manufacturers:
  - a. Burns
  - b. Trimco
- B. Requirements:
  - 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.
- 2.10 DOOR STOPS AND HOLDERS
  - A. Manufacturers:
    - 1. Scheduled Manufacturer:
      - a. Ives
    - 2. Acceptable Manufacturers:
      - a. Trimco b. Burns
  - 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.
- 2.11 THRESHOLDS, SEALS, DOOR SWEEPS, AUTOMATIC DOOR BOTTOMS, AND GASKETING
  - A. Manufacturers:
    - 1. Scheduled Manufacturer:
      - a. Zero International
    - 2. Acceptable Manufacturers:
      - a. National Guard
      - b. Reese
  - B. Requirements:
    - Provide thresholds, weather-stripping, and gasketing systems as specified and per architectural details. Match finish of other items.
    - Smoke- and Draft-Control Door Assemblies: Where smoke- and draftcontrol door assemblies are required, provide door hardware that meets requirements of assemblies tested according to UL 1784 and installed in compliance with NFPA 105.
    - 3. Provide door sweeps, seals, astragals, and auto door bottoms only of type where resilient or flexible seal strip is easily replaceable and readily available.
    - Size thresholds 1/2 inch (13 mm) high by 5 inches (127 mm) wide by door width unless otherwise specified in the hardware sets or detailed in the drawings.

## 2.12 MAGNETIC HOLDERS

- A. Manufacturers:
  - 1. Scheduled Manufacturer:

a. LCN

2. Acceptable Manufacturers:

a. Rixsonb. 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.

## 2.13 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 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. Lock Cylinders:
  - 1. Install construction cores to secure building and areas during construction period.
- 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 fire/smoke alarm system and smoke evacuation system.
  - 3. Connections to panel interface modules, controllers, and gateways.
  - 4. 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. 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.
- O. Perimeter Gasketing: Apply to head and jamb, forming seal between door and frame.

## 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. Door Closers: Adjust sweep period to comply with accessibility requirements and requirements of authorities having jurisdiction.
- B. Occupancy Adjustment: Approximately three to six months after date of Substantial Completion, examine and readjust each item of door hardware, including adjusting operating forces, as necessary to ensure function of doors and door 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. Ha Re CJ D. Ha	ardware items are referent efer to the above specify linders/keying, and othe ardware Sets:	enced in the following hardw Fications for special featur her requirements.	are es,	schedul options	e. ,
82426	OPT03	301935 Version 1				
HARDW	ARE SE	ET NO. 01 - SINGLE OFFIC	CE - KI GENIUS			
Provi	de eac	ch SGL door(s) with the	following:			
QTY		DESCRIPTION	CATALOG NUMBER		FINIS H	MFR
1	EA	CONT. HINGE	112XY		628	IVE
1	EA	OFFICE W/SIM RETRACT	L9056L 06A 09-544		626	SCH
1	EA	MORTISE CYLINDER	BEST - TO MATCH EXISTING SYSTEM		626	BES
1	EA	SURFACE CLOSER	4011		689	LCN
1	EA	WALL STOP	WS406/407CVX		630	IVE
HARDW Provi	ARE SE de eac	ET NO. 01A - SINGLE LOCH th SGL door(s) with the	KDOWN - KI GENIUS following:		ETNIC	MED
QII		DESCRIPTION	CATALOG NOMBER		H H	MER
1	EA	CONT. HINGE	224XY BASE BID		628	IVE
1	EA	CLASSROOM SECURITY	L9071L 06A L283-711		626	SCH
2	EA	MORTISE CYLINDER	BEST - TO MATCH EXISTING SYSTEM		626	BES
1	EA	SURFACE CLOSER	4011		689	LCN
1	EA	WALL STOP	WS406/407CVX		630	IVE
1	EA	PERIMETER GASKETING	BY DOOR MANUFACTURER			
HARDW Provi	ARE SE de eac	ET NO. 01B - SINGLE EXII ch SGL door(s) with the	T LOCKDOWN - KI GENIUS following:			
QTY		DESCRIPTION	CATALOG NUMBER		FINIS H	MFR
1	EA	CONT. HINGE	224XY BASE BID		628	IVE
1	EA	FIRE EXIT HARDWARE	98-L-F-2SI-06		626	VON
2	EA	RIM CYLINDER	BEST - TO MATCH EXISTING SYSTEM		626	BES
1	EA	SURFACE CLOSER	4111 CUSH		689	LCN

1 EA PERIMETER GASKETING BY DOOR MANUFACTURER

HARDWARE SET NO. 02 - SINGLE PRIVACY

Provi	de eac	ch SGL door(s) with the	following:		
QTY		DESCRIPTION	CATALOG NUMBER	FINIS H	MFR
1	EA	CONT. HINGE	224XY BASE BID	628	IVE
1	EA	PRIVACY LOCK	L9040 06A 09-544 L283-722	626	SCH
1	EA	SURFACE CLOSER	4011 DEL	689	LCN
1	EA	MOP PLATE	8400 10" X 1" LDW B-CS	630	IVE
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	WALL STOP	WS406/407CVX	630	IVE
3	EA	SILENCER	SR64	GRY	IVE

HARDWARE SET NO. 03 - SINGLE CLASSROOM SECURITY RATED Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINIS H	MFR
1	EA	CONT. HINGE	224XY BASE BID	628	IVE
1	EA	CLASSROOM SECURITY	L9071L 06A L283-711	626	SCH
2	EA	MORTISE CYLINDER	BEST - TO MATCH EXISTING SYSTEM	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	ΕA	GASKETING	188SBK PSA	BK	ZER

HARDWARE SET NO. 03A - SINGLE CLASSROOM SECURITY RATED Provide each SGL door(s) with the following:

-	TOVIC	ic cuci	I DOLL GOOT (D) WICH CHC	rorrowing.		
	QTY		DESCRIPTION	CATALOG NUMBER	FINIS H	MFR
	1	EA	CONT. HINGE	224XY BASE BID	628	IVE
	1	EA	CLASSROOM SECURITY	L9071L 06A L283-711	626	SCH
	2	EA	MORTISE CYLINDER	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. 03B - SINGLE CLASSROOM SECURITY RATED - TOILET Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINIS H	MFR
1	EA	CONT. HINGE	224XY BASE BID	628	IVE
1	ΕA	CLASSROOM SECURITY	L9071L 06A L283-711	626	SCH
2	EA	MORTISE CYLINDER	BEST - TO MATCH EXISTING SYSTEM	626	BES
1	ΕA	SURFACE CLOSER	4011	689	LCN
1	ΕA	MOP PLATE	8400 10" X 1" LDW B-CS	630	IVE
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	ΕA	WALL STOP	WS406/407CVX	630	IVE
1	EA	GASKETING	188SBK PSA	BK	ZER

HARDWARE SET NO. 04 - SINGLE STORE DOOR

Provi	de eac	h SGL door(s) with the	following:		
QTY		DESCRIPTION	CATALOG NUMBER	FINIS H	MFR
1	EA	CONT. HINGE	224XY BASE BID	628	IVE
1	EA	DBL CYL STORE W/DB	L9466L 06A	626	SCH
2	EA	MORTISE CYLINDER	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
3	ΕA	SILENCER	SR64	GRY	IVE

HARDWARE SET NO. 05 - SINGLE EXIT LOCKDOWN Provide each SGL door(s) with the following:

	ac cao	II DOL GOOL (D) WICH CHC	rorrowing.		
QTY		DESCRIPTION	CATALOG NUMBER	FINIS H	MFR
1	EA	CONT. HINGE	224XY BASE BID	628	IVE
1	ΕA	FIRE EXIT HARDWARE	98-L-F-2SI-06	626	VON
2	EA	RIM CYLINDER	BEST - TO MATCH EXISTING SYSTEM	626	BES
1	ΕA	SURFACE CLOSER	4111 CUSH	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	GASKETING	188SBK PSA	BK	ZER
1	EA	PERIMETER GASKETING	BY DOOR MANUFACTURER		

HARDWARE SET NO. 06 - SINGLE PASSAGE RATED

Provi	de ead	ch SGL door(s)	with the following:		
QTY		DESCRIPTION	CATALOG NUMBER	FINIS H	MFR
1	EA	CONT. HINGE	224XY BASE BID	628	IVE
1	EA	PASSAGE SET	L9010 06A	626	SCH
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	WALL STOP	WS406/407CVX	630	IVE
1	EA	GASKETING	475AA-S	AA	ZER
1	EA	DOOR BOTTOM	355A	A	ZER

HARDWARE SET NO. 07 - SINGLE STOREROOM Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINIS H	MFR
1	EA	CONT. HINGE	224XY BASE BID	628	IVE
1	EA	STOREROOM LOCK	L9080L 06A	626	SCH
1	EA	MORTISE CYLINDER	BEST - TO MATCH EXISTING SYSTEM	626	BES
1	EA	SURFACE CLOSER	4111 CUSH	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
3	EA	SILENCER	SR64	GRY	IVE

HARDWARE SET NO. 07A - SINGLE STOREROOM

Provi	de eac	h SGL door(s) with the	following:		
QTY		DESCRIPTION	CATALOG NUMBER	FINIS H	MFR
1	EA	CONT. HINGE	224XY BASE BID	628	IVE
1	EA	STOREROOM LOCK	L9080L 06A	626	SCH
1	EA	MORTISE CYLINDER	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
3	EA	SILENCER	SR64	GRY	IVE

HARDWARE SET NO. 07B - SINGLE STOREROOM RATED

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINIS H	MFR
1	EA	CONT. HINGE	224XY BASE BID	628	IVE
1	EA	STOREROOM LOCK	L9080L 06A	626	SCH
1	EA	MORTISE CYLINDER	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. 07C - SINGLE STOREROOM RATED

Provid	de eac	h SGL door(s) with the	following:		
QTY		DESCRIPTION	CATALOG NUMBER	FINIS H	MFR
1	EA	CONT. HINGE	224XY BASE BID	628	IVE
1	EA	STOREROOM LOCK	L9080L 06A	626	SCH
1	EA	MORTISE CYLINDER	BEST - TO MATCH EXISTING SYSTEM	626	BES
1	EA	SURFACE CLOSER	4111 CUSH	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 TGP - LOCKDOWN Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINIS H	MFR
3	EA	WELD ON PIVOTS	PROVIDED X TGP		
1	EA	MORTISE LOCK W/US CYL	CLASSROOM SECURITY X TGP	630	
2	EA	MORTISE CYLINDER	BEST - TO MATCH EXISTING	626	BES
			SYSTEM		
1	EA	SURFACE CLOSER	4040XP	689	LCN
			X TGP		
1	EA	WALL STOP	WS406/407CVX	630	IVE
1	EA	FIRE RATED SEALS	PROVIDED X TGP		

HARDWARE SET NO. 08A - SINGLE TGP EXIT- LOCKDOWN Provide each SGL door(s) with the following: OTY DESCRIPTION CATALOG NUMBER FINIS MFR Н 3 EA WELD ON PIVOTS PROVIDED X TGP EA POWER TRANSFER EPTL - PROVIDED X TGP 689 1 SEC EA ELEC PANIC HARDWARE QEL-ESL-35A-L-NL-360-06- 🖹 626 1 VON CON 24 VDC X TGP 626 2 EA MORTISE CYLINDER BEST - TO MATCH EXISTING BES SYSTEM 1 EA SURFACE CLOSER 🖹 689 4040XP LCN X TGP WS406/407CVX 630 1 EA WALL STOP IVE EA FIRE RATED SEALS PROVIDED X TGP 1 EA KEY SWITCH 653-0404 NS L2 12/24 VDC 📄 630 1 SCE EA POWER SUPPLY PS902 900-2RS FA900 📄 LGR 1 SCE 120/240 VAC

 DOORS EQUIPPED WITH QUIET ELECTRIC LATCH RETRACTION (QEL) AND EMERGENCY SECURE LOCKDOWN (ESL).
 DOORS LOCKED/UNLOCKED BY LATCH RETRACTION VIA KEY SWICH MOUNTED ON CORRIDOR SIDE.
 DURING NORMAL HOURS, DOORS ARE CLOSED AND UNLOCKED ELECTRICALLY. DOORS BECOME PUSH/PULL.
 AFTER HOURS DOORS CAN BE LOCKED BY RELEASING LATCHES VIA KEY SWITCH.
 DURING AN EMERGENCY, DOORS CAN BE LOCKED FROM INSIDE CAFETERIA BY KEYED CYLINDER IN ESL DEVICE LOCATED ON PUSHBAR.
 FREE EGRESS AT ALL TIMES HARDWARE SET NO. 09 - PAIR TGP LOCKDOWN

Provide	each	PR	door(s)	with	the	following:	
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QTY		DESCRIPTION	CATALOG NUMBER	FINIS H	MFR
6	EA	WELD ON PIVOTS	PROVIDED X TGP		
2	EA	POWER TRANSFER	EPTL - PROVIDED X TGP	689	SEC
1	EA	ELEC FIRE EXIT HARDWARE	QEL-ESL-3547A-L-DT-F-06- CON 24 VDC X TGP	626	VON
1	EA	ELEC FIRE EXIT HARDWARE	QEL-ESL-3547A-L-NL-F-360- 06-CON 24 VDC X TGP	626	VON
1	EA	RIM CYLINDER	BEST - TO MATCH EXISTING SYSTEM	626	BES
3	EA	MORTISE CYLINDER	BEST - TO MATCH EXISTING SYSTEM	626	BES
2	EA	SURFACE CLOSER	4040XP CUSH X TGP	689	LCN
1	EA	FIRE RATED SEALS	PROVIDED X TGP		
1	EA	KEY SWITCH	653-0404 NS L2 12/24 VDC	630	SCE
1	EA	POWER SUPPLY	PS904 900-4R-FA 120/240 VAC X TGP	LGR	SCE

 DOORS EQUIPPED WITH QUIET ELECTRIC LATCH RETRACTION (QEL) AND EMERGENCY SECURE LOCKDOWN (ESL).
 DOORS LOCKED/UNLOCKED BY LATCH RETRACTION VIA KEY SWICH MOUNTED ON CORRIDOR SIDE.
 DURING NORMAL HOURS, DOORS ARE CLOSED AND UNLOCKED ELECTRICALLY. DOORS BECOME PUSH/PULL.
 AFTER HOURS DOORS CAN BE LOCKED BY RELEASING LATCHES VIA KEY SWITCH.
 DURING AN EMERGENCY, DOORS CAN BE LOCKED FROM INSIDE CAFETERIA BY KEYED CYLINDER IN ESL DEVICE LOCATED ON PUSHBAR.
 FREE EGRESS AT ALL TIMES

HARDWARE SET NO. 09A - PAIR TGP CORRIDOR Provide each PR door(s) with the following:

		( - )				
QTY		DESCRIPTION	CATALOG NUMBER		FINIS H	MFR
6	EA	WELD ON PIVOTS	PROVIDED X TGP			
2	EA	FIRE EXIT HARDWARE	3547A-L-BE-F-06		626	VON
				_		
2	EA	SURFACE CLOSER	4040XP CUSH X TGP		689	LCN
1	EA	FIRE RATED SEALS	PROVIDED X TGP			

HARDWARE SET NO. 10 - PAIR EXITS CORRIDOR Provide each PR door(s) with the following:

Ŧ	TOVIC		I IN GOOL(3) WICH CHE I	OIIOWING.		
	QTY		DESCRIPTION	CATALOG NUMBER	FINIS H	MFR
	2	EA	CONT. HINGE	224XY BASE BID	628	IVE
	2	EA	FIRE EXIT HARDWARE	9827-L-BE-F-LBRAFL-06-499F	630	VON
	2	EA	SURFACE CLOSER	4111 EDA	689	LCN
	2	EA	KICK PLATE	8400 10" X 1" LDW B-CS	630	IVE
	2	EA	WALL STOP	WS406/407CVX	630	IVE
	2	EA	MAGNET	SEM7830 12V/24V/120V	689	LCN
	1	EA	GASKETING	188SBK PSA	BK	ZER

HARDWARE SET NO. 10A - PAIR EXITS CORRIDOR - POCKET PIVOTS Provide each PR door(s) with the following:

			-		
QTY		DESCRIPTION	CATALOG NUMBER	FINIS	MFR
				Н	
6	EA	POCKET PIVOT	91105F	630	IVE
2	EA	FIRE EXIT HARDWARE	9827-L-BE-F-LBRAFL-06-499F	630	VON
2	EA	SURFACE CLOSER	4111 EDA	689	LCN
2	EA	KICK PLATE	8400 10" X 1" LDW B-CS	630	IVE
2	EA	WALL STOP	WS406/407CVX	630	IVE
2	EA	MAGNET	SEM7830 12V/24V/120V	689	LCN
1	EA	GASKETING	188SBK PSA	BK	ZER

END OF SECTION

# Briarcliff Manor Phase 2 Bond

Door	HwSet#
Numbers	
1	01
2	01
3	01
4	01
5	01
6	01
7	01
8	01
9	01
10	01
11	01
12	01
13	01
14	01
15	01
16	01
17	01
18	01
19	01
20	01
100A	10A
100R	10
1000	10
1000	10
107	06
1084	084
108R	00A
1080	05
100C	03
1110	02
111R	02
1110	02
1110	02
1120	02
112A	00
1120	00
113A	00
1138	00
114A	01A
1148	08
115	01A
116	01A
117	01A
118A	07C
118B	07C
119	07B
120	03

Door	HwSet#
Numbers	
120A	07B
121	03
121A	07B
125	08
157	03A
158	03B
159	07B
160	03B
164	01A
165	04
166	07A
167	07A
168A	09A
168B	09A
168D	08A
181A	02
181B	02
181C	07
505A	09
505B	09
Todd	
Elementary	
43	02
103a	02

# DIVISION 8 - DOORS AND WINDOWS

#### SECTION 08800 - GLASS AND GLAZING

#### PART 1 - GENERAL

# 1.01 DESCRIPTION:

- Α. Furnish and install glass and glazing work as shown on the drawings and as specified herein.
  - 1. Sheet Glazing:
    - Annealed (float) glass. a.
    - b. Annealed laminated safety glass.
    - Tempered laminated safety glass. с.
    - Tempered (heat treated) glass. d.
    - Insulated glass. e.
    - f. Insulated reflective glass.
    - Insulated spandrel glass. g.
    - Skylight insulated glass. h.
    - i. Security glazing.
    - j. Polycarbonate glazing.
- The required applications of glass and glazing include (but are not Β. necessarily limited to) the following:
  - Window units (fixed and operable sash). 1.
  - 2. Aluminum, steel, FRP, and wood doors (door lights, sidelights, and transoms).
  - Interior (borrowed light) windows. 3.
  - Storefront and curtainwall framing systems. 4.
  - 5. Skylights.
  - 6. Ballistic framing systems.
- Related Documents: С.
  - 1. Drawings and General Provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.
- D. Related Sections include the following:
  - Division 7 Section "Joint Sealants". 1. Division 7 Section "Building Insulation" 2.
  - Division 8 Section "Steel Doors and Frames". 3.
  - Division 8 Section "Aluminum Doors and Frames". 4.
  - Division 8 Section "FRP Doors and Frames". 5.
  - Division 8 Section "Flush Wood Doors". 6.
  - 7. Division 8 Section "Aluminum Entrances & Storefronts".
  - 8.
  - Division 8 Section "Aluminum Windows". Division 8 Section "Vinyl Clad Wood Windows". Division 8 Section "Vinyl Clad Wood Doors". 9.
  - 10.
  - Division 8 Section "Glazed Aluminum Curtain Walls" 11.
- Ε. Insulated metal panels glazed into exterior aluminum window frames are specified in Section 08520, Aluminum Windows.

#### 1.02 REFERENCE STANDARDS:

- A. American Architectural Manufacturers Association:
  - AAMA 800 Voluntary Specifications and Test Methods for Sealants.
- B. Federal Regulations:
  - 1. 16FR 1201 Safety Standards for Architectural Glazing Materials.
- C. American Society for Testing and Materials (ASTM):
  - ASTM C 509 Specification for Elastomeric Cellular Preformed Gasket and Sealing Material.
  - ASTM C 864 Specification for Dense Elastomeric Compression Seal Gaskets, Setting Blocks, and Spacers.
  - 3. ASTM C 920 Specification for Elastomeric Joint Sealants.
  - 4. ASTM C 1036 Specification for Flat Glass.
  - ASTM C 1048 Specification for Heat-Treated Flat Glass Kind HS, Kind FT Coated and Uncoated Glass.
  - ASTM C 1087 Test Method for Determining Compatibility of Liquid-Applied Sealants with Accessories Used in Structural Glazing Systems.
  - 7. ASTM C 1115 Specification for Dense Elastomeric Silicone Rubber Gaskets and Accessories.
  - 8. ASTM C 1172 Specification for Laminated Architectural Flat Glass.
  - 9. ASTM C 1281 Specification for Preformed Tape Sealants for Glazing Applications.
  - ASTM C 1330 Specification for Cylindrical Sealant Backing for Use with Cold Liquid Applied Sealants.
  - 11. ASTM C 1376 Specification for Pyrolytic and Vacuum Deposition Coatings on Glass.
  - 12. ASTM E 774 Specification for the Classification of the Durability of Sealed Insulating Glass Units.
  - 13. ASTM E 1300 Practice for Determining Load Resistance of Glass in Buildings.
  - 14. ASTM E 2190 Standard Specification for Insulating Glass Unit Performance and Evaluation.
  - 15. ASTM C1036 Flat Glass.
  - 16. ASTM E838 Cracking, Blistering, Crazing and Color Change.
  - 17. ASTM E119 Standard Test Methods for Fire Tests of Building Construction & Materials.

- D. Glass Association of North America (GANA):
  - 1. Glazing Manual.
  - 2. Laminated Glass Design Guide.
  - 3. Engineering Standards Manual.
- E. The Insulating Glass Manufacturers Alliance (IGMA):
  - 1. IGMA TB-3001 Sloped Glazing Guidelines.
  - 2. IGMA TM-3000 Glazing Guidelines for Sealed Insulating Glass Units.
- F. Lawrence Berkeley National Laboratory; Environmental Energy Technologies Division; Building Technologies Department; Windows & Daylighting Group, windows.lbl.gov/software:
  - "LBNL Window 5.0 (or higher) A PC Program for Analyzing Window Thermal and Optical Performance.
- G. National Fenestration Rating Council (NFRC):
  - 1. NFRC 100 Procedure for Determining Fenestration Product Thermal Properties.
  - 2. NFRC 200 Procedure for Determining Fenestration Product Solar Heat Gain Coefficients at Normal Incidence.
  - 3. NFRC 300 Procedures for Determining Solar Optical Properties of Simple Fenestration Products.
- H. National Fire Protection Association (NFPA):
  - 1. NFPA 80 Fire Doors and Windows.
  - 2. NFPA 252 Fire Tests of Door Assemblies.
  - 3. NFPA 257 Fire Test for Window and Glass Block Assemblies.
- I. Safety Glazing Certifications Council (SGCC):
  - 1. SGCC Certified Products Directory for Safety Glazing Material Used in Buildings.
- J. Associated Laboratories, Inc. (ALI):
  - 1. ALI Certified Products Directory Fenestration Products.
- K. National Association of Architectural Metal Manufacturers (NAAMM):
  - NAAMM SS-1B-68 Non-Skinning Resilient Preformed Compounds Tapes, Ribbons, Beads with Release Paper.

- L. Federal Specifications (FS):
  - FS TT-S-230A Sealing Compound, Synthetic Rubber Base, Single Component, Chemically Curing for Caulking, Sealing and Glazing in Building Construction.
  - FS TT-S-002303 Sealing Compound, Elastomeric Type, Single Component (for Caulking, Sealing, and Glazing in Buildings and Other Structures).

#### 1.03 SUBMISSIONS:

- A. Submissions shall be in accordance with Section 01300 "Submissions" and as modified below.
- B. Product Data Glazing Materials:
  - Submit manufacturer's product data, specifications, and installation instructions for each type glass, glazing material and associated/ related products. Include test data substantiating that glass complies with specified requirements. Include documentation of compatibility of sealants with glazing products, and instructions for handling, storing, installation and recommended procedures for cleaning of each type of glass and glazing material.
- C. Samples: Prior to the delivery of materials, submit to the Architect samples of each of the following:
  - Submit three (3) 12" square samples of each type of glass required. Architect's review of samples will be for color, texture, and pattern only. Compliance with all other requirements is the exclusive responsibility of the Contractor.
  - 2. Submit three (3) beads, approximately 4-inch wide by 3 inches long, of each sealant to be employed, indicating color of set or cured material.
- D. Product Certificates: Signed by manufacturers of glass and glazing products certifying that products furnished comply with requirements.
- E. Shop Drawings: Prior to placement of glass order or glass fabrication, the Contractor shall submit six (6) copies of pertinent shop drawings (i.e. - windows, doors, borrowed light frames, etc.) which have been:
  - 1. Checked and approved by the General Contractor, stamped and dated.
  - 2. Reviewed by the Architect, with stamp affixed.

#### 1.04 DEFINITIONS:

- A. Glass: Includes both primary and fabricated glass products as described in FGMA "Glazing Manual".
- B. Glazing: Include glass installation and materials used to install glass.
- C. Sealed Insulating Glass Unit Surfaces:
  - 1. Surface 1: Exterior surface of outer lite.
  - 2. Surface 2: Interspace-facing surface of outer lite.
  - 3. Surface 3: Interspace-facing surface of inner lite.
  - 4. Surface 4: Interior surface of inner lite.
- D. Manufacturer: A firm that produces primary glass or fabricated glass as defined in referenced glazing publications.
- E. Deterioration of Laminated Glass: Defects developed from normal use that are attributed to the manufacturing process and not to causes other than glass breakage and practices for maintaining and cleaning laminated glass contrary to manufacturer's written instructions. Defects include edge separation, delamination materially obstructing vision through glass, and blemishes exceeding those allowed by referenced laminated-glass standard.
- F. Manufacturing defects are defined as edge separation, seal failure, delamination, core cracking, loss of visibility/clarity due dusting or misting, or UV exposure, or chemical reaction to glass cleaners.

# 1.05 QUALITY ASSURANCE:

- A. Manufacturer Qualifications: Company specializing in the manufacture of glass products, types as specified, with minimum documented five years experience.
- B. Glazer's Qualifications: Company specializing in the installation of glass products, similar types as specified, with minimum documented five years experience.
- C. Single Source Responsibility: Obtain materials from one source for each type of glass and glazing.
- D. Preconstruction Adhesion and Compatibility Testing: Submit to elastomeric glazing sealant manufacturers, for testing indicated below, samples of each glass type, tape sealant, gasket, glazing accessory, and glass-framing member that will contact or affect elastomeric glazing sealants.
  - 1. Use manufacturer's standard test methods to determine whether priming and other specific preparation techniques are required to obtain rapid, optimum adhesion of glazing sealants to glass, tape sealants, gaskets, and glazing

channel substrates.

- Perform tests under normal environmental conditions a. replicating those that will exist during installation.
- 2. Submit not fewer than nine pieces of each type and finish of glass-framing members and each type, class, kind, condition, and form of glass (monolithic, laminated, and insulating units) as well as one sample of each glazing accessory (gaskets, tape sealants, setting blocks, and spacers).
- 3. Schedule sufficient time for testing and analyzing results to prevent delaying the Work.
- 4. For materials failing tests, obtain sealant manufacturer's written instructions for corrective measures, including the use of specially formulated primers.
- 5. Testing will not be required if elastomeric glazing sealant manufacturers submit data based on previous testing of current sealant products for adhesion to, and compatibility with, glazing materials matching those submitted.
- Glazing for Fire-Rated Door and Window Assemblies: Glazing Ε. tested per NFPA 252 and NFPA 257, as applicable, for assemblies complying with NFPA 80 and listed and labeled per requirements of authorities having jurisdiction.
- Glazing Industry Publications: Comply with glass product F. manufacturers' recommendations and the follow: Glazing tested per NFPA 252 and NFPA 257, as applicable, for assemblies complying with NFPA 80 and listed and labeled per requirements of authorities having jurisdiction.
  - GANA Publications: GANA Laminated Division's 'Laminated Glass Design Guide' and GANA's 'Glazing Manual.' IGMA Publication for Insulating Glass: IGMA TM-3000, 1.
  - 2. 'Glazing Guidelines for Sealed Insulating Glass Units.'

#### 1.06 REGULATORY REQUIREMENTS:

- Comply with applicable provisions of all codes and standards Α. acceptable to local, state and federal agencies having jurisdiction.
- в. Perform Work in accordance with the following Glazing Standards:
  - 1. Comply with recommendations of Flat Glass Marketing Association (FGMA) "Glazing Manual" and "Sealant Manual".
  - Safety Glazing: Comply with size, glazing type, location, 2. and testing requirements of 16 CFR 1201 for Category I and

II glazing products, and requirements of authorities having jurisdiction.

3. Insulating Glass: Provide insulating glass units permanently marked either on spacers or on at least one pane with appropriate certification label of Insulating Glass Certification Council (IGCC) or Associated Laboratories, Inc. (ALI).

#### 1.07 PERFORMANCE REQUIREMENTS

- A. General: Provide glazing systems capable of withstanding normal thermal movement and wind and impact loads (where applicable) without failure, including loss or glass breakage attributable to the following: defective manufacture, fabrication, and installation; failure of sealants or gaskets to remain watertight and airtight; deterioration of glazing materials; or other defects in construction.
- B. Glass Design: Glass thicknesses indicated are minimums and are for detailing only. Confirm glass thicknesses by analyzing Project loads and in-service conditions. Provide glass lites for various size openings in nominal thicknesses indicated, but not less than thicknesses and in strengths (annealed or heat treated) required to meet or exceed the following criteria:
  - 1. Glass Thicknesses: Select minimum glass thicknesses to comply with ASTM E 1300, according to the following requirements:
    - a. Specified Design Wind Loads: Provide glazing capable of withstanding wind-load design pressures calculated according to requirements of the 2015 International Building Code or the American Society of Civil Engineers' ASCE 7, "Minimum Design Loads for Buildings and Other Structures," 6.4.2, "Analytical Procedure," whichever are more stringent. Refer to drawings for Wind Design Data.
    - b. Probability of Breakage for Vertical Glazing: 8 lites per 1000 for lites set within 15 degrees of vertical and under wind load for a load duration of 60 seconds.
    - c. Probability of Breakage for Sloped Glazing: 1 lite per 1000 for lites set more than 15 degrees off vertical and under wind and snow loads for a duration of 30 days.
    - d. Minimum Glass Thickness for Exterior Lites: Not less than 6 mm.
- C. Thermal Movements: Provide glazing that allows for thermal movements resulting from the following maximum change (range) in

ambient and surface temperatures acting on glass framing members and glazing components. Base engineering calculation on surface temperatures of materials due to both solar heat gain and nighttime-sky heat loss.

- Temperature Change (Range): 120 deg F, ambient; 180 deg F, material surfaces.
- D. Thermal and Optical Performance Properties: Provide glass with performance properties specified based on manufacturer's published test data, as determined according to procedures indicated below:
  - Center-of-Glass U-Values: NFRC 100 methodology using LBL Window 5.0 analysis, expressed as Btu/ sq. ft. x h x deg F.
  - 2. Center-of-Glass Solar Heat Gain Coefficient: NFRC 200
  - 3. Solar Optical Properties: NFRC 300.

#### 1.08 PRODUCT DELIVERY, STORAGE AND HANDLING:

- A. Delivery:
  - 1. Deliver glass with manufacturer's labels intact.
  - Deliver glazing components and sealants in manufacturer's unopened, labeled containers.
- B. Storage and Handling:
  - 1. Store glass in designated areas, away from traffics and construction.
  - 2. Do not remove labels until glass has been installed.
  - 3. Keep glass free from contamination by materials capable of staining or damaging glass.

#### 1.09 ENVIRONMENTAL REQUIREMENTS:

- A. Perform glazing only when ambient temperature is above 40 degrees
- B. When circumstances require glazing below 45 degrees F, steps shall be taken to assure dry and frost-free surfaces, as approved by the Architect.

#### 1.10 WARRANTY:

- A. Provide manufacturer's written warranty for a period of not less than five years, under provisions of Division 1.
- B. Warranty: Provide a published and written warranty signed by manufacturer agreeing to furnish F.O.B. point of manufacture,

freight allowed to project site, within 45 working days after receipt of notice from Owner for replacement of those units which develop manufacturing defects.

- C. Manufacturer's Special Warranty on Laminated Glass: Written warranty, made out to Owner and signed by laminated-glass manufacturer agreeing to furnish replacements for laminated-glass units that deteriorate as defined in "Definitions" Article, f.o.b. the nearest shipping point to Project site, within specified warranty period indicated below.
  - 1. Warranty Period: Five years from date of Substantial Completion.

# PART 2 - PRODUCTS

#### 2.01 MANUFACTURERS:

Subject to compliance with requirements, provide products by one of the following:

- A. Glass Products:
  - 1. Manufacturers producing glass complying with the requirements include the following:
    - a. Vitro Architectural Glass, Cheswick, PA, 1-855-887-6457, Email:<u>archservices@vitro.com</u>, http://www.vitroglazings.com
    - b. Libbey-Owens-Ford Co. (LOF), Toledo, OH.
    - c. Hordis Brothers, Inc., Pennsauken, NJ.
    - d. AFG Industries, Inc., Kingsport, TN.
    - e. Guardian Industries Corp., Carleton, MI.
    - f. Custom Glass Co., Kittanning, PA.
- B. Polycarbonate Glazing Products:
  - 1. Manufacturers producing glass complying with the requirements include, but are not necessarily limited to, the following:
    - a. General Electric Co., GE Plastics Structured Products, Pittsfield, MA 01201, <u>www.structuredproducts.ge.com</u> (800) 451-3147.
    - b. Cadillac Plastic and Chemical Company.
    - c. Commercial Plastic and Supply Company.
    - d. Insulgard Corporation.

#### 2.02 MATERIALS

- A. General:
  - Of domestic manufacture Federal Spec. DD-G-451c. Thickness tolerances shall conform to published standards of approved manufacturer.
  - All glass, whether specifically shown or specified, shall conform to manufacturer's standards as to maximum size for each type of glass.
  - 3. If a speak hole is required, provide Nissen #425 S/S Speak Hole or equal as approved by the Architect.

#### 2.03 PROCESSED GLASS PRODUCTS:

- A. One-quarter inch (1/4") Annealed Float Glass:
  - 1. General:
    - a. Float glass is glass which has been floated on molten tin and annealed slowly to produce a transparent flat glass which eliminates grinding or polishing.
    - b. ASTM C 1036, Type I, Quality-Q3, class 1.
    - c. CPSC 16 CFR 1201, safety regulation for architectural glazing in hazardous locations; 1/4-inch thick.

# B. One-quarter inch (1/4") Heat-Treated Safety Glass:

- 1. General:
  - a. ASTM C1048, Kind FT (fully tempered), Condition A (uncoated), Type I (transparent flat), Class 1 (clear), Quality q3 (glazing select).
  - b. ANSI Z97.1 and CPSC 16CFR-1201, safety regulation for architectural glazing in hazardous locations; 1/4-inch thick.

#### C. Laminated Safety Glass:

- Laminating Process: Fabricate laminated glass to produce glass free of foreign substances and air or glass pockets as follows:
  - a. ASTM C1172, Laminate lites with polyvinyl butyral interlayer in autoclave with heat plus pressure.

# One-quarter inch (1/4") Safety Laminated, Polished Plate Glass:

- a. A 0.015" thick plastic (interlayer) film sandwiched between two layers of 1/8" annealed float glass.
- b. CPSC 16CFR-1201, safety regulation for architectural glazing in hazardous locations; 1/4-inch thick. Comply with ASTM C 1172 for kinds of laminated glass indicated and other requirements specified.
- c. Interlayer: Interlayer material as indicated below, clear or in colors, and of thickness indicated with a proven record of no tendency to bubble, discolor, or lose physical and mechanical properties after laminating glass lites and installation.
  - Interlayer Material: Polyvinyl butyral sheets or cured resin.

# 3. Glazing type GL-1 - One-half inch (3/8") Tempered Laminated Safety Glass:

- a. Formed of two pieces of ASTM C1048, Kind FT (fully tempered), Condition A (uncoated), Type I (transparent), Class 1 (tinted grey), Quality q3 (glazing select), glass 1/4-inch thick laminated together with a clear 0.015 inch thick PVB interlayer, for a 1/2-inch total nominal thickness.
- b. CPSC 16CFR-1201, safety regulation for architectural glazing in hazardous locations.

# D. One-quarter inch (1/4'') Tempered Glass:

- 1. General:
  - a. Float glass which has been heat treated and rapidly cooled to produce compressively stressed surface layer resulting in a strength of at least four to five times that of annealed glass and complying with strength requirements of FS-DD-G-1403B for Grade B, Tempered Glass.
  - b. CPSC 16CFR-1201, safety regulation for architectural glazing in hazardous locations; when used in a dual glazed unit 1/4" thick.

# E. One Inch (1") Insulated Glass:

- 1. General:
  - a. Factory-assembled units consisting of dual-sealed lites of glass separated by a dehydrated interspace, with manufacturer's standard spacer material and construction, per ASTM E 2190.
  - b. All insulating glass units, whether specifically shown or specified, shall conform to the manufacturer's standards as to maximum size for each type of glass.
  - c. Fabricate glazing units in dimensions required, with edge and face clearances, edge and surface conditions, and bite in accordance with glazing product manufacturer/fabricator's instructions and referenced glazing publications.
- High Performance Insulating Glass: Formed of two 1/4-inch lites of glass separated by a 1/2-inch Argon Gas filled space hermetically sealed, for a total 1 inch nominal thickness, consisting of:
  - a. Outer Lite: ASTM C1036, Type I, Class 1 (tint color as selected by architect), Quality q3.
    - 1. Kind FT (Full Tempered)
    - 2. 1/4-inch thick glass.
    - 3. Magnetic Sputter Vacuum Deposition Coating (MSVD): ASTM C 1376.
    - Coating: "Solarban" 70 Solar Control Low-E (Sputtered) by Vitro Architectural Glass on the second surface (2).
  - b. Inside Lite: ASTM C1036, Type I, Class 1 (clear), Quality q3.
    - 1. Kind FT (Full Tempered)
    - 2. 1/4-inch thick glass.
  - c. Performance Requirements: (minimum requirements based on non-tinted clear glass)
    - 1. Visible Light Transmittance: 64 percent minimum.
    - Winter Nighttime U-Factor: 0.24 (Btu/hr\*ft<sup>2</sup>\* °F) maximum.
    - Summer daytime U-Factor: 0.21 (Btu/hr\*ft<sup>2</sup>\* °F) maximum.
    - 4. Shading Coefficient: 0.31 maximum.
    - 5. Solar Heat Gain Coefficient: 0.27 maximum.
    - Outdoor Visible Light Reflectance: 13 percent maximum.

5. High Performance Insulating Skylight Glass: Refer to Section 8801 for skylight glazing.

# 6. Security Glazing:

- a. 5/16" thick Laminated Shooter/Attack Certified Security Glass
  - 1. AOTSG516L Security Glass, as manufactured by Armoured One, or approved equal.
- b. One Inch (1") Insulated Shooter/Attack Certified Tactical Security Glass
  - 1. AOTSG1 Security Glass, as manufactured by Armoured One, or approved equal

#### 2.05 GLAZING MATERIALS AND ACCESSORIES:

- A. General:
  - Provide black exposed glazing materials, unless another color is indicated, or unless another color is selected by the Architect from manufacturer's standard colors. Provide hardness of materials as recommended for the required application and condition of installation in each case. Provide only compounds, which are known (proven) to be fully compatible with surface contacted.
- B. Glazing Sealants:
  - 1. Compatibility: Select glazing sealants that are compatible with one another and with other materials they will contact, including glass products, seals of insulatingglass units, and glazing channel substrates, under conditions of service and application, as demonstrated by sealant manufacturer based on testing and field experience.
  - Suitability: Comply with sealant and glass manufacturers' written instructions for selecting glazing sealants suitable for applications indicated and for conditions existing at time of installation.
  - Colors of Exposed Glazing Sealants: As selected by Architect from manufacturer's full range for this characteristic.
  - 4. For Glazing Interior Openings:
    - a. Acrylic latex one-part terpolymer (FS TT-00230) or acrylic latex emulsion (ASTM C-834), compounded specifically as glazing sealant with permanent

flexibility (non-hardening), non-staining, and non-bleeding.

- b. Products complying with these requirements include:
  - 1. "AC-20" by Pecora Corp., Harleysville, Pennsylvania.
  - 2. "MONO" by Tremco, Inc., Cleveland, Ohio.
  - "Krylflex" by Chem-Masters Corp., Chagrin Falls, Ohio.
- 5. For Glazing Exterior Openings, except where gasket is used:
  - a. Silicone sealant, complying with FS TT-S-001543, Class A, non-sag, compounded for glazing applications.
  - b. Products complying with these requirements include:
    - "Dow Corning 999 Silicone Building and Glazing Sealant" by Dow Corning Corp., Midland, Michigan.
    - "Silicone Construction Sealant 1200" by General Electric Co., Silicone Products Div., Waterford, New York.
- 6. For Glazing Glass to Glass:
  - a. Structural Silicone sealant, complying with ASTM C1401-09a, Standard Guide for Structural Sealant Glazing.
  - b. Products complying with these requirements include:
    - "Dow Corning 993 Structural Glazing Silicone Sealant" by Dow Corning Corp., Midland, Michigan.
    - "Dow Corning 3362 Insulating Glass Silicone Sealant" by Dow Corning Corp., Midland, Michigan.
- C. Glazing Tape: Preformed macro polyisobutylene; NAAMM #55-1B-68, with integral spacing device, paper release; "Polyskim Tape", color as later selected by Architect.
- D. Setting Blocks: Neoprene, Shore A durometer hardness of 85, plus or minus 5, 4 inches long by 3/8-inch thick by 1/4-inch high.
- E. Glazing Gaskets:
  - 1. Dense Compression Gaskets: Molded or extruded gaskets of

material indicated below, complying with standards referenced with name of elastomer indicated below, and of profile and hardness required to maintain watertight seal:

- a. Neoprene, ASTM C 864.
- b. EPDM, ASTM C 864.
- c. Silicone, ASTM C 1115.
- d. Thermoplastic polyolefin rubber, ASTM C 1115.
- e. Any material indicated above.
- 2. Soft Compression Gaskets: Extruded or molded, closed-cell, integral-skinned gaskets of material indicated below; complying with ASTM C 509, Type II, black; and of profile and hardness required to maintain watertight seal:
  - Neoprene(not compatible with silicone glazing sealants)
  - 2. EPDM.
  - 3. Silicone.
  - 4. Thermoplastic polyolefin rubber.
  - 5. Any material indicated above.
- F. Primers, Sealers & Cleaners: Recommended by sealant manufacturer.
- G. Spacers: Elastomeric blocks or continuous extrusions with a Shore A durometer hardness required by glass manufacturer to maintain glass lites in place for installation indicated.
- H. Edge Blocks: Elastomeric material of hardness needed to limit glass lateral movement (side walking).
- I. Compressible Filler Rod:
  - 1. Closed cell or waterproof-jacketed rod stock of synthetic rubber or plastic foam, proven to be compatible with sealants used, flexible and resilient, with 5-10 psi compression strength for 25% deflection.

#### PART 3 - EXECUTION

#### 3.01 INSPECTION

- A. Check that glazing channels are free of burrs, irregularities, and debris.
- B. Do not proceed with installation until any unsatisfactory conditions are corrected and placed in satisfactory condition.

# 3.02 PREPARATION

- A. Field Measurements:
  - 1. Cut glass accurately to sizes obtained from actual verified field measurements of frames to receive glass.

- 2. Allow for proper edge clearances.
- B. Preparation of Surfaces:
  - 1. Remove any protective coatings or covering from surfaces to be glazed.
  - 2. Clean glass and glazing surfaces to remove dust, oil and contaminants, and wipe dry.
  - Clean glazing channels and other framing members receiving glass immediately before glazing. Remove coatings not firmly bonded to substrates.

# 3.03 DELIVERY AND STORAGE:

- A. Delivered materials shall match the approved samples. Packaged materials shall be delivered in the original unopened labeled containers of the manufacturer, clearly marked with their name and brand.
- B. Each panel of glass shall be factory labeled. Store glass, while awaiting installation, in a dry, well-ventilated location at a constant temperature maintained above dew point.
- C. Glass that is cracked, broken, chipped, or otherwise damaged during transportation, storage, and erection (including natural causes, accidents, and vandalism) and unfit for use shall be removed from the job site and replaced with acceptable materials at the Contractor's expense.

# 3.04 GENERAL PROVISIONS:

- A. Exterior Glazing Only:
  - Watertight and airtight installation of each piece of glass is required, except as otherwise shown. Each installation must withstand normal temperature changes, wind loading, impact loading (for operating sash and doors) without failure of any kind including loss of breakage of glass, failure of sealants or gaskets to remain watertight and airtight, deterioration of glazing materials and other defects in the work.
  - 2. Weather conditions:
    - a. Do not proceed with installation of liquid sealants under adverse weather conditions, or when temperatures are below or above manufacturer's recommended limitations for installation.
- B. Interior and Exterior glazing:
  - 1. Protect glass from edge damage at all times during handling, installation, and operation of the building.

- 2. Glazing channel dimensions as shown are intended to provide for necessary minimum bite on the glass, minimum edge clearance and adequate sealant thickness, with reasonable tolerances. The installer is responsible for correct glass size for each opening, within the tolerances and necessary dimensions established.
- 3. The installer must examine the framing or glazing channel surfaces, backing, stop design, and the conditions under which the glazing is to be performed, and notify the Prime Contractor in writing of any conditions detrimental to the proper and timely completion of the work. Do not proceed with the glazing until unsatisfactory conditions have been corrected in a manner acceptable to the installer.

#### 3.05 INSTALLATION:

- A. Verify by measurements at the job site all dimensions affecting this work.
- B. Comply with combined recommendations of glass manufacturer and manufacturer of sealants, gaskets, and other materials used in glazing, except where more stringent requirements are shown or specified, and except where manufacturers' technical representatives direct otherwise.
- C. Install polysulfide sealants as recommended by Thiokol Chemical Corp., except as otherwise recommended by the sealant manufacturer.
- D. Glazing channel dimensions, as indicated on Drawings, provide necessary bite on glass, minimum edge and face clearances, and adequate sealant thicknesses, with reasonable tolerances. Adjust as required by Project conditions during installation. Clean the glazing channel, or other framing members to receive glass, immediately before glazing. Remove coating which are not firmly bonded to the substrate. Remove lacquer from metal surfaces wherever elastomeric sealants are used.
- E. Apply primer or sealer to joint surfaces wherever recommended by sealant manufacturer.
- F. Do not attempt to cut, seam, nip, or abrade glass that is tempered, heat strengthened, or coated.
- G. Inspect each piece of glass immediately before installation, and eliminate any which have observable edge damage or face imperfections. Protect glass edges from damage during handling and installation. Remove damaged glass from Project site and legally dispose of off Project site. Damaged glass is glass with edge damage or other imperfections that, when installed, could weaken glass and impair performance and appearance.

- H. Apply primers to joint surfaces where required for adhesion of sealants, as determined by preconstruction sealant-substrate testing.
- I. Glass shall be set without springing or forcing and carefully centered laterally and vertically so as to provide uniform clearance. Do not exceed edge pressures stipulated by glass manufacturers for installing glass lites.
- J. Install setting blocks of proper sizes at quarter points of sill rabbet. Set blocks in thin course of heelbead compound / sealant, if any.
- K. Provide spacers inside and out, and of proper size and spacing, for all glass sizes where the length plus width is larger than 50 united inches, except where gaskets are used for glazing.
  - 1. Locate spacers directly opposite each other on both inside and outside faces of glass. Install correct size and spacing to preserve required face clearances, unless gaskets and glazing tapes are used that have demonstrated ability to maintain required face clearances and to comply with system performance requirements.
  - 2. Provide 1/8-inch minimum bite of spacers on glass and use thickness equal to sealant width. With glazing tape, use thickness slightly less than final compressed thickness of tape.
- L. Unify appearance of each series of lights by setting each piece to match others as nearly as possible. Inspect each piece and set with pattern, drawn, and bow oriented in the same direction as other pieces.
- M. Clearance Requirements: Allow the following minimum nominal clearances, in accordance with glass manufacturer's recommendations; glass face to channel face, glass edge to frame member, and glass bite:

<u>Glass</u> Thickness	Face Clearance	Edge Clearance	Bite
Up to 1/4-inch	1/8-inch	1/4-inch	1/4- to 3/8-inch
5/16- to 3/8- inch	3/16-inch	5/16-inch	5/16- to 7/16-inch
1/2- to 13/16-inch	1/4-inch	3/8-inch	1/2- to 5/8-inch
7/8-inch and over	1/4-inch	1/2-inch	1/2- to 7/8-inch

3.06 GLASS TO GLASS JOINTS:

- A. Where glass panels join without mullion, bed joint with clear silicone sealing compound. For exterior applications a structural silicone bond joint is required. All materials to be joined must be compatible and meet the sealant manufacturer's requirements for adhesion & design loading.
- B. Edgework requirements for butt joint glazing applications shall be reviewed and approved by the architect prior to field installation due to a variation in edge quality based on the size, shape and thickness of the glass.
- C. Factory clean cut edges shall meet the following recommendations for butt joint glazing applications:
  - 3/8" glass is acceptable for use with factory clean cut edges.
  - 1/2" glass up to a maximum length of 100" on the butt joint edge can be used with factory clean cut edges.
  - 1/2" glass over 100" in length and 5/8" and thicker glass in any length should not be used with a factory clean cut edge.

#### 3.07 SEALANT APPLICATION:

- A. Force sealants into channel to eliminate voids and to ensure complete "wetting" or bond of sealant to glass and channel surfaces.
- B. Tool exposed surfaces of glazing liquids and compounds to provide a substantial "wash" away from the glass. Install pressurized tapes and gaskets to protrude slightly out of the channel, so as to eliminate dirt and moisture pockets.
- C. Clean and trim excess glazing materials from the glass and stops or frames promptly after installation, and eliminate stains and discolorations.
- D. Cure glazing sealants and compounds in compliance with manufacturer's instructions and recommendations, to obtain high early bond strength, internal cohesive strength and surface durability.

# 3.08 GASKET GLAZING (DRY):

- A. Fabricate compression gaskets in lengths recommended by gasket manufacturer to fit openings exactly, with stretch allowance during installation.
- B. Insert soft compression gasket between glass and frame or fixed stop so it is securely in place with joints miter cut and bonded together at corners.

- C. Center glass lites in openings on setting blocks and press firmly against soft compression gasket by inserting dense compression gaskets formed and installed to lock in place against faces of removable stops. Start gasket applications at corners and work toward centers of openings. Compress gaskets to produce a weathertight seal without developing bending stresses in glass. Seal gasket joints with sealant recommended by gasket manufacturer.
- D. Install gaskets so they protrude past face of glazing stops.

3.09 EXTERIOR COMBINATION METHOD (TAPE AND SEALANT):

- A. Cut glazing tape to proper lengths prior to application, install against permanent stop, 3/16-inch to 1/4-inch below sightline.
- B. Do not lap the adjoining lengths of tape or rubber shim, as this will prevent full contact around perimeter of glass:
  - 1. Strips must be installed in four separate sections, not run continuously around corners.
- C. Place setting blocks at 1/4 points.
- D. Rest glass on setting blocks and press against tape with sufficient pressure to ensure full contact and adhesion at perimeter.
- E. Install removable stops; insert continuous spacer strips between glass and applied stop to keep glass in compression against the tape.
  - 1. Install in four separate sections.
- F. Sealant cavity pocket, formed by setting of the applied stop, shall then be filled to the sight line with sealant.
- G. Cap bead shall not exceed 1/16 inch above sight line onto glass surface.
- H. Tool or wipe cap bead with solvent for smooth appearance.

#### 3.10 INTERIOR DRY METHOD (TAPE AND TAPE):

- A. Cut glazing tape to length and install against permanent stop, projecting 1/16-inch above sightline.
- B. Place setting blocks at 1/4 points.
- C. Rest glass on setting blocks and push against stop for full contact and adhesion at perimeter.
- D. Place glazing tape on free perimeter of glass in same manner described above.

- E. Install removable stop, avoid displacement of tape, exert pressure on tape for full continuous contact.
- F. Knife trim excess or protruding tape.

#### 3.11 CLEAN-UP AND PROTECTION:

- A. Protect exterior glass from breakage immediately upon installation by attachment of crossed streamers to framing held away from glass. DO NOT APPLY MARKERS OF ANY TYPE TO SURFACES OF GLASS. Remove nonpermanent labels, and clean surfaces.
- B. Remove and replace glass which is broken, chipped, cracked, abraded or damaged in any other way during the construction period, including natural causes, accidents, and vandalism. Protect glass from contact with contaminating substances resulting from construction operations, including weld splatter. If, despite such protection, contaminating substances do come into contact with glass, remove them immediately as recommended by glass manufacturer.
- C. Remove all excess glazing material from all installed glass. Maintain glass in a reasonably clean condition during construction, so that it will not be damaged by corrosive action and will not contribute (by wash-off) to the deterioration of glazing materials and other surfaces. Any soiling occurring on the glass shall be promptly and completely washed off.
- D. Carefully and completely remove all markings and labels from glass surfaces. Do not apply markers to glass surfaces.
- E. Wash and polish glass on both faces with a mild neutral or slightly acidic solution as recommended by the glass manufacturer not more than four days prior to Owner's acceptance of the work in each area. Attach crossed streamers away from glass face.
- F. Care shall be taken during cleaning to avoid scratching of glass surfaces by grit particles.
- G. Examine glass surfaces adjacent to or below exterior concrete and other masonry surfaces at frequent intervals during construction, but not less than once a month, for build-up of dirt, scum, alkaline deposits, or stains; remove as recommended by glass manufacturer.

# END OF SECTION

# DIVISION 8 - DOORS AND WINDOWS

#### SECTION 08806 - FIRE RATED GLAZING (FIRELITE PLUS, FIREGLASS 20 & PYROSTOP)

#### PART 1 - GENERAL

#### 1.01 RELATED DOCUMENTS

A. Drawings and general provisions of the contract, including General and Supplementary Conditions and Division 1 Specification sections, apply to work of this section.

#### 1.02 WORK INCLUDED

- A. Furnish and install appropriate fire-rated glazing materials in all fire rated assemblies including door vision lights, transoms, borrowed lites and/or window units.
  - 1. For non-rated assemblies, see Specification Section 08800.

#### 1.03 RELATED WORK SPECIFIED ELSEWHERE

- A. Division 1 Section 01352 "LEED Requirements" for recycled content and regional materials requirements, submittals, and additional LEED requirements.
- B. Division 1 Section 01524 "Construction Waste Management" for recycling construction waste.
- C. Division 7 Section 07910 "Joint Sealants".
- D. Division 8 Section 08110 "Steel Doors and Frames".
- E. Division 8 Section 08211 "Flush Wood Doors".

#### 1.04 REFERENCE STANDARDS:

- A. Consumer Product Safety Commission (CPSC):
  - 1. CPSC 16FR 1201 Safety Standards for Architectural Glazing Materials.
- B. American Society for Testing and Materials (ASTM):
  - 1. ASTM E2010-01 Standard Test Method for Positive Pressure Fire Tests of Window Assemblies.
  - 2. ASTM E2074-00 Standard Test Method for Fire Tests of Door Assemblies, including Positive Pressure Testing of Side-Hinged and Pivoted Swinging Door Assemblies.
  - 3. ASTM E163 Methods for Fire Tests of Window Assemblies.
  - 4. ASTM E773 Test Method for Seal Durability of Sealed Insulating Glass Units.
  - 5. ASTM E838 Cracking, Blistering, Crazing and Color Change.
  - 6. ASTM E 119: Fire Tests of Building Construction and Materials.
- C. National Fire Protection Association (NFPA):

- 1. NFPA 80 Fire Doors and Windows.
- 2. NFPA 252 Fire Tests of Door Assemblies.
- 3. NFPA 257 Fire Tests of Window Assemblies.
- D. Underwriters Laboratories, Inc. (UL):
  - 1. UL 9 Fire Tests of Window Assemblies.
  - 2. UL 10B Fire Tests of Door Assemblies.
  - 3. UL 10C Positive Pressure Fire Tests of Door Assemblies.
- E. Glass Association of North America (GANA):
  - 1. GANA Glazing Manual.
  - 2. FGMA Sealant Manual.
- F. American National Standards Institute (ANSI):
  - 1. ANSI Z97.1: Standard for Safety Glazing Materials Used in Buildings FGMA Sealant Manual.

# 1.05 PERFORMANCE REQUIREMENTS

- A. **FireLite Plus®** Fire-rated glass ceramic laminated clear and wireless glazing material for use in impact safety-rated locations such as doors, transoms and borrowed lites with fire rating requirements ranging from 20 minutes to 3 hours with hose stream test.
- B. Fireglass20<sup>®</sup> Fire-rated tempered glass clear and wireless glazing material for use in impact safety-rated locations with fire rating requirements of 20 minutes without hose stream test; for use in interior and exterior applications.

 $\cdots$ Glazing Type GL-2

- C. Pyrostop® Fire-rated, clear and wireless glazing material for use in locations such as doors, sidelites, transoms, borrowed lites, and wall applications with fire rating requirements ranging from 45 minutes to 2 hours with required hose stream test; for use in interior and exterior applications.
- D. Product shall pass positive pressure tests standards: UL 10C, UBC 7-2 and UBC 7-4.
- E. Safety Glazing: Comply with testing requirements of CPSC 16 CFR 1201, safety regulation for architectural glazing in hazardous locations for Category I & II materials.

#### 1.06 SUBMISSIONS

- A. Submissions shall be in accordance with Section 01300 Submissions and as modified below.
- B. Product Data Glass:
  - Submit manufacturer's technical data, specifications, and 08806-2

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installation and maintenance instructions for each type of glass required. Include test data substantiating that glass complies with specified requirements. Include Certificates of Compliance from glass manufacturers attesting that glass materials furnished for project comply with requirements. Separate certification will not be required for glazing materials bearing manufacturer's permanent label designating type and thickness of glass, provided labels represent a quality control program involving a recognized certification agency or independent testing laboratory acceptable to authority having jurisdiction.

#### C. Samples:

- Submit three (3) 12" square samples of each type of glass required. Architect's review of samples will be for color, texture, and pattern only. Compliance with all other requirements is the exclusive responsibility of the Contractor.
- D. Shop Drawings: Prior to placement of glass order or glass fabrication, the Contractor shall pertinent shop drawings (i.e. windows, doors, borrowed light frames, etc.) which have been:
  - 1. Checked and approved by the General Contractor, stamped and dated.
  - 2. Reviewed by the Architect, with stamp affixed.
- E. Product Test Listings: From UL indicating fire-rated glass complies with requirements, based on comprehensive testing of current product.
- F. LEED Submittals: (For LEED Projects only)
  - 1. Submit recycled content and regional materials documentation for each type of product provided under work of this Section in accordance with Section 01352 "LEED Requirements".
  - 2. Credit EQ 4.1: Manufacturers' product data for interior field-applied adhesive and sealant products included in this section, including printed statement of VOC content in accordance with Section 01352 "LEED Requirements".

# 1.07 QUALITY ASSURANCE

- A. Glazing Standards: FGMA Glazing Manual and Sealant Manual.
- B. Fire Protective Rated Glass: Each lite shall bear permanent, nonremovable label of UL and/or WHI certifying it for use in tested and rated fire protective assemblies.
- C. Fire Protective Glazing Products for Door Assemblies: Products identical to those tested per ASTM E 152 and UL 10B, labeled and listed by UL and/or WHI or other certification agency acceptable to authorities having jurisdiction.

#### 1.08 DELIVERY, STORAGE AND HANDLING

- A. Comply with requirements of referenced standard and manufacturer's written instructions.
- B. Deliver all materials to project site in manufacturer's original packaging, undamaged, complete with installation instructions.
- C. Store off ground, under cover, protected from weather and construction activities

# 1.09 PROJECT CONDITIONS:

A. Field Measurements: Verify dimensions by field measurements before fabrication and indicate measurements on Shop Drawings. Coordinate fabrication schedule with construction progress to avoid delaying the Work.

1.10 WARRANTY:

- A. General Warranty: The special warranty specified in this Article shall not deprive the Owner of other rights the Owner may have under other provisions of the Contract Documents and shall be in addition to, and run concurrent with, other warranties made by the Contractor under requirements of the Contract Documents.
- B. Warranty Period: 5 years from date of Substantial Completion.

# PART 2 - PRODUCTS

#### 2.01 MATERIALS

A. FireLite Plus® as manufactured by Nippon Electric Glass Company, Ltd., and distributed by Technical Glass Products, 8107 Bracken Place SE, Snoqualmie, WA 98065, voice 1-800-426-0279, fax 1-800-451-9857,

e-mail sales@fireglass.com, web site <a href="http://www.fireglass.com">www.fireglass.com</a>

- 1. FireLite Plus® glazing sizes shall be as shown on the drawings:
- 2. Properties: All fire rated ceramic glass designated on the drawings shall carry the following properties:
  - a. Thickness: 5/16 inch.
  - b. Weight: 4.0 lbs. / sq.ft.
  - c. Approximate Visible Transmission: 85 percent.
  - d. Approximate Visible Reflection: 9.0 percent.
  - e. Fire-Rating: 20 minutes to 3 hours for doors; 20 minutes to 90 minutes for other applications - refer to Contract Drawings for ratings.
  - f. Impact Safety Resistance: CPSC 16CFR1201 (Cat. I and II) & ANSI 297.1.

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- g. STC Rating: Approximately 38 dB.
- h. Surface Finish: Standard Grade-Comparable surface finish to alternative fire-rated ceramic products marketed as "Premium"
- i. Positive Pressure Test: UL 10C, UBC 7-2 and 7-4; passes.
- Maximum sheet sizes based on surface finish: Standard 48 inches by 96 inches.
- 4. Labeling: Each piece of FireLite Plus® shall be permanently labeled with the FireLite® logo, UL logo and fire rating in sizes up to 3,325 sq. in., and with the FireLite® label only for sizes that exceed the listing. FireLite Plus® shall be glazed into the appropriate fire-rated frame(s) with an approved glazing compound (Silicone or Closed Cell PVC Tape) as supplied by the Installer.
- 5. Fire Rating: Fire rating listed and labeled by UL for fire rating scheduled at opening locations on drawings, when tested in accordance with ASTM E2074-00 and ASTM E2010-01; NFPA 252 and NFPA 257; and UL 9, UL 10B, and UL 10C.
- B. Fireglass20<sup>®</sup> as manufactured by J.R. Four Ltd., and distributed by Technical Glass Products, 8107 Bracken Place SE, Snoqualmie, WA 98065, voice 1-800-426-0279, fax 1-800-451-9857, e-mail sales@fireglass.com, web site www.fireglass.com
  - 1. Fireglass20<sup>®</sup> glazing sizes shall be as shown on the drawings:
  - 2. Properties: All 20 minute fire rated glass designated on the drawings shall carry the following properties:
    - a. Thickness: 1/4 inch.
    - b. Weight: 3.0 lbs. / sq.ft.
    - c. Approximate Visible Transmission: 89 percent.
    - d. Approximate Visible Reflection: 8.0 percent.
    - e. Fire-Rating: 20 minutes (WITHOUT HOSE STREAM TEST) refer to Contract Drawings.
    - f. Impact Safety Resistance: CPSC 16CFR1201 (Cat. I and II) &
      ANSI Z97.1
  - 3. Labeling: Each piece of Fireglass20<sup>®</sup> shall be permanently labeled fireglass 20<sup>™</sup> with the fireglass 20<sup>™</sup> logo, UL logo and fire rating in sizes up to 6,396 sq. in.
  - 4. Fire Rating: Fire rating listed & labeled by UL for fire rating scheduled at opening locations on drawings, when tested in accordance with ASTM E2074-00; NFPA 252; & UL 9, UL 10B, & UL 10C.

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- C. Pyrostop® as manufactured by Nippon Electric Glass Company, Ltd., and distributed by Technical Glass Products, 8107 Bracken Place SE, Snoqualmie, WA 98065, voice 1-800-426-0279, fax 1-800-451-9857, e-mail sales@fireglass.com, web site www.fireglass.com
  - 1. Pyrostop<sup>®</sup> glazing sizes shall be as shown on the drawings:
  - 2. Properties: All fire rated ceramic glass designated on the drawings shall carry the following properties:
    - a. Thickness: 3/4" (45 min.), 7/8" (60 min.), 1-7/16" (90 min.) & 2-1/8" (120 min.)
    - b. Weight: Varies with thickness (approximate range 9 to 22 lbs./sq. ft.)
    - c. Approximate Visible Transmission: Varies with thickness (approximate range 88 to 75 percent).
    - e. Fire-Rating: Up to 2 hours refer to Contract Drawings for ratings.
    - f. Impact Safety Resistance: CPSC 16CFR1201 (Cat. I and II) & ANSI 297.1.
    - g. STC Rating: Up to 46 dB.
  - 3. Labeling: Each piece of Pilkington Pyrostop® shall be permanently labeled with the FireLite® logo, UL logo and fire rating in sizes up to 3,325 sq. in., and with the FireLite® label only for sizes that exceed the listing. FireLite Plus® shall be glazed into the appropriate fire-rated frame(s) with an approved glazing compound (Silicone or Closed Cell PVC Tape) as supplied by the Installer.
  - 4. Fire Rating: 60 Minutes and Greater: Fire rating listed and labeled by UL for fire rating scheduled at opening locations on drawings, when tested in accordance with ASTM E 119 and UL 263.
- D. Glazing Compound for Fire-Rated Glazing Materials:
  - 1. VOC content of all interior field-applied sealants must be less than 250 g/L.
  - 2. VOC content of interior structural glazing adhesive must be less than 100 g/L.
  - 3. Glazing Tape: Closed cell polyvinyl chloride (PVC) foam, coiled on release paper over adhesive on two sides, maximum water absorption by volume of 2 percent. Glass panels that exceed 1,393 sq. inches for 90-minute ratings must be glazed with firerated glazing tape supplied by manufacturer.
  - 4. Glazing Compound: DAP 33 putty.
  - 5. Silicone Sealant: One-part neutral curing silicone, medium modulus sealant, Type S; Grade NS; Class 25 with additional movement capability of 50 percent in both extension and

08806-6 Rev. 03/21/18 compression (total 100 percent); Use (Exposure) NT; Uses (Substrates) G, A, and O as applicable.

Available Products:

- a. Dow Corning 795 Dow Corning Corp.
- b. Silglaze-II 2800 General Electric Co.
- c. Spectrem 2 Tremco Inc.]
- E. Setting Blocks: Neoprene, EPDM or silicone; tested for compatibility with glazing compound; of 70 to 90 Shore A hardness.
- F. Spacers: Neoprene or other resilient blocks of 40 to 50 Shore A durometer hardness, adhesive-backed on one face only, tested for compatibility with specified glazing compound.
- G. Cleaners, Primers and Sealers: Type recommended by manufacturer of glass and gaskets.

# 2.02 FABRICATION

A. Fabricate glass and other glazing products in sizes required to glaze openings indicated for Project, with edge and face clearances, edge and surface conditions, and bite complying with recommendations of product manufacturer and referenced glazing standard as required to comply with system performance requirements.

#### 2.03 DELIVERY AND STORAGE

- A. Delivered materials shall match the approved samples. Packaged materials shall be delivered in the original unopened labeled containers of the manufacturer, clearly marked with their name and brand.
- B. Each pane of glass shall be factory labeled; removed only at the time specified hereinafter. Store glass, while awaiting installation, in a dry, well-ventilated location at a constant temperature maintained above dew point.
- C. Glass that is cracked, broken, chipped, or otherwise damaged during transportation, storage, and erection, and all glazing and sealing materials unfit for use shall be removed from the job site and replaced with acceptable materials at the Contractor's expense.
- C. All Glazing broken or damaged during construction up to the date of substantial completion shall be removed from the job site and replaced with acceptable materials at the Contractor's expense.

#### PART 3 - EXECUTION

#### 3.01 EXAMINATION

A. Examine glass framing, with glazier present, for compliance with 08806-7 Rev. 03/21/18 the following:

- 1. Manufacturing and installation tolerances, including those for size, squareness, offsets at corners.
- 2. Minimum required face or edge clearances.
- 3. Observable edge damage or face imperfections.
- B. Do not proceed with glazing until unsatisfactory conditions have been corrected.
- C. Clean glazing channels and other framing members receiving glass immediately before glazing. Remove coatings that are not firmly bonded to substrates.

#### 3.02 INSTALLATION

- A. General:
  - 1. Verify, by measurements at the job site, all dimensions affecting this work.
  - Comply with FGMA or GANA (For Pyrostop) standards and instructions of manufacturers of glass, glazing, sealants and glazing compounds.
  - 3. Protect glass from edge damage during handling and installation. Inspect glass during installation and discard pieces with edge damage that could affect glass performance.
  - 4. Set units of glass in each series with uniformity of pattern, draw, bow and similar characteristics.
  - 5. Cut glazing tape to length and set against permanent stops, flush with sight lines to fit openings exactly, with stretch allowance during installation.
  - 6. Place setting blocks located at quarter points of glass with edge block no more than 6 inches from corners.
  - 7. Glaze vertically into labeled fire-rated metal frames or partition walls with same fire rating as glass and push against tape for full contact at perimeter of pane or unit. Glass shall be set without springing or forcing and carefully centered laterally and vertically so as to provide uniform clearance.
  - 8. Place glazing tape on free perimeter of glazing in same manner described above.
  - 9. For Fireglass20<sup>®</sup> Provide minimum edge clearance of >1/4 inch (+1/8 inch/-1/16 inch) and a minimum edge cover of <3/8 inch (+1/16 inch/-1/16 inch).
  - 10. For Pilkington Pyrostop® provide minimum 3/16 inch edge clearance
  - 11. Install removable stop and secure without displacement of tape. Prior to glazing, remove stops and clean out all dirt, oil, droppings, or other material, which will affect proper glazing.
  - 12. Use specified glazing compound, without alteration; bed glazing material in glazing compound; entirely fill all recess and spaces. Provide visible glazing compound with smooth and straight edges.
  - 13. Install in vision panels in fire-rated doors to requirements of NFPA 80.
  - 14. Install so that appropriate UL and FireLite Plus®, Fireglass20® &
Pilkington Pyrostop  $\ensuremath{\mathbb{B}}$  markings remain permanently visible and upright.

### 3.02 PROTECTION AND CLEANING

- A. Glass shall be suitably screened from paint, construction debris, and the like. All such soiling occurring on glass shall be promptly and completely washed off by methods approved by the glass manufacturer.
- B. Upon completion of installation and acceptance, markings and labels of whatever sort shall be carefully and completely removed from glass panels and the glass washed clean with a mild neutral or slightly acidic solution as recommended by the glass manufacturer, after which no marking or labels of any sort shall be placed on the glass. Care shall be taken during cleaning to avoid scratching of glass surfaces by grit particles.
- C. Ventilate buildings after glazing by opening windows slightly to prevent condensation on glass. Maintain ventilation until compound has set.

### 3.03 GUARANTEE

A. The Contractor shall guarantee all workmanship and material in accordance with the General Conditions and Section 01700 - Contract Closeout.

END OF SECTION

### DIVISION 9 - FINISHES

### SECTION 09500 - INTERACTIVE ACOUSTICAL PANEL SYSTEM

### PART 1 - GENERAL

### 1.01 DESCRIPTION

- A. Provide all labor, materials, equipment and services and perform all operations required to complete the installation of all work of this section and related work as indicated on the drawings as specified herein, including, but not limited to, the following:
  - 1. New sound-absorbing acoustical panels of size and shape shown on the drawings and/or specifiedherein.

### 1.02 REFERENCES

- A. American Society of Testing and Materials:
  - 1. ASTM C423 Standard Test Method of Sound Absorption and Sound Absorption Coefficients by the Reverberation RoomMethod.
  - ASTM E90 Standard Method of Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions.
  - 3. ASTM E413 Classification for Determination of Sound Transmission Class.
  - 4. ASTM E795 Standard Practices for Mounting Test Specimens During Sound Absorption Tests.
  - 5. ASTM E84 Test of Surface Burning Characteristics.
- B. National Fire Protection Association:
  - 1. NFPA 101 Life Safety Code Requirements for Interior Finish.

### 1.03 SYSTEM DESCRIPTION

- A. Furnish a system of sound-absorbing panels for reducing sound energy levels and improving the hearing environment.
- B. Absorber Panels: Wall and ceiling mounted impact resistant polyhedrons; sound absorbing throughout audio spectrum; fabric wrapped.
- C. Mounting Hardware:
  - Wall mounting (absorbers and diffusers): Four corner support, designed to allow panels of same size to be interchanged. NOTE: 2" clearance above top of absorbers and diffusers needed for proper mounting.
- D. Acoustical Performance Requirements:
  - 1. Sound absorption coefficients, measured with a Type A and Type E-400 mounting, according to ASTM E795 (if applicable) or according to application mounting method, determined by ASTMC423:

	on Coet	fficient			Sabi	.nes/Uni	t					
One-Th	ird Oc	tave B	Band Ce	nter Fr	equency	/(Hz)	One-T	hird O	ctave	Band Ce (Hz)	nter Fr	requency
Mounting Type	125	250	500	1,000	2,000	4,000	125	250	500	1,000	2,000	4,000
	Wa	11 & C	Ceiling	Absorb	ers (4'	x4′)	Wa	all & C	eiling	g Absorb	bers (4	′x4′)
$A^1$	0.36	0.99	1.23	1.55	1.22	1.06	5.5	15.1	18.8	17.6	17.1	16.2
	Со	nvex (	Ceiling	Diffus	ers (4'	x4′)	Co	onvex C	eiling	g Diffus	sers (4	′x4′)
A	.49	.16	.10	.04	.03	.05	7.8	2.6	1.5	0.7	0.5	0.8
E-400	.21	.16	.16	.15	.14	.26	3.3	2.6	2.6	2.3	2.2	4.2
	Pyra	amidal	Ceili	ng Diffu	users (	4′x4′)	Pyr	amidal	Ceili	ng Diff	users (	4′x4′)
A	.27	.18	.09	.06	.03	.00	4.3	2.9	1.4	1.0	0.5	0.0
E-400	.21	.14	.13	.13	.18	.27	3.4	2.2	2.1	2.1	2.9	4.3
	Туре	I Cor	nvex Wa	ll Diff	users	(4′x4′)	Туре	e I Con	vex Wa	all Diff	lusers	(4′x4′)
A	.18	.18	.13	.10	.12	.16	2.9	2.9	2.1	1.6	1.9	2.6
E-9/32″1	.25	.14	.11	.10	.13	.16	4.0	2.3	1.8	1.7	2.0	2.6
	Туре	I Pyra	amidal	Wall Di	ffuser	(4′x4′)	Туре	e I Pyra	amidal	Wall Di	ffuser	(4′x4′)
A	.23	.18	.13	.12	.14	.11	3.7	2.9	2.1	1.9	2.2	1.8
E-9/32″	.22	.18	.12	.12	.17	.20	3.5	2.9	1.9	1.9	2.7	3.2
	Т	ype Il	Wall	Diffuse	rs (4'x	( <b>'</b> 8	1	Гуре II	Wall	Diffuse	ers (4':	x8′)
A	.34	.27	.14	.11	.11	.19	10.8	8.6	4.6	3.4	3.6	6.1
E-9/32"1	.28	.29	.19	.13	.13	.20	9.1	9.4	6.0	4.1	4.1	6.4

<sup>1</sup>Mounted 9/32" air space to simulate actual installation practice. A Mounting - 0" air space E-400 Mounting - 16" air space

2. Sound Transmission Class (STC), determined according to ASTM E90 and ASTM E413: Type I convex ceiling diffuser panel, 4' x 4'; STC 23; Type I pyramidal ceiling diffuser panel, 4' x 4'; STC 22.

### 1.04 SUBMITTALS

- A. Shall comply with the requirements of Section 01300 and with the requirements listed below.
- B. Product Data: Submit applicable reference standards and application recommendations and limitations.
- C. Shop Drawings:
  - 1. Shop drawings shall show a working layout of proposed panel installation, including, but not limited to, individual panel dimensions and detailed method of fastening and other pertinent details.
  - Shop Drawings: Submit design and installation drawings showing product components in assembly with adjacent materials and products.
  - 3. No panels shall be installed before approvals have been received.
- D. Samples:
  - 1. Acoustical Wall Panel: 12" x 12" sample.
  - 2. Mounting hardware, including fasteners.
- E. Quality Control Submittals:
  - 1. Manufacturer's Installation Instructions.
- F. Contract Closeout Submittals:
  - 1. Maintenance Recommendations.
  - 2. Warranty.

### 1.05 DELIVERY, STORAGE AND HANDLING

- A. Pack and ship to avoid damage according to manufacturer's recommendations:
  - Factory finish and assemble all components before shipment.
     Ship components in sealed, labeled cartons.
- B. Do not accept damaged products at the site.
- C. All materials shall be stored under cover in a clean, dry, well ventilated space immediately after delivery to the job. Any material which becomes damaged or soiled and, in the option of the Owner, cannot be repaired, will be replaced with new, specified material at no additional cost to the Owner.

### 1.06 PROJECT CONDITIONS

- A. Field Measurements: Obtain from Contractor and indicted on Shop Drawings.
- B. Environmental Requirements: Install panels after all mortar, wet and dust producing trades have completed their work and wall and ceiling surfaces have been finished.

### 1.07 WARRANTY

A. Provide manufacturer's written warranty that products not in accordance with requirements of Contract Documents within three years after date of commencement of warranties shall be corrected promptly after receipt of written notice from Owner.

### PART 2 - PRODUCTS

### 2.01 ACCEPTABLE MANUFACTURERS

A. Wenger Corporation, 555 Park Drive, Owatonna, MN 55060, (507) 455-4100.

### 2.02 SUBSTITUTIONS

- A. The materials and products of the manufacturer listed above are approved as base bid for this project. All bids shall be submitted on the base bid products and materials. Proposed "write in" or voluntary alternates will not be considered in determining the low bid or the award of the contract.
- B. The burden of demonstrating the merit of the proposed substitute is on the proposer. The proposer shall be prepared to supply the specified material or products from the specified supplier if the proposed substitute is not accepted.
- C. Bidders wishing to submit substitutes shall make written request to the specifying authority at least ten (10) days prior to bid opening. Such requests must include adequate information to demonstrate precise functional equivalence to the base bid products and materials.
- D. Final approval of the substitute shall be determined at the time of job completion. Failure to provide precise functional equivalence may result in removal of the substitute and installation of approved

product at contractor's expense.

- E. If the specifying authority approves the proposed substitute prior to bid opening, approval will be set forth in an addendum. Bidders shall not rely upon approvals made in another manner. Bid prices based upon substitute products shall be identified separately.
- F. The materials, products and equipment in the bidding documents establish the required standard of function, dimension, appearance and quality to be met by any proposed substitute.
- G. Bidders requesting approval of a substitute must provide proof of an acoustical evaluation completed for the space where the panels are specified. The acoustical evaluation must show the acoustical effects of both sound absorbing panels and sound diffusing panels.
- H. Bidders requesting approval of a substitute must include test reports from an accredited independent laboratory showing one-third octave band sound absorption coefficients of the production run of panels tested with specified mountings, Type A, Type E-400, whichever is applicable. Noise reduction coefficient (NRC) data alone are not acceptable. Octave band TL data are not acceptable.

### 2.03 MANUFACTURED UNITS

- A. Absorber Panels: Manufacturer's standard construction of 1" thick or as specified on drawings, 6lb./cu.ft. glass fiber board with foil backing, metal edged frames, covered with Class A rated fabric according to ASTM E-84. Corner brackets are integrated into the metal edged frame and receive mounting hardware.
- B. Finishes:
  - 1. Wall-mounted panels: Manufacturer's standard woven plain weave 100% polyester 20 ply fabric wrapping entire core and frame and glued to back of frame, color selected from manufacture's 2155 series palette.

### PART 3 - EXECUTION

### 3.01 INSTALLATION

- A. Wall panel installation, using metal "Z" clip fasteners. Spacing and quantity shall be in accordance with the manufacturer's recommendations.
- B. Upon completion of the installation, the Contractor shall remove and vacuum clean all debris.

### 3.02 DESCRIPTION AND LAYOUT

A. Refer to floor plans, elevations and reflected within specifications for each allocated space.

### END OF SECTION

### DIVISION 9 - FINISHES

### 09515 - ACOUSTICAL CEILING BAFFLES PART 1 GENERAL

### 1.01 Scope

A. Include all labour, materials, and plant as required for the fabrication and delivery of acoustical baffles in all respects as described and specified herein.

### 1.02 Related Work by Other

- A. Gypsum board partition and wall structure
- B. Paint finish of wall surface behind and between panelling
- C. Lighting fixtures and electrical services and connections
- D. Other acoustical products

### 1.03 Quality Assurance

- A. Manufacturer & Installer: Firm manufacturing the specified product shall have adequate capacity required for projects listed and have successfully completed similar projects for a period of not less than five years. The installer should be approved by the manufacturer as qualified to perform the work required.
- B. Reference Standards: Conform to all governing laws, building codes, and the following performance criteria:
  - 1. Fire Performance Characteristics: Provide a ceiling panel with surface-burning characteristics as determined by testing finish panel composite in accordance with ASTM E84 test procedures (building code requirements may necessitate composite panel testing using identical materials and construction representative of a typical installation, using the specified finish - Decoustics has a considerable number of composite ASTM E84 panel tests on file). ASTM E-84 testing must be performed by a testing organization acceptable to authorities having jurisdiction.

ASTM E-84	Classification	Class "A" or "1"
	Flame Spread:	25 or less
	Smoke Developed:	450 or less

2. Acoustical Performance Characteristics: Provide baffles and free hanging screens with acoustical absorption characteristics as indicated in Part 2, which have been determined by testing fully assembled production material in accordance with ASTM C-423 (typical baffle mounting) by a testing organization acceptable to authorities having jurisdiction. Approved testing organization must be independent of the manufacturer.

### 1.04 Submittals

- A. Submit to the Architect of record, three (3) complete sets of CAD generated shop drawings, or standard detail sheets, prepared by the manufacturer showing all necessary details and dimension requirements which will subsequently be field verified and revised as required by the Architect.
- B. Samples: Submit (3 sets) manufacturers standard 14" (355mm) x 6" (150mm) sample baffles of each type of product as specified in Part 2 to the Owner for approval. Product shall be original production material in finish specified for final use.

- C. Certification: Submit to the owner a certificate of compliance to specified acoustical and fire performance criteria as stated section 1.03 and Part 2 of this specification, signed by an officer of the panel manufacturer and attach independent laboratory test results for each product used, showing that the products supplied as components and complete assemblies, meet or exceed the specified requirements.
- D. Prior Approval: Manufacturers not listed in section 2.01 of this specification and wishing to be submitted as an equal on the project must submit information in accordance with section 1.04 of this specification fifteen days prior to the bid date as outlined in the contract documents. The information submitted must give evidence to show that the alternative product equals or exceeds the attributes and performance of the specified product.
- E. Single Source: All custom acoustical baffles, free hanging screens, and wall and ceiling panels, shall be purchased from a single supplier.

### 1.05 Product Delivery, Storage and Handling

- A. Deliver fabricated units and related components to the site for installation in accordance with a reasonable schedule furnished by the contractor. On-site storage shall be such as to assure that all panels and associated materials are protected from damage, and storage area is climatically controlled to normal operational levels.
- B. Prior to panel installation, the site must be free of all wet and dusty trades and the climatic conditions stabilized to normal operational levels. Baffles shall be allowed to stabilize on site 24 hours prior to installation.
- C. Baffles must only be handled by persons wearing clean light-weight gloves. It is important that personnel installing hardware (hanger wires, clips, ceiling systems, etc.) do not handle the baffles before putting the clean lightweight gloves on.
- D. Baffles must be stored, installed and maintained only in secure ambient environment (Humidity Min 35% and Max 55% Temperature not to exceed 80° F (27°C)).

### 1.06 Guarantee

A. Furnish to the Architect in the Owner's name, the manufacturers written guarantee covering the products supplied against defects in materials and workmanship under normal operating conditions for a period of one year from the date of shipment. Submit certificates of compliance showing warranty period by dates for each project completed to the Owner.

### PART 2 PRODUCTS

### 2.01 Decoustics Type 10 Rondolo Baffles

Furnish and deliver prefabricated acoustical baffles as described in this section for installation in areas as shown on drawings meeting or exceeding the following requirements:

A. Description: The acoustic Baffles shall be Decoustics "Rondolo Baffles as manufactured by:

Decoustics

61, Royal Group Crescent,	TEL: (800) 387-3809
Woodbridge, Ontario	FAX: (905) 652-2505
Canada, L4H 1X9	Email: <pre>sales@decoustics.com</pre>

- 1. The Baffles shall be type 10 Rondolo, nominal overall thickness is 2 1/8" (54mm) x 8" (203mm) high. The core shall be free of surface defects and sanded as required to a uniform thickness, which will not vary by more than +/- 0.06" (1.5mm). The Baffles shall be fabricated to sizes and shapes as shown on Decoustics approved shop drawings, or as supplied by the installing Contractor, using a CAD/CAM (CIM) Robotics cutting system to ensure accurate panel core dimensions to a tolerance of +/- 0.06" (1.6mm). The top edge shall incorporate a concealed steel continuous mounting area for the 'D' ring suspension. For type 10 baffles, edges shall be chemically hardened (vertical) plus concealed specially treated
- Finish shall be: Decoustics Rondolo veneer selected by the architect/designer. Finish shall be applied to all baffle edges and faces.
- 3. Installation shall be by use of specially treated hardware consisting of "D" rings mounted to the concealed steel top edge of the baffles. Concealed steel top edge shall be a minimum 20 gauge steel. All fasteners (ceiling anchors, hanger wire or chain, screws, etc.) are to be supplied by the installing contractor.
- 4. Installation shall be in accordance with local code requirements, manufacturers' instructions, and as shown on Decoustics approved shop drawings, or detail sheets. Installer shall provide for shimming, installing alignment splines (where required), and adjustments as required to maintain consistent alignment of joints and of finished baffle faces, and to ensure unstressed clip/'D' ring locations.

		SPACING (Height of Baffle :			SAB FREQUE	INS NCY (Hz)		
FINISH	DIMENSIONS	Spacing between Baffles)	125	250	500	1000	2000	4000
	Rondolo* Baffle Height 6" x Length 96" x Thickness 1.5"	1:0.5	0.96	3.00	4.56	3.72	3.84	3.36
Rondolo®		1:1	0.85	3.51	5.45	4.97	5.33	4.97
Baffle		1:2	1.21	1.70	4.60	9.20	7.51	6.66
		1:3	2.06	4.72	7.51	8.60	7.63	6.90

 Panels shall have absorption values (sabins) of the following when tested in accordance with section 1.03 of this specification.

### PART 3 Execution

### 3.01 Adjustment and Replacement

A. The Owner shall inspect the installation and product on completion. The manufacturer shall provide repair or replacement of components not conforming to requirements as stated herein and said work will then become Decoustics Claro finished Baffles Jan 2018 bound by the terms of this specification.

B. Installation labour for removal and replacement of product improperly installed and not conforming to specified installation methods as detailed in sections 2.01.3 and 2.01.4, and shown on approved shop drawings, shall be the responsibility of the installing contractor.

### 3.02 Additional Material

A. Provide to the Owner on completion of work, maintenance stock of additional Baffles as determined by the architect.

### END OF SECTION

# BRIARCLIFF MANOR U.F.S.D.

# BRIARCLIFF MANOR MIDDLE/ HIGH SCHOOL 444 PLEASANTVILLE RD

SED No.: 66-14-02-02-0-004-023 BBS No.: 21-274C

BRIARCLIFF MANOR MIDDLE/HIGH SCHOOL		TODD ELEMENTARY SCHOOL	
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# **DISTRICT ADMINISTRATION OFFICES**

444 PLEASANTVILLE RD, BRIARCLIFF MANOR, NY 10510

# PHASE 2 BOND IMPROVEMENTS

AT

# TODD ELEMENTARY SCHOOL 45 INGHAM RD

SED No.: 66-14-02-02-0-002-021 BBS No.: 21-274D





# ARCHITECTS LANDSCAPE ARCHITECTS ENGINEERS

RANCH PROJECT CONTACT: 187 WOLF ROAD, SUITE 205 I ALBANY I NEW YORK 12205 I T. 518.621.7650 244 EAST MAIN STREET | PATCHOGUE | NEW YORK 11772 | T. 631.475.0349 | F. 631.475.0361

WWW.BBSARCHITECTURE.COM

ARCHITECTS CERTIFICATION THE UNDERSIGNED CERTIFIES THAT TO THE BEST OF HIS KNOWLEDGE, INFORMATION, AND BELIEF, THE PLANS AND SPECIFICATIONS ARE IN ACCORDANCE WITH APPLICABLE REQUIREMENTS OF THE NEW YORK STATE UNIFORM FIRE PREVENTION AND BUILDING CODE, THE NEW YORK STATE ENERGY CONSERVATION CONSTRUCTION CODE, AND THE CONSTRUCTION STANDARDS OF THE EDUCATION DEPARTMENT.

LAWRENCE SALVESEN, A.I.A.

LIC. No. 020623



![](_page_119_Figure_0.jpeg)

![](_page_119_Figure_3.jpeg)

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	STUDENT LEARNING EXCHANGE (168)	OFFICE (1)	B	1	3' - 0"	8' - 0"	1 3/4"	D4	ALUM	GL-1	SF-01	ALUM	GL-1	01	E/ A8.02	I & J/ A8.02	-		
2	OFFICE (2)	STUDENT LEARNING EXCHANGE (168)	B	1	3' - 0"	8' - 0"	1 3/4"	D4	ALUM	GL-1	SF-01	ALUM	GL-1	01	E/ A8.02	I & J/ A8.02	-		
3		STUDENT LEARNING EXCHANGE (168)	B	1	3' - 0"	8 <sup>°</sup> - 0 <sup>°°</sup>	1 3/4"	D4	ALUM	GL-1	SF-01	ALUM	GL-1	01	E/ A8.02	1 & J/ A8.02	-		
4	STUDENT LEARNING EXCHANGE (168)		B	1	3' - 0"	8' - U''	1 3/4"	D4	ALUM	GL-1	SF-01	ALUM	GL-1	01	E/ A8.02	I & J/ A8.02	-		
5	STUDENT LEARNING EXCHANGE (168)		B	1	3' - 0"	8' - 0"	1 3/4"	D4	ALUM	GL-1	SF-12	ALUM	GL-1	01	E/ A8.02	1 & J/ A8.02	-		
0		STUDENT LEARNING EXCHANGE (168)	B	1	3' - 0"	8' - U''	1 3/4"	D4	ALUM	GL-1	SF-13	ALUM	GL-1	01	E/ A8.02	I & J/ A8.02	-		
	STUDENT LEARNING EXCHANGE (100)		B	1	3-0	0 - U 8' 0"	1 3/4	D4	ALUM	GL-1	SF-07	ALUM	GL-1	01	E/ A0.02	1 & J/ A0.02	-		
0			D P	1	3 - 0	0 - U 8' 0"	1 3/4	D4	ALUM	GL-1	SF-03	ALUM	GL-1	01	E/ A0.02	1 & J/ A0.02	-		
9			B	1	3 - 0	0-0 8'0"	1 3/4	D4	ALUM	GL-1	SF-03		GL-1	01	E/ A0.02	1 & J/ A0.02	-		
10		STUDENT LEARNING EXCHANGE (168)	B	1	3' - 0"	8' - 0"	1 3/4	D4		GL-1	SE-03		GL-1	01	E/ A8.02	1 & J/ A8 02	-		
12		STUDENT LEARNING EXCHANGE (168)	B	1	3' - 0"	8' - 0"	1 3/4"	D4		GL-1	SF-14		GL-1	01	E/ A8.02	I& I/ Δ8 02			
12		STUDENT LEARNING EXCHANGE (168)	B	1	3' - 0"	8' - 0"	1 3/4"	D4 D4		GL-1	SE-03		GL-1	01	E/ A8 02	I & J/ A8 02	-		
10	OFFICE (14)	STUDENT LEARNING EXCHANGE (168)	B	1	3' - 0"	8' - 0"	1 3/4"	D4		GL-1	SE-03		GL-1	01	E/ A8 02	1 & 0/ A0.02			
15	OFFICE (15)	STUDENT LEARNING EXCHANGE (168)	B	1	3' - 0"	8' - 0"	1 3/4"	D4	ALUM	GL-1	SE-03		GL -1	01	E/ A8 02	1 & J/ A8 02			
16	OFFICE (16)	STUDENT LEARNING EXCHANGE (168)	B	1	3' - 0"	8' - 0"	1 3/4"	D4	ALUM	GL-1	SF-03	ALUM	GI -1	01	E/ A8.02	1 & J/ A8.02	-		
17	STUDENT LEARNING EXCHANGE (168)	OFFICE (17)	B	1	3' - 0"	8' - 0"	1 3/4"	D4	ALUM	GI -1	SF-03	ALUM	GI -1	01	E/ A8.02	1 & J/ A8.02	-		
18	OFFICE (18)	STUDENT LEARNING EXCHANGE (168)	 B	1	3' - 0"	8' - 0"	1 3/4"	 D4	ALUM	GL-1	SF-03	ALUM	GL-1	01	E/ A8.02	& J/ A8.02	-		
19	OFFICE (19)	STUDENT LEARNING EXCHANGE (168)	 B	1	3' - 0"	8' - 0"	1 3/4"	 D4	ALUM	GL-1	SF-01	ALUM	GL-1	01	E/ A8.02	I & J/ A8.02	-		
20	OFFICE (20)	STUDENT LEARNING EXCHANGE (168)	В	1	3' - 0"	8' - 0"	1 3/4"	D4	ALUM	GL-1	SF-01	ALUM	GL-1	01	E/ A8.02	I & J/ A8.02	-		
100A	GALLERY (501B)	CORRIDOR (F)	В	2	3' - 6"	7' - 0"	1 3/4"	D4	M.C.O.V.	F.L.P.	F2	HM		10A	H6	J6	-	T4	45 MIN. ELECTROMAGNETIC HOLDER
100B	CORRIDOR (L)	CORRIDOR (F)	В	2	3' - 6"	7' - 0"	1 3/4"	D4	M.C.O.V.	F.L.P.	F2	HM		10	H4	J4	-	T4	45 MIN. ELECTROMAGNETIC HOLDER
100C	STUDENT LEARNING EXCHANGE (168)	CORRIDOR (E)	В	2	3' - 0"	7' - 0"	1 3/4"	D4	M.C.O.V.	F.L.P.	F2	HM		10	H4	J4	-	T1	45 MIN. ELECTROMAGNETIC HOLDER
100D	CORRIDOR (E)	STUDENT LEARNING EXCHANGE (168)	В	2	3' - 0"	7' - 0"	1 3/4"	D4	M.C.O.V.	F.L.P.	F2	HM		10	H4	J4	-	T1	45 MIN. ELECTROMAGNETIC HOLDER
107	QUIET ROOM (107)	CORRIDOR (L)	В	1	3' - 0"	7' - 0"	1 3/4"	D1	HM		F1	HM		06	H4	J4	-	T2	20 MIN. PROVIDE GASKET AROUND DOOR
108A	CORRIDOR (L)	AMPHITHEATER (108)	В	1	3' - 0"	8' - 0"	1 3/4"	D4	ALUM	TEMP	SF-28	F.R.A.F.	GL-2	08A	E/ A8.02	I & J/ A8.02	-		60 MIN.
108B	STUDENT LEARNING EXCHANGE (168)	AMPHITHEATER (108)	В	1	3' - 0"	8' - 0"	1 3/4"	D4	ALUM	GL-1	SF-02	F.R.A.F.	GL-1	01B	E/ A8.02	I & J/ A8.02	-		
108C	AMPHITHEATER (108)	STUDENT LEARNING EXCHANGE (168)	В	1	3' - 0"	8' - 0"	1 3/4"	D4	ALUM	GL-1	F1	F.R.A.F.	GL-1	05	H4	J4	-		
109B	PRINCIPAL (109b)	CORRIDOR (E)	В	1	3' - 0"	7' - 0"	1 3/4"	D2	M.C.O.V.	F.L.P.	F1	HM		03	H4	J4	-	T4	60 MIN.
111A	GALLERY (501B)	UNISEX ADA RESTROOM (111A)	D1	1	3' - 0"	7' - 0"	1 3/4"	D1	HM		F1	HM		02	H4	J4	-	T2	20 MIN.
111B	GALLERY (501B)	UNISEX RESTROOM (111B)	D2	1	3' - 0"	7' - 0"	1 3/4"	D1	HM		F1	HM		02	H4	J4	-	T2	20 MIN.
111C	GALLERY (501B)	UNISEX RESTROOM (111C)	D2	1	3' - 0"	7' - 0"	1 3/4"	D1	HM		F1	HM		02	H4	J4	-	T2	20 MIN.
111D	GALLERY (501B)	STAFF ADA UNISEX RESTROOM (111D)	D1	1	3' - 0"	7' - 0"	1 3/4"	D1	HM		F1	HM		02	H4	J4	-	T2	20 MIN.
112A	STUDENT LEARNING EXCHANGE (168)	FLEX SPACE (112)	В	1	3' - 0"	8' - 0"	1 3/4"	D4	ALUM	GL-1	SF-02	ALUM	GL-1	08	E/ A8.02	I & J/ A8.02	-	T1	
112B	FLEX SPACE (112)	CORRIDOR (L)	В	1	3' - 0"	8' - 0"	1 3/4"	D4	ALUM	GL-1	SF-28	F.R.A.F.	GL-2	08	E/ A8.02	I & J/ A8.02	-		60 MIN.
113A	CORRIDOR (B)	SCIENCE RESEARCH LAB (113)	В	1	3' - 0"	8' - 0"	1 3/4"	D4	ALUM	GL-2	SF-27	F.R.A.F.	GL-2	08	E/ A8.02	I & J/ A8.02	-		60 MIN.
113B	SCIENCE RESEARCH LAB (113)	CORRIDOR (B)	В	1	3' - 0"	8' - 0"	1 3/4"	D4	ALUM	GL-2	SF-27	F.R.A.F.	GL-2	08	E/ A8.02	I & J/ A8.02	-		60 MIN.
114A	COLLEGE CONF (114)	STUDENT LEARNING EXCHANGE (168)	В	1	3' - 0"	8' - 0"	1 3/4"	D4	ALUM	GL-1	SF-08	ALUM	GL-1	01A	E/ A8.02	I & J/ A8.02	-		
114B	CORRIDOR (E)	COLLEGE CONF (114)	B	1	3' - 0"	7' - 0"	1 3/4"	D4	ALUM	GL-2	SF-28	F.R.A.F.	GL-2	08	E/ A8.02	I & J/ A8.02	-	T1	60 MIN.
115	STUDENT LEARNING EXCHANGE (168)	MATH LAB (115)	B	1	3' - 0"	8' - 0"	1 3/4"	D4	ALUM	F.L.P.	SF-18	ALUM	GL-1	01A	E/ A8.02	I & J/ A8.02	-	T1	
116		STUDENT LEARNING EXCHANGE (168)	B	1	J' - U"	8' - 0"	1 3/4"	D4	ALUM	GL-1	SF-1/	ALUM	GL-1	01A	E/ A8.02	I & J/ A8.02	-	11	
117	STUDENT LEARNING EXCHANGE (168)		B	1	3' - 0"	8' - 0"	1 3/4"	D4	ALUM	GL-1	SF-01	ALUM	GL-1	01A	E/ A8.02	T & J/ A8.02	-	 T4	
118A		STUKAGE (118)	B	1	5' - U"	/ - 0"	1 3/4"		HM		F1 F4	HM		070	H4	J4	-	14 T4	
1108	STUDENT LEARNING EXCHANGE (168)		<u>в</u>	1	3 - U"	/ - U"	1 3/4"		HIVI		F1 E4			070	H4	J4	-	14 T/	
119			D D	1	ວ-ປີ 3'_0"	/ - U <sup>*</sup>	1 3/4							0/B	H4	J4	-	14 T/	
120				1	ວ-U ວະດາ	/ - U <sup>*</sup>	1 3/4		IVI.U.U.V.	F.L.P.				03	H4	J4	-	14 T/	30 IVIIIN. 45 MIN
120A				1	3-0 3' 0"	<i>ו</i> - U די חיי	1 3/4		MCOV		EVICT	וווו דצופד		01.0	ロ4 山り	J4 I0		T4	
121			R D	1	3 - 0 3' - 0"	ν - υ 7' <sub>-</sub> Λ"	1 3/4	טע 1ח	MCOV	F.L.F.	F1	EVIO I HW		03		JZ IA	+ - +	T4	
121A	GUIDANCE (125)		R	1	3' - 0"	7 - 0 7' _ 0"	1 3/4		ΔΙ Ι ΙΜ	GL_2	SF-27	FRAF	GL_2	070	F/ Δ8 02	ዲ . / ΔԶ በን			60 MIN
123		SECURITY (157)	B	1	3' - 0"	7'-0	1.3/4"	D4	HM	FIP	F1	НМ		00	H2	.12	-	Т4	20 MIN
158	BOY'S TOIL FT (158)	CORRIDOR (C)	C2	1	3' - 0"	7' - 0"	1.3/4"	D5	HM		F1	HM		03B	H4	.14	-	T2	20 MIN.
150		STOR (159)	R R	1	3' - 0"	7'-0"	1.3/4"	D3	HM	FIP	F1	HM		000 07R	H2	.12		T4	20 MIN
( 160	CORRIDOR (C)	GIRI 'S TOIL FT (160)	C.2	1	3' - 0"	7'-0"	1.3/4"	D5	HM		F1	HM		07B	HΔ	.14		T2	20 MIN
164	TECH (164)	STUDENT I FARNING FXCHANGE (168)	B	1	3' - 0"	8' - 0"	1.3/4"	D3	ΔΙΙΙΜ	GI_1	SF-16		GI _1	010	F/ Δ8 02		-	T1	
165	TECH (164)		B	1	3' - 0"	7' _ 0"	1.3/4"	D1	HM		F1	HM		01	H4	.14		T4	
166	STUDENT I FARNING FXCHANGE (168)	STORAGE (166)	B	1	3' - 0"	7' - 0"	1.3/4"	D1	S.C.I.C.O.V		F1	HM		07A	H4	.14	-	T1	
167	STUDENT LEARNING FXCHANGE (168)	STORAGE (167)	B	1	3' - 0"	7' - 0"	1 3/4"	D1	S.C.L.C.O.V		 F1	HM		07A	H4		-	T1	
168A	STUDENT I FARNING FXCHANGE (168)	GALLERY (501B)	 B	2	3' - 0"	8' - 0"	1.3/4"	D4	ALUM	GI -2	SF-04	FRAF	GI -2	09A	F/ A8 02	& J/ A8 02	-	T1	60 MIN.
2 168B	STUDENT LEARNING FXCHANGE (168)	CORRIDOR (B)	B	2	3' - 6"	8' - 0"	1 3/4"	 D4	ALUM	GI -2	SF-09	F.R.A.F	GI -2	09A	E/ A8 02	& J/ A8 02	-	T1	60 MIN.
168D	CORRIDOR (F)	STUDENT LEARNING FXCHANGE (168)	B	1	3' - 0"	8' - 0"	1 3/4"	D4	ALUM	GI -2	SF-28	F.R.A.F	GI -2	09A	E/ A8 02	& J/ A8 02	-	T1	60 MIN.
( 181A	GALLERY (501B)	UNISEX ADA RESTROOM (181A)	 D2	1	3' - 0"	7' - 0"	1.3/4"	D1	HM		F1	HM		02	H4	.14	-	T2	20 MIN.
181R	UNISEX RESTROOM (181B)	GALI FRY (501B)	D2	1	3' - 0"	7' - 0"	1 3/4"	D1	HM		F1	HM		02	H4		-	T2	20 MIN.
> 181C	STORAGE (181C)	STUDENT LEARNING EXCHANGE (168)	 B	1	3' - 0"	7' - 0"	1 3/4"	 D1	HM		F1	HM		07	H4	J4	-	T1	
500	CAFETERIA (505)	BREAKOUT (500)	 B	1	3' - 0"	7' - 0"	1 3/4"	D4	HM	TEMP	 F1	HM	-	08	H4				ADD AI TERNATE 1 TO BASE BID GC
501	CAFETERIA (505)	BREAKOUT (501)	B	1	3' - 0"	7' - 0"	1 3/4"	D4	HM	TFMP	 F1	HM	-	08	H4		-		ADD AI TERNATE 1 TO BASE BID GO
			B	2	3' - 6"	7' - 0"	1 3/4"	 D4	ALUM	GI -2	SF-15	FRAF	GI -2	0.9	F/ A8 02	J/ A8 02	-		60 MIN
505A		UAFETERIA (303)	- D -					<u> </u>						~~~			1		

![](_page_120_Figure_1.jpeg)

![](_page_120_Figure_2.jpeg)

![](_page_121_Figure_0.jpeg)

<b></b>	
STOREF	RONT & WINDOW GLAZING LEGEND
GL-1	SINGLE PANEL TEMPERED GLAZING - PER PROJECT MANUAL NO RATED ALUMINUM MULLIONS
GL-2	RATED SINGLE PANEL GLAZING - PER PROJECT MANUAL & DOOR SCHEDULE 1HR RATED ALUMINUM MULLIONS WITH FIRE BARRIER COMPOSITE
GL-3	HIGH PERFORMANCE INSULATING DOUBLE GLAZING - PER PROJECT MANUAL INSULATED ALUMINUM MULLIONS
GL-4	HIGH PERFORMANCE SPANDREL DOUBLE GLAZING - PER PROJECT MANUAL INSULATED ALUMINUM MULLIONS
PNL-1	COMPOSITE PANEL - PER PROJECT MANUAL NO RATED ALUMINUM MULLIONS
PNL-2	RATED COMPOSITE PANEL - PER PROJECT MANUAL & DOOR SCHEDULE 1HR RATED ALUMINUM MULLIONS WITH FIRE BARRIER COMPOSITE

![](_page_121_Figure_2.jpeg)

![](_page_121_Figure_4.jpeg)

![](_page_121_Figure_5.jpeg)

![](_page_122_Figure_0.jpeg)

![](_page_122_Figure_1.jpeg)

![](_page_123_Figure_0.jpeg)

![](_page_123_Figure_1.jpeg)

![](_page_124_Figure_0.jpeg)

![](_page_124_Figure_6.jpeg)

WALL TY	PES:		TACKBOARDS:
TYPE P1:	PAINT BY SHERWIN WILLIAMS LATEX EGGSHELL ENAMEL COLOR: EXTRA WHITE SW7006 (CEILING)	TYPE P2: PAINT BY SHERWIN WILLIAMS LATEX FLAT ENAMEL COLOR: DENIM SW6523 (CEILING ACCENT - BLUE)	TBI: TACK BOARDS. COLOR: AS PER ARCHITECT WINDOW TREATMENTS:
TYPE P3:	PAINT BY SHERWIN WILLIAMS LATEX EGGSHELL ENAMEL COLOR: BIG CHILL SW7648 (GENERAL WALLS)	TYPE P4: PAINT BY SHERWIN WILLIAMS LATEX EGGSHELL ENAMEL COLOR: DENIM SW6523 (ACCENT A - BLUE)	TYPE WS1: DRAPER CLUTCH OPERATED FLEXSHADE, PHIFER SHEARWEAVE PW 2500, 1% OPEN COLOR AS SELECTED BY ARCHITECT (ALL EXTERIOR WINDOWS, U.O.N.)
TYPE P5:	PAINT BY SHERWIN WILLIAMS LATEX EGGSHELL ENAMEL COLOR: ROBUST ORANGE SW6628 (ACCENT B- ORANGE)	TYPE P6: PAINT BY SHERWIN WILLIAMS LATEX EGGSHELL ENAMEL COLOR: DAPHNE SW9151 (ACCENT C- LIGHT BLUE)	TYPE WS2:       DRAPER CLUTCH OPERATED FLEXSHADE, PHIFER SHEARWEAVE PW 2500, SOLID COLOR AS SELECTED BY ARCHITECT (ALL INTERIOR WINDOWS @ MEDIA CENTER)         NOTES:       1.         PROVIDE (1) PER WINDOW UNIT
TYPE P7:	PAINT BY SHERWIN WILLIAMS LATEX EGGSHELL ENAMEL COLOR: AS SELECTED BY ARCHITECT (CORRIDOR)	TYPE P8: PAINT BY SHERWIN WILLIAMS LATEX EGGSHELL ENAMEL COLOR: AS SELECTED BY ARCHITECT (CORRIDOR)	2. GC SHALL SUBMIT SHOP DRAWINGS AND SAMPLES FOR APPROVAL BY ARCHITECT.
TYPE P9:	PAINT BY SHERWIN WILLIAMS LATEX SEMI-GLOSS ENAMEL COLOR: AS SELECTED BY ARCHITECT (TOILET)	TYPE WC1: WALLTALKERS MAG-RITE (M248) - MAGNETIC, WRITABLE WALL SURFACE AS MANUFACTURED BY KOROSEAL OR EQUAL. PROVIDE FLOOR TO CEILING- LEVEL 5 GYP. BOARD FINISH REQUIRED FOR INSTALLATION.	ACOUSTICAL WALL PANEL: AP: 1" HARDSIDE FABRIC WRAPPED ACOUSTICAL WALL PANEL AS MANUFACTURED BY KINETICS NOISE CONTROL OR EQUAL FABRIC: PALETTE 2155 BY GUILFORD OF MAINE COLOR: AS PER ARCHITECT
TYPE CT-1: <u>NOTE:</u> GROU SPACED AT 1 TYPE CT-3: <u>NOTE:</u> GROU SPACED AT 1	4" X 12" CERAMIC WALL TILE MANUFACTURER: AMERICAN OLEAN COLLECTION: COLORSTORY WALL COLOR: MATTE DESIGNER WHITE 0061 T FOR CT1 TO BE CUSTOM - #381 BRIGHT WHITE. /8" UNLESS OTHERWISE NOTED. 4" X 12" CERAMIC WALL TILE MANUFACTURER: AMERICAN OLEAN COLLECTION: COLORSTORY WALL COLOR: BLAZE 0029 T FOR CT3 TO BE CUSTOM - #381 BRIGHT WHITE. /8" UNLESS OTHERWISE NOTED.	TYPE CT-2: 4" X 12" CERAMIC WALL TILE MANUFACTURER: AMERICAN OLEAN COLLECTION: COLORSTORY WALL COLOR: SAPPHIRE SKY 0070 NOTE: GROUT FOR CT2 TO BE CUSTOM - #381 BRIGHT WHITE. SPACED AT 1/8" UNLESS OTHERWISE NOTED.	<ol> <li>WRITABLE WALL COVERINGS', AS MANUFACTURED BY KOROSEAL INTERIOR PRODUCTS, LLC, 3875 EMBASSY PARKWAY, SUITE 110, FAIRLAWN, OHIO 44333, TELEPHONE: (855)753-5474, EMAIL: INFO@KOROSEAL.COM, OR APPROVED EQUAL.</li> <li>'WALLTALKERS' TO BE WRITE-ABLE WITH MAGNETIC CAPABILITIES AND WILL EXTEND ENTIRE LENGTH OF WALL, FLOOR TO CEILING. 'WALLTALKERS' TO BE WHITE WITH ALUMINUM J-CAP TRIM, SEMI-GLOSS (PRODUCT CODE M248).</li> <li>ACCESSORIES - 1 SET REQUIRED FOR EACH ROOM</li> </ol>
FLOOR N TYPE VCT1:	<b>IDENTIFY and COMPOSITION TILE</b> 12" X 12" VINYL COMPOSITION TILE MANUFACTURER: ARMSTRONG 'EXCELON IMPERIAL' FIELD COLOR: SOFT WARM GRAY 51861 ACCENT VCT1A: GO BLUE 57531 ACCENT VCT1B: SCREAMIN' PUMPKIN 57516	TYPE LVT1: 7"X48" LUXURY VINYL TILE MANUFACTURER: PATCRAFT STYLE: RESTON 20 MIL COLOR: 00730 ANISE-V2	<ul> <li>INCLUDE THE FOLLOWING:</li> <li>a. ONE SILVER ANODIZED ALUMINUM MARKER CADDY</li> <li>(MODEL NO. AMCM)</li> <li>b. STARTER KIT (8 MARKERS, ONE FELT ERASER, 8 OZ.</li> <li>SPRAY BOTTLE OF</li> <li>LIQUID CLEANER, ONE EMPTY 8 OZ.</li> <li>SPRAY BOTTLE FOR WATER, TWO DRY</li> <li>ERASE CLEANING</li> <li>CLOTHS).</li> <li>c. HEAVY DUTY MAGNETS (MAG1), MINIMUM OF 12</li> <li>MAGNETS.</li> <li>4. WARRANTY: INCLUDE MANUFACTURER'S STANDARD 5 YEAR</li> <li>WARRANTY.</li> </ul>
TYPE CPT1:	24" X 24" CARPET TILE MANUFACTURER: TARKETT STYLE: COLORKNIT COLOR: 30230 REGAL BLUE	TYPE CT-4: 8" X 8" CERAMIC FLOOR TILE MANUFACTURER: CREATIVE MATERIAL CO. COLLECTION: FRAMMENTO COLOR: BEIGE MACRO - NATURAL - RECTIFIED (BEIGE TERRAZZO) <u>NOTE:</u> GROUT FOR CT4 TO BE CUSTOM - #380 HAYSTACK. SPACED AT 1/16" UNLESS OTHERWISE NOTED.	<ul> <li>5. INSTALL AS PER MANUFACTURER'S RECOMMENDATIONS HORIZONTALLY WITH SEAM AT 2' A.F.F AND 6' A.F.F. REFER TO INSTALLATION INSTRUCTIONS, DOUBLE CUTTING ALL SEAMS.</li> <li>6. G.C. SHALL CLEAN / PREP MATERIAL FOR FIRST USE AS RECOMMENDED BY MANUFACTURER AN AMMONIA OR ALCOHOL BASED CLEANER OR MILD SOAP AND RINSED THOROUGHLY WITH WATER.</li> </ul>
BASE TY	PES:		SOLID 'WALLTALKERS' PIECE
TYPE RCB1:	4" RUBBER COVE BASE BY TARKETT COLOR: BLUE INTENSITY TH2	TYPE RCB2:       4" RUBBER COVE BASE BY TARKETT COLOR: SHORELINE 280	SEAM — — — — — — — — — — — — — — — — — — —
TYPE RCB3:	RUBBER COVE BASE BY "JOHNSONITE" LATEX EGGSHELL ENAMEL COLOR AS SELECTED BY ARCHITECT (CORRIDORS)	TYPE RCB4: RUBBER COVE BASE BY "JOHNSONITE" LATEX EGGSHELL ENAMEL COLOR AS SELECTED BY ARCHITECT (OFFICES)	GV1: GC RESPONSIBLE FOR USING GRAPHICS ALLOWANCE TO PROVIDE HEAT FORMED VINYL WALL DECAL. DESIGN AND INSTALLATION BY 71 VISUALS (631.532.6142) ON PAINTED GYP. BD. WALL. PRODUCT: ARLON VINYL WITH MATTE LAMINATE, MULTIPLE COLORS
TYPE CT-5:	8" X 8" CERAMIC FLOOR TILE MANUFACTURER: CREATIVE MATERIAL CO. COLLECTION: FRAMMENTO COLOR: BEIGE MACRO - NATURAL - RECTIFIED (BEIGE TERRAZZO)		RUBBER TRANSITIONS/NOSINGS
NOTE: GROU SPACED AT	JT FOR CT5 TO BE CUSTOM - #380 HAYSTACK.	2	GC RESPONSIBLE FOR USING GRAPHICS ALLOWANCE TO         PROVIDE HEAT FORMED VINYL WALL DECAL. DESIGN AND         INSTALLATION BY 71 VISUALS (631.532.6142) ON PAINTED GYP.         BD. WALL.         PRODUCT: ARLON VINYL WITH MATTE LAMINATE, MULTIPLE         COLORS
CEILING	<u>TILE TYPES:</u>		
TYPE ACT1:	ACOUSTIC CEILING TILE BY "ARMSTRONG" SIZE: 24" X 24" X 3/4" STYLE: #1911 ULTIMA BEVELED TEGULAR (CORRIDORS/CLASSROOMS)	TYPE ACT2: ACOUSTIC CEILING TILE BY "ARMSTRONG" SIZE: 24" X 24" X 5/8" STYLE: # 770 CORTEGA SQUARE LAY-IN (STORAGE ROOMS/CUSTODIAL)	CASEWORK FINISHES           QT-1: SOLID SURFACE AS MANUFACTURED BY WILSONART OR EQUAL- COLOR: FROSTY WHITE MIRAGE 1573MG
TYPE ACT3:	ACOUSTIC CEILING TILE BY "ARMSTRONG" SIZE: 24" X 24" X 1", NRC RATING .95 STYLE: # 3250 OPTIMA SQUARE TEGULAR (STUDENT LEARNING EXCHANGE/OFFICES)	TYPE ACT4: ACOUSTIC CEILING BY "CERTAINTEED" SIZE: 8" DEEP X 2" THICK STYLE: TYPE 10 DECOUSTICS RONDOLO BAFFLES COLOR(S) AS SELECTED BY ARCH. (STUDENT LEARNING EXCHANGE)	PL-1: PLASTIC LAMINATE AS MANUFACTURED BY WILSONART OR EQUAL W/ MATCHING 3MM PVC EDGE WHERE REQUIRED COLOR: LOFT OAK 7968-12PL-2: PLASTIC LAMINATE AS MANUFACTURED BY WILSONART OR EQUAL W/ MATCHING 3MM PVC EDGE WHERE REQUIRED COLOR: HIGH RISE 4996-38PL-3: PLASTIC LAMINATE AS MANUFACTURED BY WILSONART OR
TYPE ACT5:	ACOUSTIC CEILING TILE BY "ARMSTRONG" SIZE: 24" X 24" X 3/4" STYLE: # 1935 ULTIMA HEALTH ZONE SQUARE LAY-IN (TOILET ROOMS)	CEILING GRID: CEILING GRID BY "ARMSTRONG", 15/16" PRELUDE, WHITE, U.O.N. <u>NOTE:</u> ALL CEILING TILE & GRID TO BE WHITE UNLESS OTHERWISE NOTED.	EQUAL W/ MATCHING 3MM PVC EDGE WHERE REQUIRED COLOR: INDIGO D379-60 **G.C. RESPONSIBLE FOR PROVIDING AND INSTALLING CASEWORK SHOWN IN ELEVATION 23/11.04, 27/11.04 AND RECEPTION DESK DETAILED ON 11.06 ONLY. ALL OTHER CASEWORK TO BE PROVIDED AND INSTALLED BY OWNER'S CC ON SEPARATE CONTRACT.
	TYPES		
TYPE GRT1:	GRT1: 1/8" GROUT MANUFACTURER: CUSTOM BUILDING PRODUCTS COLOR: #11 SNOW WHITE	TYPE GRT2: GRT2: 1/16" GROUT MANUFACTURER: CUSTOM BUILDING PRODUCTS COLOR: #380 HAYSTACK.	I ADIXIC WIXAFFED TACK DUAKD.         I         FWTB: 1/2" HOMASOTE WALL BOARD BETWEEN COUNTERTOP AND UPPER CABINETS, WRAPPED WITH FABRIC. CUT TO MATCH LENGTH OF UPPER CABINETS FABRIC: PALETTE 2155 BY GUILFORD OF MAINE COLOR: AS PER ARCHITECT TYPICAL OF ALL OFFICES (ROOM #1 THROUGH #20)

ABBREVIATIONS:
ACT
CPT
C.M.U
CONC.

					FINISH S	SCHEDULE			
		FLC	DOR	BA	SE	WAL	LS		REMARKS
RIVI. INO.	LOCATION	MATERIAL	FINISH	MATERIAL	FINISH	MATERIAL	FINISH 1		
1	OFFICE	CARPET	CPT1	RUBBER BASE	RB1	GYP. BD	P6	ACT3	FWTB
2	OFFICE	CARPET	CPT1	RUBBER BASE	RB1	GYP. BD	P6	ACT3	FWTB
3	OFFICE	CARPET	CPT1	RUBBER BASE	RB1	GYP. BD	P6	ACT3	FWTB 🔨
4	OFFICE	CARPET	CPT1	RUBBER BASE	RB1	GYP. BD	P6	ACT3 🔨	FWTB
5	OFFICE	CARPET	CPT1	RUBBER BASE	RB1	GYP. BD	P6	ACT3	FWTB
6	OFFICE	CARPET	CPT1	RUBBER BASE	RB1	GYP. BD	P6	ACT3	FWTB
7	OFFICE	CARPET	CPT1	RUBBER BASE	RB1	GYP. BD	P6	ACT3	FWTB
8	OFFICE	CARPET	CPT1	RUBBER BASE	RB1	GYP. BD	P6	ACT3	FWTB 🖌
9	OFFICE	CARPET	CPT1	RUBBER BASE	RB1	GYP. BD	P6	ACT3	FWTB
10	OFFICE	CARPET	CPT1	RUBBER BASE	RB1	GYP. BD	P6	ACT3	FWTB
11	OFFICE	CARPET	CPT1	RUBBER BASE	RB1	GYP. BD	P6	ACT3	FWTB
12	OFFICE	CARPET	CPT1	RUBBER BASE	RB1	GYP. BD	P6	ACT3	FWTB
13	OFFICE	CARPET	CPT1	RUBBER BASE	RB1	GYP. BD	P6	ACT3	FWTB
14	OFFICE	CARPET	CPT1	RUBBER BASE	RB1	GYP. BD	P6	ACT3	FWTB
15	OFFICE	CARPET	CPT1	RUBBER BASE	RB1	GYP. BD	P6	ACT3	FWTB
16	OFFICE	CARPET	CPT1	RUBBER BASE	RB1	GYP. BD	P6	ACT3	FWTB
17	OFFICE	CARPFT	CPT1	RUBBER BASE	RB1	GYP. BD	P6	ACT3	FWTB
18	OFFICE	CARPFT	CPT1	RUBBER BASE	RB1	GYP. BD	P6	ACT3	FWTB
19	OFFICE	CARPFT	CPT1	RUBBER BASE	RB1	GYP BD	P6	ACT3	FWTB
20	OFFICE	CARPET	CPT1	RUBBER BASE	RB1	GYP BD	P6	ACT3	FWTB
107					RB2	GYP BD	ΔΡ		
107					RB2	GVP BD	D3		
111Δ			CT1		CT2		СТ2	AC1304/011	
111A			CT1		CT2		CT2	ACT5	
1110			CT1		CT2		CT2	ACT5	
1110					CT2		CT2	ACTS	
112									
112									
							P3/P3/WC1		
114									
110					RB1	GTP. BD			
	WRITING LAB			RUBBER BASE	RB1	GYP. BD	P3/WC1		
11/	CLASSROOM			RUBBER BASE	RB1	GYP. BD	P3/P5		
110	STORAGE			RUBBER BASE	RB1	GYP. BD			
119				RUBBER BASE	RB1	GYP. BD	P3	ACIZ	
120	FAB LAB/ PHOTOGRAPHY	VCT	VCT1	RUBBER BASE	RB1	GYP. BD	P4	ACT1	
120A	STORAGE		VCT1	RUBBER BASE	RB1	GYP. BD	P4	ACT1	
121	ROBOTICS/ ENGINEERING			RUBBER BASE	RB1	GYP. BD	P4	ACII	
157	SECURITY		VCI1	RUBBER BASE	RB1	EXIST	P4 /		
158	BOA 2 IOIFEI							AUI5	
159			VUIT		KB1				
160							CI2	ACT5	
164	TECH	VCI	VCI1	KUBBER BASE	KB1	GYP. BD	P3/P5	ACTI	
165	IECH.	VCI	VCI1	KUBBER BASE	KB1	GYP. BD	P3/P5	AUII	
166	STORAGE	VCI	VCI1	KUBBER BASE	KB1	GYP. BD		ACT2	
167				KUBBER BASE	KB1	GYP. BD	P3		
168	STUDENT LEARNING EXCHANGE		CPI1/LVT1	RUBBER BASE	KB1	GYP. BD	P3/P4/P5	ACT3&4/GYP	
181A	UNISEX ADA RESTROOM		CT1	CERAMIC TILE	CT2		CT2	ACT5	
181B	UNISEX RESTROOM	CERAMIC TILE	CT1	CERAMIC TILE	CT2	CERAMIC TILE	CT2	ACT5	
501B	GALLERY 1	VCT	VCT1	RUBBER BASE	RB2	GYP. BD	P	NO CLG/P1&11	
505	CAFETERIA	VCT	MATCH EXIST.	RUBBER BASE	MATCH EXIST	GYP. BD	MATCH EXIST	MATCH EXIST	
В	CORRIDOR		VCT1	RUBBER BASE	RB2	GYP. BD	Р	ACT1/GYP	
C	CORRIDOR	EXIST VCT	PATCH AS REQ'D	RUBBER BASE	RB2	GYP. BD	Р	NO CLG/P1	
E	CORRIDOR	VCT	VCT1	RUBBER BASE	RB2	GYP. BD	Р	ACT1	
F	CORRIDOR	VCT	VCT1	RUBBER BASE	RB2	GYP. BD	Р	NO CLG/P1	
L	CORRIDOR	CERAMIC TILE	CT1	CERAMIC TILE	CT2	CERAMIC TILE	CT2	ACT1	

ACOUSTIC CEILING TILE	CWTCERAMIC WALL TILE	MS
CARPET	EPOXYEPOXY TERRAZZO	NA
CONCRETE MASONRY UNIT	GTWGLAZED TILE WAINSCOT	NIC
CONCRETE	GYPGYPSUM BOARD	PCB

ACOUSTIC CEILING TILE	CWTCERAMIC WALL TILE	MSMARBLE SADDLE (ADA)	PFT
CARPET	EPOXYEPOXY TERRAZZO	NANOT APPLICABLE	PLAST
CONCRETE MASONRY UNIT	GTWGLAZED TILE WAINSCOT	NICNOT IN CONTRACT	RB
CONCRETE	GYPGYPSUM BOARD	PCBPORCELAIN TILE COVE BASE	RF

# FINISH NOTES

- . ALL FINISH TYPES (STYLE/COLOR/PATTERN) SHALL CONFORM TO THE STANDARD OF QUALITY INDICATED BY THE PROJECT MANUAL. FINAL STYLE/COLOR/PATTERN TO BE SELECTED BY ARCHITECT.
- 2. ALL CMU SURFACES SHALL BE PRIMED WITH INTERIOR & EXTERIOR BLOCK FILLER M88 INDUSTRIAL MAINTENANCE BY BENJAMIN MOORE. PRIOR TO FINISH PAINT APPLICATION.
- . ALL WINDOWS IN AREA OF WORK ARE TO HAVE NEW SHADES OR BLINDS SUPPLIED AND INSTALLED BY GC, (1) PER WINDOW UNIT. G.C. SHALL SUBMIT SHOP DRAWINGS FOR APPROVAL.
- 1. NEW AND EXISTING DOOR FRAMES ASSOCIATED IN SCOPE OF WORK SHALL BE PREPPED AND PAINTED WITH 'BENJAMIN MOORE' LATEX SEMI-GLOSS PAINT BY GC. COLOR AS SELECTED BY ARCHITECT.
- 5. REFER TO FLOOR PLANS FOR TILE PATTERNS.
- 6. G.C. SHALL PREP/PRIME AND PAINT ALL SHEET METAL PIPE ENCLOSURES (INSTALLED BY MC). COLOR AS SELECTED BY ARCHITECT.
- . BEFORE PAINTING, CONCRETE SURFACES MUST CURE 30 DAYS, BLOCK AND PLASTER SURFACES MUST CURE FOR 30 DAYS.
- 8. ALL NEW WOOD WINDOW SILLS, MOLDING AND TRIM SHALL RECEIVE A "STAINED" FINISH AND RECEIVE (3) COATS OF 'BENWOOD' POLYURETHANE FINISH LOW LUSTER NO. 435 BY 'BENJAMIN MOORE' OR APPROVED EQUAL. STAIN COLOR AS SELECTED BY ARCHITECT. GC SHALL SUBMIT PHYSICAL COLOR SAMPLE FOR REVIEW AND APPROVAL.
- ALL FINISHES SHALL BE PROVIDED AND INSTALLED BY GC UNLESS OTHERWISE NOTED. REFER TO SPEC SECTION 09900 FOR ADDITIONAL INFORMATION.
- 10. ALL INTERIOR FINISHES IN CORRIDOR SHALL BE CLASS 'A' RATED.
- 11. PATCH, REPAIR AND FINISH CEILING, WALLS, AND FLOOR @ POINTS OF DEMOLITION TO MATCH EXISTING ADJACENT. EXISTING FINISHES TO REMAIN.
- 12. SHOULD ANY FINISH MATERIALS BE DISCONTINUED BY MANUFACTURER, GC MUST REPLACE WITH CLOSEST MATCH AT NO ADDITIONAL COST, AND SUBMIT TO ARCHITECT FOR APPROVAL PRIOR TO INSTALLATION.
- 13. REFER TO REFLECTED CEILING PLANS AND FINISH FLOOR PLANS FOR ADDITIONAL INFORMATION.
- 14. DOOR FRAMES TO BE PREPPED & PAINTED AS PER SPEC. COLOR AS SELECTED BY ARCHITECT.
- 15. G.C. SHALL PREP. PRIME & PAINT SHEETROCK CEILINGS UNLESS OTHERWISE NOTED FINISH AS PER SPEC. COLOR: WHITE- FLAT FINISH.
- 16. REFER TO FINISH FLOOR PLANS FOR TILE PATTERNS THE TILE PATTERNS MAY NOT REPRESENT THE FINAL PATTERNS TO BE DESIGNED. INSTALLED & TURNED OVER TO OWNER. THE BID SHALL BE BASED ON THE TILE MIX & PERCENTAGES, AS INDICATED IN THE PROJECT MANUAL.
- 17. REFER TO REFLECTED CEILING PLANS, TOILET ROOM TILE PLANS, AND FINISHED FLOOR PLANS FOR ADDITIONAL FINISH INFORMATION.
- 18. GENERAL CONTRACTOR SHALL PERFORM A BOND TEST IN ACCORDANCE WITH MANUFACTURERS SPECIFICATIONS PRIOR TO INSTALLATION OF NEW V.C.T. FLOORING. 19. CONTRACTOR SHALL INSTALL PLANI/PATCH PLUS BY 'MAPEI'
- OR APPROVED EQUAL OVER SUBSTRATE AND/OR CONCRETE SLAB TO PROVIDE A FLOOR SURFACE IN ACCORDANCE WITH MANUFACTURERS WRITTEN INSTRUCTIONS AND AS SPECIFIED FOR INSTALLATION OF NEW FINISH FLOOR MATERIALS.

### PRIME CONTRACTOR TO PROVIDE ALL REQUIRED SADDLES, THRESHOLDS, REDUCER STRIPS, TRANSITION STRIPS AND OR FLAT PLATES AS REQUIRED TO PROVIDE A FINISHED, ADA COMPLIANT TRANSITION AT NUMEROUS FLOORING TRANSITIONS AND TERMINATIONS.

# TYPICAL MOLDING NOTES

- . COORDINATE DEMOLITION AND PROPOSED DRAWINGS FOR EXTENT OF MOLDING REPLACEMENT IN THE EXISTING BUILDING. ALL MOLDING COMPONENTS AND PROFILES ARE INDICATED FOR REFERENCE ONLY.
- . EXISTING TRIM SHALL BE MAINTAINED WHERE INDICATED. WHERE NEW TRIM SHALL MATCH THE EXISTING TO REMAIN, THE SIZE AND PROFILE SHALL MATCH THE EXISTING - SPECIES MAY VARY.
- . CONTRACTOR SHALL PROVIDE SOLID BLOCKING AS REQUIRED TO SUPPORT ALL MOLDINGS AND TRIM WHETHER EXPLICITLY NOTED/SHOWN OR NOT.
- 4. ALL MOLDINGS TO BE EITHER MAPLE OR POPLAR AS SPECIFIED. ALL MOLDINGS SHALL BE PAINTED - COLOR BY ARCHITECT.
- . REFER TO SPECIFICATION SECTION 09900 FOR ADDITIONAL INFORMATION REGARDING PAINT FOR NEW/EXISTING MOLDINGS, PAINT FOR NEW/EXISTING PLASTER, CAULKING, REQUIRED PREPARATION WORK, AND APPLICATION PROCEDURES.

# **GYPSUM BOARD FINISHING**

GENERAL CONTRACTOR SHALL CONFORM TO THE REQUIREMENTS OF GYPSUM ASSOCIATION TRADE PUBLICATION GA-214-96 'RECOMMENDED LEVELS OF GYPSUM BOARD FINISH' & 3.06 OF SPECIFICATION SECTION 09250.

### LEVEL 0 - FOR USE IN TEMPORARY CONSTRUCTION, OR WHERE FINAL FINISH/DECORATION HAS NOT BEEN DETERMINED.

LEVEL 1 - FOR USE AT PLENUM AREAS, ABOVE CEILING, IN ATTICS & IN AREAS WHERE THE ASSEMBLY WOULD GENERALLY BE CONCEALED OR IN BUILDING CORRIDORS & OTHER AREAS NOT NORMALLY OPEN TO THE PUBLIC VIEW.

LEVEL 2 - FOR USE AT LOCATIONS WHERE WATER-RESISTANT GYPSUM BACKING BOARD IS INSTALLED AS A TILE SUBSTRATE AND FOR USE IN GARAGES, WAREHOUSE STORAGE OR OTHER SIMILAR AREAS WHERE SURFACE APPEARANCES ARE NOT OF PRIMARY CONCERN.

LEVEL 3 - FOR USE IN APPEARANCE AREAS THAT ARE TO RECEIVE HEAVY OR MEDIUM TEXTURE FINISHES BEFORE FINAL PAINTING, OR WHERE HEAVY - GRADE WALL COVERINGS ARE TO BE APPLIED AS THE FINAL DECORATION.

LEVEL 4 - FOR USE WHERE LIGHT TEXTURE OR WALL COVERINGS ARE TO BE APPLIED, OR WHERE ECONOMY IS OF THE ARCHITECT'S CONCERN.

LEVEL 5 - FOR USE WHERE GLOSS, SEMI-GLOSS, ENAMEL OR NON-TEXTURED FLAT PAINTS ARE SPECIFIED, OR WHERE SEVERE LIGHTING CONDITIONS OCCUR (IN THE OPTION OF THE ARCHITECT.)

VINYLSLIP-RESISTANT FLOORING	RTRUBBER TILE	PORCELAIN FLOOR TILE
WDWOOD	TERRTERRAZZO	PLASTER
WMWALK OFF MAT	VCTVINYL COMPOSITION TILE	RUBBER COVE BASE
	VETVINYL ENHANCED TILE	RUBBER FLOORING

![](_page_125_Figure_41.jpeg)

![](_page_126_Figure_0.jpeg)

![](_page_126_Figure_2.jpeg)

![](_page_127_Figure_0.jpeg)

	SYMBOL LEGEND
NAME No. x'-x"/ATx	ROOM TAG, CEILING TILE TYPE and FINISH CEILING ELEVATION (ABOVE FINISH FLOOR)
NO CEILING (CLG)	OPEN TO STRUCTURE AND DECK ABOVE - PAINT (G.C.)
	NEW 2'x2' SUSPENDED ACOUSTICAL CEILING AND GRID - SEE FINISH SCHEDULE (G.C.)
	EXISTING 2'x2' SUSPENDED ACOUSTICAL CEILING AND GRID
$ \begin{array}{c} -3 & \omega^{-1} & \omega^{-1} & \omega^{-1} & \omega^{-1} \\ \omega^{-1} & \omega^{-1} \\$	GYPSUM BOARD SOFFIT OVER METAL FRAMING - TAPE, SPACKLE & PAINT (G.C.)
	RECESSED LIGHT FIXTURE. REFER TO ELECTRICAL DWGS. FOR ADDITIONAL INFO. (E.C.)
	LINEAR PENDANT LIGHT FIXTURE. REFER TO ELECTRICAL DWGS. FOR ADDITIONAL INFO. (E.C.)
0	PENDANT LIGHT FIXTURE. REFER TO ELECTRICAL DWGS. FOR ADDITIONAL INFO. (E.C.)
	EXIT SIGN. REFER TO ELECTRICAL DWGS. FOR ADDITIONAL INFO. (E.C.)
SPKR.	CEILING MOUNTED SPEAKER. REFER TO ELECTRICAL DWGS. FOR ADDITIONAL INFO. (E.C.)
$\langle S \rangle \langle H \rangle$	SMOKE/HEAT DETECTORS. REFER TO ELECTRICAL DWGS. FOR ADDITIONAL INFO. (E.C.)
	OCCUPANCY SENSOR. REFER TO ELECTRICAL DWGS. FOR ADDITIONAL INFO. (E.C.)
	CEILING GRILLE/REGISTER. REFER TO MECHANICAL DWGS. FOR ADDITIONAL INFO (M.C.)
	CEILING MOUNTED UNIT VENTILATOR. REFER TO MECHANICAL DWGS. FOR ADDITIONAL INFO (M.C.)
AP>	16" x 16" ACCESS PANEL. TO BE PAINTED SAME COLOR AS GYP. BD. CEILING.
	24" x 12" CORD REEL PLENUM RATED ENCLOSURE. REFER TO DETAIL 17/A10.10 FOR MORE INFO.
	COMPACT CEILING FAN. SEE MECHANICAL DRAWINGS FOR MORE INFO.
\$L<	PROPOSED SKYLIGHT. REFER TO A3.02
	OCCUPANCY SENSOR/VACANCY SENSOR/ DAYLIGHT SENSOR. REFER TO ELECTRICAL DRAWINGS FOR ADDITIONAL INFO. (E.C.)
ΗŻ	WALL MOUNTED STROBE NOTIFICATION DEVICE. REFER TO ELECTRICAL DRAWINGS FOR ADDITONAL INFO. (E.C.)
C.J.	CEILING DRYWALL VEE CONTROL JOINT. PAINT
	MOUNTED EMERGENCY LIGHT DEVICE. REFER TO ELECTRICAL DRAWINGS FOR ADDITIONAL INFO. (E.C)

# **TYPICAL REFLECTED CEILING NOTES**

- ALL CEILING TILES TO BE AT-1, U.O.N. REFER TO FINISH SCHEDULE FOR ADD'L INFO.
   ALL CEILING GRID TO BE 15/16" PRELUDE BY "ARMSTRONG", U.O.N.
- 3. CEILING PLANS MAY NOT INDICATE ALL MECHANICAL AND/OR ELECTRICAL CEILING ITEMS, REFER TO ELECTRICAL & MECHANICAL DRAWINGS FOR ADD'L INFO.
- 4. ALL FIXTURES SHALL BE CENTERED WITHIN THE GRID, U.O.N.
- 5. SUPPORT OF ALL ARCHITECTURAL COMPONENTS (I,E, HUNG CEILING SYSTEMS, GRIDS, ETC.) SHALL BE INSTALLED TO WITHSTAND SEISMIC LOADS IN ACCORDANCE WITH THE IBC SECTION 1621, FOR SEISMIC DESIGN CATEGORY 'B' AND IMPORTANCE FACTOR 1.0. BASED UPON THE ABOVE, NO SPECIFIC SEISMIC RESTRAINTS ARE REQUIRED.
- 6. ALL ACOUSTICAL HUNG CEILING GRID SYSTEMS SHALL BE INSTALLED IN CONFORMANCE WITH ASTM, C636 "STANDARD PRACTICE FOR INSTALLATION OF METAL CEILING SUSPENSION SYSTEMS FOR ACOUSTICAL TILE AND LAY-IN PANELS" REQUIREMENTS.
- 7. ALL LIGHTING FIXTURES REMAIN EXCEPT WHERE NOTED. ELECTRICAL CONTRACTOR TO DE-ENERGIZE DURING DEMOLITION AND INSTALLATION OF NEW CEILING. ELECTRICAL CONTRACTOR TO RE-INSTALL ALL OTHER ELECTRICAL DEVICES (SPEAKERS, SMOKE DETECTORS, FIRE ALARM STROBES, ETC.) WHETHER NOTED ON PLAN OR NOT. REFER TO ELECTRICAL DRAWINGS FOR ADD'L INFO.
- 8. CEILING GRID SHALL BE ARRANGED TO BE SPACED EQUALLY IN EACH DIRECTION W/ NO TILE LESS THAN 6" UNLESS OTHERWISE REQUIRED.
- 9. PROVIDE CEILING EXPANSION JOINT AT ALL NEW TO EXISTING INTERACTIONS AND WHERE INDICATED ON PLAN. REFER TO WALL SECTIONS AND SPECIFICATIONS.
- 10. ALL AREAS NOTED AS 'OPEN' AND/OR 'NO CEILING (CLG)' SHALL BE PAINTED. (INCLUDING DECK, STRUCTURE, DUCTWORK, ETC.)

# FIRE STOP/ACOUSTICAL SEALING NOTES

- 1. ALL PIPING PENETRATIONS THROUGH CORRIDOR WALLS AS WELL AS ALL FIRE RATED WALLS (SUCH AS STORAGE ROOMS, CLOSETS, BOILER ROOMS, ETC) AND ALL OTHER FIRE RATED FLOORS OR STRUCTURES SHALL BE FIRE STOPPED.
- 2. ALL PENETRATIONS THROUGH ALL OTHER WALLS, FLOORS, ETC. (I.E. CLASSROOMS AND LIBRARIES) SHALL BE ACOUSTICALLY SEALED IN ACCORDANCE WITH ANSI S12.60-2002 REQUIREMENTS. THE SEALANT MATERIALS SHALL BE " SPEC-SEAL, SMOKE AND SOUND ACOUSTIC SEALANT" AS MANUFACTURED BY STI, OR ARCHITECT APPROVED EQUAL. SEALANT SHALL MEET ASTMC919 FOR SEALANTS IN ACOUSTICAL APPLICATIONS.
- THE FIRE STOP MATERIALS SHALL BE HILTI TYPE FS-657 FIRE BLOCK, FS-ONE SEALANT, CP-672 JOINT SPRAY, CP-601S ELASTOMERIC SEALANT, 6P-606 FLEXIBLE SEALANT, CP-643 OR CP-642 COLLAR, CP-618 PUTTY STICK, OR FS-635 TROWEL ABLE COMPOUND, AS SUITABLE.
- CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OF PRODUCTS TO BE USED FOR APPROVAL BY ARCHITECT.
   FIRESTOP MATERIALS OTHER THAN HILTI SHALL INCLUDE FULL TECHNICAL DATA WITH SHOP DRAWINGS TO
- DEMONSTRATE EQUALITY WITH THE SPECIFIED FIRE STOPS.

FLOOR PLAN LEGEND

AREA NOT IN CONTRACT U.O.N.

![](_page_127_Figure_20.jpeg)

![](_page_128_Figure_0.jpeg)

![](_page_128_Figure_2.jpeg)

![](_page_129_Figure_0.jpeg)

# ADD ALTERNATE # 2 TO BASE BID GC-1 PROVIDE ADDITIONAL WALL TILE TO CEILING ABOVE THE BASE BID WAINSCOT HEIGHT TYPICAL FOR ALL NOTE: G.C. & P.C. COORDINATE ADA ACCESSIBLE SEE A11.01 FOR TOILET ROOM MOUNTING SYMBOL DENOTES ADA COMPLIANCE MOUNTED WATER CLOSET AND FLUSHOMETER. P.C. TO FURNISH AND INSTALL ALL NEW FLOOR 1A MOUNTED WATER CLOSET AND FLUSHOMETER. P.C. TO FURNISH AND INSTALL NEW LAVATORY AND 3 G.C. TO FURNISH AND INSTALL NEW 18" GRAB BAR. 4 G.C. TO FURNISH AND INSTALL NEW 42" GRAB BAR. 5 G.C. TO FURNISH AND INSTALL NEW 36" GRAB BAR. > OWNER TO FURNISH AND G.C. TO INSTALL NEW 7 G.C. TO FURNISH AND INSTALL NEW HAND DRYER. 8 OWNER TO FURNISH AND G.C. TO INSTALL NEW SOAP P.C. TO FURNISH AND INSTALL NEW FLOOR DRAINS. > REFER TO PLUMBING DRAWINGS FOR ADDITIONAL 10 G.C. TO FURNISH AND INSTALL NEW FLAT MIRROR. SPECIFICATIONS FOR ADDITIONAL INFORMATION. NAPKIN DISPOSAL. REFER TO SPECIFICATIONS FOR 13 P.C. TO FURNISH AND INSTALL NEW URINAL AND G.C. TO FURNISH AND INSTALL ALL TOLIET PARTITION HORIZONTAL WALL MOUNTED CHANGING STATION/ G.C. TO FURNISH AND INSTALL COAT/ROBE HOOK. BRADLEY CONCEALED MOUNTING CHROME-PLATED ADA DRINKING WATER FOUNTAIN WITH BOTTLE

![](_page_129_Figure_7.jpeg)

![](_page_130_Figure_0.jpeg)

CT-3	CT-1	CT-1	CT-1	CT-3	
CT-3	CT-1	CT-1	CT-1	CT-3	
CT-3	CT-1	CT-1	CT-1	CT-3	
CT-3	CT-1	CT-1	CT-1	CT-3	
CT-3	CT-1	CT-1	CT-1	CT-3	
CT-3	CT-1	CT-1	CT-1	CT-3	
CT-3	CT-1	CT-1	CT-1	CT-3	

NOTE: ADD ALTERNATE # 2 TO BASE BID GC-1 PROVIDE ADDITIONAL WALL TILE TO CEILING AB THE BASE BID WAINSCOT HEIGHT TYPICAL FOR TOILETS ROOMS.				
<u>T(</u>	DILET KEY NOTES			
NOTE				
~	G.C. & P.C. COORDINATE ADA ACCESSIB FIXTURES LOCATION WITH PLANS. SEE A11.01 FOR TOILET ROOM MOUNTIN STANDARDS.			
Ğî 	SYMBOL DENOTES ADA COMPLIANCE PUMBLING FIXTURE			
	P.C. TO FURNISH AND INSTALL ALL NEW WALL MOUNTED WATER CLOSET AND FLUSHOMETER.			
	P.C. TO FURNISH AND INSTALL ALL NEW FLOOR MOUNTED WATER CLOSET AND FLUSHOMETER.			
2	P.C. TO FURNISH AND INSTALL NEW LAVATORY AN FAUCET.			
$\langle 3 \rangle$	G.C. TO FURNISH AND INSTALL NEW 18" GRAB BAR			
$\langle 4 \rangle$	G.C. TO FURNISH AND INSTALL NEW 42" GRAB BAR			
5	G.C. TO FURNISH AND INSTALL NEW 36" GRAB BAR			
6	OWNER TO FURNISH AND G.C. TO INSTALL NEW TOILET PAPER DISPENSER.			
	G.C. TO FURNISH AND INSTALL NEW HAND DRYER. G.C. TO COORDINATE LOCATION WITH E.C.			
8	OWNER TO FURNISH AND G.C. TO INSTALL NEW SO DISPENSER.			
9>	P.C. TO FURNISH AND INSTALL NEW FLOOR DRAIN REFER TO PLUMBING DRAWINGS FOR ADDITIONAL INFORMATION.			
	G.C. TO FURNISH AND INSTALL NEW FLAT MIRROR			
	G.C. TO FURNISH AND INSTALL NEW SANITARY NAPKIN & TAMPON DISPENSER. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION.			
12	G.C. TO FURNISH AND INSTALL NEW SANITARY NAPKIN DISPOSAL. REFER TO SPECIFICATIONS FO ADDITIONAL INFORMATION.			
13	P.C. TO FURNISH AND INSTALL NEW URINAL AND FLUSHOMETER.			
14	G.C. TO FURNISH AND INSTALL ALL TOLIET PARTIT WALLS, DOORS AND HARDWARE.			
15	G.C. TO FURNISH AND INSTALL ALL URINAL PARTITION WALLS.			
(16)	HORIZONTAL WALL MOUNTED CHANGING STATION TABLE			
17>	G.C. TO FURNISH AND INSTALL COAT/ROBE HOOK. BRADLEY CONCEALED MOUNTING CHROME-PLATE ROBE HOOK, ON BACK OF DOOR.			
	ADA DRINKING WATER FOUNTAIN WITH BOTTLE REFILLING STATION			
19>	DRINKING WATER FOUNTAIN STATION			

![](_page_130_Figure_8.jpeg)

![](_page_131_Figure_0.jpeg)

![](_page_131_Figure_3.jpeg)

### ELECTRICAL CONSTRUCTION NOTES:

### DEMOLITION NOTES:

![](_page_132_Figure_2.jpeg)

![](_page_132_Figure_3.jpeg)

### 1. THE ITEMS SPECIFICALLY SHOWN ON DEMOLITION DRAWING/S ARE TO BE ADDRESSED BY THE ELECTRICAL CONTRACTOR. THE ITEMS ARE TO BE TREATED AS NOTED AND RANGE FROM DIRECT REMOVAL AND DISPOSAL, OR REMOVAL, STORAGE, AND REINSTALLATION/RELOCATION, OR TEMPORARY REMOVE/STORAGE, AND REINSTALLATION IN SAME LOCATION. MANY OTHER ELECTRIC ITEMS EXIST THAT ARE NOT SHOWN INCLUDE, BUT ARE NOT LIMITED TO, SWITCHES, RECEPTACLE, FLOOR OUTLETS, LOW VOLTAGE JACKS, LOW VOLTAGE DEVICES AND WIRING, TELEPHONE PUNCH DOWN BLOCKS, AND OUT OF SERVICE ITEMS. ALL SUCH ITEMS SHALL BE PERMANENTLY DE-ENERGIZED. DISCONNECTED. AND OTHERWISE MADE SAFE FOR DEMOLITION BY NON-ELECTRIC DEMOLITION WORKERS. THE ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR ASSURING THAT ALL ELECTRIC DEVICES, OF ANY VOLTAGE OR FUNCTION, THAT ARE TO BE DEMOLISHED ARE SAFE AND ADVISE THE DEMOLITION AFTER THE ELECTRICAL CONTRACTOR HAS DISCONNECTED ELECTRIC SUPPLIES TO ITEMS TO BE DEMOLISHED, HE SHALL ADVISE THE GENERAL CONTRACTOR OF ANY ELECTRIC ITEMS TO BE RETAINED FOR FUTURE USE AND THEREFOR NOT TO BE DEMOLISHED. THE GENERAL CONTRACTOR SHALL THEN PERFORM ALL WORK ZONE DEMOLITION. THIS MATTER APPLIES TO ALL ELECTRIC ITEMS, OF ANY VOLTAGE OR PURPOSE. 4. THE SPECIAL/SPECIFIC ITEMS SHOWN ON THE DRAWING FOR ELECTRICAL CONTRACTOR TO ACT ON WERE FOUND BY SURVEY. NUMEROUS LOCATIONS WERE BLOCKED BY FURNITURE, ETC. AND ADDITIONAL EQUAL TYPE ITEMS MAY BE PRESENT. THE ELECTRICAL CONTRACTOR SHALL ALLOW FOR THIS IN HIS BID PRICE AND ATTEND TO THOSE EQUAL OR SIMILAR DEVICES AS MAY REMOVAL ITEMS THAT ARE LISTED AS TO BE TURNED OVER TO OWNER'S INVENTORY SHALL BE DISCUSSED WITH THE DISTRICT BUILDINGS AND GROUNDS MANAGER. THOSE ITEMS THAT THE OWNER DECLINES SHALL THEN BE DISPOSED OF BY THE CONTRACTOR IN THE MANOR OF OTHER PERMANENT REMOVALS. ANY PCB BEARING FLUORESCENT FIXTURES SHALL BE 6. RETAIN EXISTING RECEPTACLES IN WALLS THAT WILL NOT BE IN CONFLICT WITH NEW CONSTRUCTION. RETAIN LIGHT SWITCH LOCATIONS THAT WILL NOT BE IN CONFLICT WITH NEW CONSTRUCTION. INSTALL BLANKING PLATE COVERS OVER THE UNUSED PORTION OF GANG BOXES HAVING MORE GANG POSITIONS THAN NEEDED FOR NEW SWITCHES. LIGHT FIXTURES ARE TO BE REMOVED AS GENERAL, NON ELECTRIC, CONTRACTOR DEMOLITION. DIVISION 16 CONTRACTOR RESPONSIBLE TO SAFE OFF LIGHTUING CIRCUITS FOR REMOVAL BY OTHERS. NO SPECIFIC QUANTITIES OR LOCATIONS ARE SHOWN. RETURN WHATEVER QUANTITY, IF ANY, OF THESE TO OWNER'S INVENTORY IF HE SO SPECIFIES OR THEY ARE OTHERWISE TO BE DISPOSED OF. ELECTRICAL CONTRACTOR SHALL EXAMINE FIXTURES FOR PRESENCE OF PCB'S AND SPECIAL THE ELECTRICAL CONTRACTOR SHALL COVER ALL BACK BOXES IN THE WALL THAT BECOME EXPOSED DUE TO DEVICE REMOVALS.

THIS INSTRUCTION ALSO APPLIES TO EXPOSED ELECTRICAL BACK BOXES AS MAY EXIST AT THE SITE PRIOR TO THIS PROJECT. THE COVER SHALL BE BRUSHED ALUMINUM WITH CHAMFERED EDGES AND COVER THE HOLE COMPLETELY WITH AT LEAST 3/4" EXTRA MARGIN ON ALL SIDES. MOUNT THE COVER WITH SCREWS TO MATCH THE ORIGINAL PATTERN. IT IS EXPECTED THAT STRUCTURAL DEMOLITION BY THE GENERAL CONTRACTOR WILL CAUSE VARIOUS ELECTRIC SUPPLIES, OF VARIOUS VOLTAGES AND PURPOSES. TO BE CUT AND RENDER SOME DEVICES TEMPORARILY INACTIVE. IT IS THE ELECTRICAL CONTRACTOR'S RESPONSIBILITY TO RECONSTRUCT AND RECONNECT SUCH ELECTRIC SOURCES WHEN THE NEW STRUCTURE IS BUILT. NOTE THAT MOST REINSTALLED ITEMS WILL BE IN DIFFERENT LOCATIONS FROM THE REMOVAL LOCATION. THE ELECTRICAL CONTRACTOR SHALL MAKE ALL REQUIRED CIRCUIT EXTENSIONS OR MODIFICATIONS TO PROVIDE SERVICE TO A REINSTALLED ITEM AS RELOCATED. PROVIDE ALL REQUIRED CIRCUIT EXTENSIONS AS REQUIRED TO RESTORE SERVICE TO DEVICES. NOTE THAT THIS REQUIREMENT ALSO APPLIES TO THE ROOMS AND ELECTRICAL ITEMS WITHIN THAT ARE NOMINALLY NOT IN CONTRACT. SUCH RESTORATION OF SERVICE, IF NEEDED, IS SPECIFICALLY IN THE ELECTRICAL CONTRACTOR'S

10. IT SHALL BE THE ELECTRICAL CONTRACTOR'S RESPONSIBILITY TO PROTECT ALL ELECTRICAL DEVICES, FROM DAMAGES DURING CONSTRUCTION, WHICH ARE EITHER INDICATED TO REMAIN, AND/OR TO BE REMOVED AND REINSTALLED THROUGHOUT ALL CONSTRUCTION AREAS. DEVICES SHALL INCLUDE BUT WILL NOT BE LIMITED TO: SMOKE DETECTORS, EMERGENCY LIGHTS, EXIT SIGNS, OCCUPANCY SENSORS, SPEAKERS, LIGHT FIXTURES, SWITCHES, RECEPTACLE, ETC. IN THE EVENT OF DAMAGES INCURRED DUE TO CONSTRUCTION ACTIVITIES, THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE TO REPLACE ANY DAMAGED DEVICES AT NO ADDITIONAL COST TO OWNER. ALL SYSTEM ASSOCIATED WITH THE DEVICES SCHEDULED TO BE REMOVED, STORED AND PROTECTED SHALL BE TESTED BY THE

MANUFACTURER'S CERTIFIED TESTING VENDOR PRIOR TO ANY DEMOLITION ACTIVITY. ANY DEVICE WHICH FAILS THE TEST SHALL BE REPLACED WITH A FORM, FIT AND FUNCTION COMPONENT PER UNIT PRICES, AND SUCH DEVICES ARE NOT INCLUDED IN THIS RESPONSIBILITY STATEMENT, BUT ALSO SUCH INSTALLATION SHALL BE IN THE ELECTRICAL CONTRACTOR'S BASE BID. THE ELECTRICAL CONTRACTOR SHALL RE-TEST ALL SUCH SYSTEM COMPONENTS BY A MANUFACTURER CERTIFIED TESTING VENDOR OF SUCH SYSTEM OF ALL PREVIOUSLY TESTED SYSTEM COMPONENTS AFTER ALL WORK BY ALL TRADES HAS BEEN COMPLETED. AND ALL SYSTEM COMPONENTS HAVE BEEN INSTALLED. ANY COMPONENT WHICH FAILS SHALL BE REPLACED, AND PROGRAMMED IF NECESSARY BY THE ELECTRICAL CONTRACTOR. ALL SUCH REPLACEMENT AND PROGRAMMING COSTS SHALL BE ELECTRICAL CONTRACTOR'S RESPONSIBILITY. ALL COSTS ASSOCIATED WITH THE TESTING OF AFFECTED SYSTEM SUCH AS BUT NOT LIMITED TO FIRE ALARM, PUBLIC ADDRESS, INTERCOM, TELEPHONE, AND SECURITY SYSTEMS SHALL BE THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR. ALL EQUIPMENT, DEVICES, WIRING AND THEIR ASSOCIATED MATERIAL SPECIFIED TO REMAIN, WHICH IS NOT STORED AND PROTECTED, SHALL BE PROTECTED DURING THE DEMOLITION ACTIVITIES, AND ALL TRADES SHALL BE INFORMED OF SUCH COMPONENTS. ANY OF SUCH COMPONENTS WHICH BECOME DAMAGED DURING DEMOLITION SHALL BE REPLACED FORM, FIT AND FUNCTION BY THE ELECTRICAL CONTRACTOR AT HIS EXPENSE.

ABBREVIATIONS	
E, EX	EXISTING
ETR	EXISTING TO REMAIN
PSEGLI	PSE&G LONG ISLAND (UTILITY CO.)
SM, S.M.	SURFACE MOUNTED
U.O.N.	UNLESS OTHERWISE NOTED
EC, E.C.	ELECTRICAL CONTRACTOR
GC, G.C.	GENERAL CONTRACTOR
MC, M.C.	MECHANICAL CONTRACTOR
PC, P.C.	PLUMBING CONTRACTOR
TYP.	TYPICAL
REQ'D	REQUIRED
O.C.	ON CENTER
СКТ	CIRCUIT
AFF	AWAY FROM FLOOR
СВ	CIRCUIT BREAKER

ACT

RECEPTACLE ABOVE COUNTERTOP TEMPORARY POWER CONSTRUCTION NOTES:

- 1. THE DIVISION 16 CONTRACTOR SHALL PROVIDE TEMPORARY POWER AND LIGHT IN THE NEW AREAS 'D', AND 'E' AND THE RECONSTRUCTED AREAS OF THE EXISTING BUILDING. 2. ALL TEMPORARY POWER PANELS AND FUSED SWITCHES OUTSIDE SHALL BE NEMA 3R CONSTRUCTION AND LOCKABLE. ALL
- OUTSIDE RECEPTACLES SHALL BE WATERPROOF AND HAVE A COVER THAT ENCLOSES THE PLUGGED IN CORDS WHILE IN SERVICE AS INTERMATIC WP120C. NON-WATERPROOF GEAR IN A HOUSING IS NOT ACCEPTABLE. ALL RECEPTACLES SHALL BE GFCI PROTECTED AND MOUNTED 3'-0" ABOVE FINISHED FLOOR. PROVIDE WORK BLOCKING AS REQUIRED. ALL RECEPTACLES OUTLETS SHALL BE 2 GANG DOUBLE DUPLEX.
- TEMPORARY LIGHTING SHALL BE CONSTRUCTED OF SINGLE AND DOUBLE 100 WATT CLEAR INCANDESCENT LAMPS, OR 4. EQUIVALENT, AND WATERPROOF RUBBER SOCKETS, SPLICED WITH WATERPROOF CONNECTORS ON FESTOONED ROMEX-TYPE WIRE, ADEQUACY OF ALL TEMPORARY LIGHTING CONFIGURATIONS SHALL BE AS DETERMINED BY THE CONSTRUCTION MANAGER. PRE ASSEMBLED TEMPORARY LIGHTING IS DISALLOWED. TAPS AND SPLICES SHALL BE MADE WITH SCOTCH LOCK CONNECTORS, RUBBER TAPE, AND THEM PVC COATED. THE CONNECTORS SHALL BE FILLED WITH PENETROX, A PLASTIC SHAPE ON CAGE/GUARD SHALL PROTECT EACH SOCKET AND LAMP. NOMINAL SPACING BETWEEN LAMP CLUSTER IS 16 FEET. MOUNT LIGHTS EIGHT FEET ABOVE FINISHED FLOOR IN TYPICAL LOCATIONS AND 10 FEET ABOVE FINISHED FLOOR IN CORRIDOR.
- PROVIDE NIGHT LIGHTING CIRCUIT, WHICH SHALL OPERATE CONTINUOUSLY. ALL LAMPS SHALL BE 130 VOLT, ROUGH SERVICE RATED. TEMPORARY LIGHTS SHALL BE TO OSHA STANDARDS. ALTERNATE FIXTURES SHALL BE 400W CONSTRUCTION SITE STYLE PROVIDE HOOK UPS TO JOB TRAILER FOR ALL TRADES. USE SITE POWER AS SOURCE. OWNER PAYS FOR POWER CONSUMPTION. WIRING SHALL BE 1#12+1#12(N)+1#12(G) ROMEX STYLE. CIRCUITS SHALL BE OPERATED A MAXIMUM OF 15 AMPS OR 1800 WATTS (18 100 WATT LAMPS), SWITCHING SHALL BE DONE VIA THE SWITCH RATED 20A, 10 CIRCUIT BREAKERS. SEGREGATE THE NIGHT LIGHTS AND RECEPTACLES IN THE LOWER PART OF THE POWER PANELS AND LABEL THESE "DO NOT
- TURN OFF". CIRCUIT HOME RUNS CONDUCTORS SHALL INCREASE ONE WIRE SIZE EVERY 100 FEET I.E. #10 CONDUCTORS. WIRING WITHIN THE ROOM AREA SHALL BE MADE WITH #12 CONDUCTORS. THE DIVISION 16 CONTRACTOR SHALL PREPARE EACH PANEL SCHEDULE.

EXERCISED FOR TERRAZZO MACHINES AND ITS ELECTRICAL REQUIREMENT.

- A LENGTH OF GREENFIELD FLEX CONDUIT AT PINCH POINTS SHALL PROTECT ALL WIRE, SUCH AS WHERE WIRING PASSED THROUGH A DOORWAY. WIRING SHALL BE SUPPORTED FROM ANCHORS INSTALLED BY THE DIVISION 16 CONTRACTOR FOR THE PURPOSE OF ATTACHMENT TO PROJECT. ALL ELECTRICAL HARDWARE SHALL BE NEW FOR THIS PROJECT. ALL WIRING SHALL BE INSTALLED SO AS NOT TO CAUSE TRIPPING HAZARD OR SIMILAR OBSTRUCTION. POWER PANELS SHALL BE EQUIPPED WITH 42 1P, 20A CIRCUIT BREAKERS AND ALL CIRCUIT BREAKERS NOT IN SERVICE SHALL BE LABELED SPARE. AT THE OWNERS OPTION PANEL AND CIRCUIT BREAKERS SHALL BE TURNED OVER TO OWNERS INVENTORY AT CONCLUSION OF THE PROJECT. ALL ELECTRICAL HARDWARE SHALL BE NEW FOR THIS PROJECT.
- 12. THE DIVISION 16 CONTRACTOR SHALL BE RESPONSIBLE FOR ALL MAINTENANCE OF TEMPORARY LIGHTING AND POWER SYSTEMS DURING, AND AFTER INSTALLATION, UP TO THE TIME OF BENEFICIAL OCCUPANCY, AND TIME OF REMOVAL. REPAIRS SHALL BE MADE WITHIN 24 HOURS OF THE REPORTED OUTAGE. OR AS DIRECTED BY THE CONSTRUCTION MANAGER. DIVISION 16 CONTRACTOR SHALL COMMENCE WORK ON THIS PROJECT WITH A GROSS OF SPARE CONSTRUCTION BULBS AT HIS IMMEDIATE DISPOSAL REMOVAL OF THE TEMPORARY POWER AND LIGHTING SHALL BE THE RESPONSIBILITY OF THE DIVISION 16 CONTRACTOR WHEN THE PROJECT IS COMPLETE. ALL EQUIPMENT, WIRING SUPPORTS, CONNECTORS, ETC. SHALL BE REMOVED FROM OWNER'S
- PROPERTY AFTER PROJECT IS COMPLETE. INCLUDE STATEMENT OF REMOVAL WITHIN CLOSE OUT DOCUMENTS, REQUIRED FOR FINAL PAYMENT. 14. PROVIDE THE TEMPORARY ELECTRICAL SERVICE TO THE CONSTRUCTION TRAILERS SHALL BE AS PER USERS REQUIREMENTS OF THE TRADES. TEMPORARY SERVICES ARE REQUIRED PER SPECIAL CONDITIONS OF THE PROJECT. 15. ALL TEMPORARY POWER WORK SHALL BE COORDINATED WITH THE CONSTRUCTION MANAGER SPECIAL EMPHASIS SHALL BE

FIRE STOP NOTES:

1. ALL CONDUIT AND CABLE PENETRATIONS THROUGH FIRE RATED WALLS, FLOORS OR OTHER STRUCTURES SHALL BE FIRE STOPPED. 2. THE FIRE STOP MATERIALS SHALL BE HILTI TYPE FS-657 FIRE BLOCK, FS-ONE SEALANT, CP-672 JOINT SPRAY, CP-601S ELASTOMERIC SEALANT, 6P-606 FLEXIBLE SEALANT, CP-643 OR CP-642 COLLAR, CP-618 PUTTY STICK, OR FS-635 TROWEL ABLE COMPOUND, AS SUITABLE. 3. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OF PRODUCTS SPECIFIED OR EQUAL.

4. FIRE STOP MATERIALS OTHER THAN HILTI SHALL INCLUDE FULL TECHNICAL DATA WITH SHOP DRAWINGS TO DEMONSTRATE EQUALITY WITH THE SPECIFIED FIRE STOPS AND STATEMENT FROM MANUFACTURER THAT THEY MEET OR EXCEED THE PRODUCTS SPECIFIED HERE.

5. ALL SYSTEMS SHALL HAVE THEIR OWN SLEEVE THROUGH FIRE RATED WALLS. IE FIRE ALARM, PUBLIC ADDRESS, TELEPHONE, DATA, POWER AND LIGHTING.

# FIRE ALARM SYSTEM LEGEND

SYMBOL	DEVICE DESCRIPTION
FACP	FIRE ALARM CONTROL PANEL
RAP	REMOTE ANNUNCIATOR PANEL OR EQUAL. E.C. TO PROVIDE FRAMED BLDG GRAPHIC MAP WITHIN SIGHT
FSD	FIRE ALARM SHUT DOWN
(S) <sub>F</sub>	SMOKE DETECTOR W/ BASE. "E" DESIGNATES ELEVATOR RECALL
© 0R @	CARBON MONOXIDE DETECTOR WITH SOUNDER BASE. CONNECT TO ASSOCIATED UNIT WITH SOUNDER BASE FOR SIMULTANEOUS LOCAL ALARM. (SUPERVISORY SIGNAL)
Η¢c	CARBON MONOXIDE SYSTEM AMBER COLOR VISUAL NOTIFICATION DEVICE. (SUPERVISORY SIGNAL)
Ρ	MANUAL PULL STATION. PROVIDE WITH NON-ALARMED STI STOPPER II LIFT COVER (OR SIMILAR)
S <u> </u>	DUCT TYPE SMOKE DETECTOR W/ HOUSING AND REMOTE LED INDICATOR. (SUPERVISORY SIGNAL)
	SPEAKER NOTIFICATION DEVICE - WALL MOUNT.
HSD	SPEAKER/STROBE NOTIFICATION DEVICE - WALL MOUNT.
S	SPEAKER/STROBE NOTIFICATION DEVICE - CEILING MOUNT.
$\bigtriangledown$	SPEAKER NOTIFICATION DEVICE - CEILING MOUNT.
$\bigcirc$	SPEAKER/STROBE NOTIFICATION DEVICE - CEILING MOUNT.
FΦ	STROBE NOTIFICATION DEVICE. WALL MOUNTED.
¢	STROBE NOTIFICATION DEVICE. CEILING MOUNTED.
	HORNSTROBE NOTIFICATION DEVICE
(M)	24V ELECTROMAGNETIC DOOR HOLDER - GC FURNISH & MOUNT. EC TO WIRE. REFER TO FIRE ALARM DEVICE NOTES ON E5.01 FOR ADDITIONAL INFORMATION
0	EXISTING FIRE ALARM BELL TO BE REMOVED. INSTALL BLANK COVER PLATE.
$\odot$	EXISTING BATTERY OPERATED CO DETECTOR TO REMAIN UNLESS OTHERWISE NOTED
AH R	AIR HANDLING UNIT. REFER TO MECHANICAL DWG. FOR ADDITIONAL INFORMATION ANNOTATION 'R' - UNIT TO HAVE RELAY SHUTDOWN. REQUIRED ON ALL FANS OVER 1000 CFM
(WS)	WATERFLOW SWITCH FOR NEW SPRINKLER SYSTEM (BY FIRE SPRINKLER CONTRACTOR)
(TS)	TAMPER SWITCH FOR NEW SPRINKLER SYSTEM (BY FIRE SPRINKLER CONTRACTOR)
ANSUL	ANSUL SYSTEM
(RC)+	FIRE ALARM - BEAM DETECTOR RECEIVER
SP>+	FIRE ALARM - BEAM DETECTOR TRANSMITTER
S.W.G.	STEEL WIRE GUARD.
W.P.	WEATHER PROOF.
W.M.	WALL MOUNT.
(E)	EXISTING TO REMAIN
AOR	AREA OF RESCUE
AOR-PS	AREA OF RESCUE POWER SUPPLY
AOR-MCP	AREA OF RESCUE MAIN CONTROL PANEL
R	FIRE ALARM RELAY

# MISCELLANEOUS

SYMBOL	DESCRIPTION		
S	CEILING MOUNTED PUBLIC ADDRESS SPEAKER.		
A SH	WALL MOUNTED PUBLIC ADDRESS SPEAKER		
	HORN LOUDSPEAKER SUBSCRIPT 'WP' INDICATES OUTDOOR WEATHERPROOF HORN SPEAKER		
VC	WALL MOUNTED VOLUME CONTROL FOR LOCAL PUBLIC ADDRESS SPEAKER		
©	WIRELESS CLOCK		
WSA	LIGHTING CONTROLS WALL STATION SUBSCRIPT DENOTES LIGHTING SEQUENCE OF OPERATION ON PLANS.		

EMS IN ABOVE LEGENDS MARKED WITH SUBSCRIPTS ON THE PLANS ARE DENOTED AS FOLLOWS:

(E) - EXISTING ITEM TO REMAIN

(RL) - EXISTING ITEM TO BE RE-INSTALLED AND RELOCATED

(RR) - REMOVE AND RE-INSTALL TO ACCOMMODATE NEW CONSTRUCTION NO SUBSCRIPT - NEW ITEM TO BE FURNISHED AND INSTALLED

	SINGLE POLE CIRCUIT 2-#12, #12G, ["C UNLESS OTHERWISE NOTED
	TWO POLE CIRCUIT 3-#12, #12G, ["C UNLESS OTHERWISE NOTED
	THREE POLE CIRCUIT 4-#12, #12G, ["C UNLESS OTHERWISE NOTED
φ	SINGLE RECEPTACLE, NEMA 5-20R W/ STAINLESS STEEL FACEPLATE
•	GROUND FAULT CIRCUIT INTERRUPTER 20A, 125V SINGLE RECEPTACLE, WITH STAINLESS STEEL FACEPLATE FOR KITCHEN EQUIPMENT.
$\oplus^{M}$	DUPLEX RECEPTACLE, 125V, 20A W/ STAINLESS STEEL FACEPLATE. M DESIGNATES TEACHING MONITOR RECEPTACLE. COORDINATE EXACT MOUNTING HEIGHT WITH ARCHITECTURAL PLANS
ŧ	QUADRUPLEX RECEPTACLE - (2)-GANG DUPLEX RECEPTACLES PER ABOVE W/ STAINLESS STEEL FACEPLATE
⊕ <sup>GFI</sup> W.P.	GROUND FAULT CIRCUIT INTERRUPTER 20A, 125V DUPLEX RECEPTACLE, WITH STAINLESS STEEL 302/304 FACEPLATE FOR MECHANICAL SPACES, BOILER ROOM, CORRIDORS, OUTDOORS, ETC. 'W.P.' ANNOTATION - IN RAINPROOF & IN-USE COVER
<sup>⊘</sup> NEMA #	SPECIAL TYPE TWISTLOCK RECEPTACLE, NEMA INDICATES NEMA TYPE
	MOTOR, NO. INDICATES HORSEPOWER. "D" INDICATES MOTORIZED DAMPER.
	UNFUSED DISCONNECT SWITCH, SIZE PER PLAN
	FUSED DISCONNECT SWITCH, SIZE AND FUSE PER PLAN
Τ	TRANSFORMER, VOLTAGE, PHASE, KVA PER PLAN
	PANEL BOARD, MOUNTING PER SCHEDULE
JJH	JUNCTION BOX CLG MOUNT, WALL MOUNT
RPC1-1	PANEL 'RPC1' - POLE POSITION '1'
SC211-1	CONTACTOR 'SC211' - CONTACT '1'
$\square$	POWER ONLY DUPLEX FLOOR BOX CAST IRON WHEN INSTALLED IN CONC. SLAB. COVER COLOR AND TYPE AS APPROVED BY ARCHITECT
WAC	POWER ONLY DUPLEX RECEPTACLE MOUNTED ABOVE CEILING LOCATION FOR LIGHTING CONTROLLER
	POWER ONLY DUPLEX FLOOR BOX CAST IRON WHEN INSTALLED IN CONC. SLAB. COVER COLOR AND TYPE AS APPROVED BY ARCHITECT
	LIGHTING FIXTURES
LPA-1-G-a	FOR LIGHTING FIXTURES - INDICATES PANELBOARD 'LPA', POLE POSITION '1', FIXTURE TYPE 'G' CONTROLLED BY SWITCH 'a' ' 'EX' CIRCUIT DESIGNATION INDICATES CONNECTION TO EXISTING ROOM LIGHTING CIRCUIT -INCLUDES ANY NECESSARY WIRING EXTENSIONS. 'NL' NIGHT LIGHT DESIGNATION INDICATED FIXTURES TO BE UNSWITCHED AND CIRCUITED AHEAD OF ALL SWITCHING DEVICES.
Ş <sup>a</sup> <sub>3K</sub>	WALL SWITCH W/ STAINLESS STEEL FACEPLATE FACEPLATE LOWER CASE ALPHA SUPERSCRIPT - CONTROLS CORRESPONDINGLY LABELLED FIXTURES IN ROOM SUBSCRIPTS: (NONE) = SINGLE POLE 20A, HEAVY DUTY SPEC GRADE SWITCH, MCS= MASTER CONTROL SWITCH, ASCO 216B89, BY PLUMBING CONTRACTOR K = KEY SWITCH 3 = 20A THREE WAY SWITCH 4 = 20A FOUR WAY SWITCH D = WALLBOX SLIDE DIMMER COMPATIBLE W/ FIXTURE DIMMING BALLAST DIG# = DIGITAL SWITCH, # - INDICATES NUMBER OF BUTTONS VS/OS = DUAL TECH WALL SWITCH - MODEL # GMDS-W OR EQUAL WS = PRESET WALLSTATION
08 (VS)	CEILING MOUNTED OCCUPANCY (OS)/VACANCY(VS) SENSOR, LOW VOLTAGE, DUAL TECHNOLOGY, COMPLETE W/ POWER PACK(S) AS REQUIRED. EATON GREENGATE OAC-DT-2000-R OR EQUAL SUBSCRIPTS: VS - PROGRAM FOR MANUAL ON MODE OS - PROGRAM FOR AUTOMATIC ON MODE U - ULTRASONIC TECHNOLOGY ONLY
OS	WALL MOUNTED OCCUPANY SENSOR
PS	DAYLIGHT SENSOR PHOTOCELL - COMPATIBLE W/ ROOM CONTROLS
Ŷ	EMERGENCY EXIT LIGHTING FIXTURE
CR	RETRACTABLE WHITE INDUSTRIAL CORD REEL, 25' CORD LENGTH. SEE ALSO MOUNTING DETAIL ON DWG. E10.02
$\bigtriangledown_{\#}$	DATA RECEPTACLE. PROVIDE TWO (2) CAT6 DATA CABLES UNLESS NOTED OTHERWISE WITH A 1" CONDUIT WITH PULL STRING TO ABOVE ACCESSIBLE CEILING SPACE. # DENOTES NUMBER OF CABLES TO BE PROVIDED. "T" DESIGNATES TELEPHONE DATA BOX.
	DATA & POWER SURFACE RACEWAY DROP - NUMBER OF TRIANGLES INDICATES NUMBER OF DATA DROPS - PROVIDE (2) DUPLEX RECEPTACLES PER DATA DROP. SEE ALSO TECH. PLANS.
FSD	FIRE/SMOKE DAMPER - FURNISHED AND INSTALLED BY MC. EC TO WIRE. SEE MECH DRAWINGS FOR EXACT LOCATIONS.

SIMILAR SYMBOLS USED ON DEMO PLANS. ALL ITEMS SHOWN ON DEMO PLAN TO BE REMOVED ENTIRELY UNLESS OTHERWISE NOTED.

![](_page_132_Picture_34.jpeg)

DEMO PLAN - SECOND FLOOR AREA D SCALE: 1/8" = 1'-0"

![](_page_133_Figure_1.jpeg)

![](_page_133_Figure_2.jpeg)

## SHEET NOTES

- CONTRACTOR SHALL FIELD VERIFY TYPE, QUANTITY AND LOCATION OF ALL EXISTING DEVICES TO BE REMOVED PRIOR TO SUBMITTING BID. EXISTING CONDITIONS SHOWN ARE BASED ON EXISTING PLANS AND FIELD OBSERVATIONS. EC IS RESPONSIBLE FOR THE REMOVAL OF ALL ELECTRICALL DEVICES ON WALLS SCHEDULED TO BE REMOVED. PULL BACK AND REMOVE ALL ASSOCIATED CIRCUITS.
- B. ELECTRICAL CONTRACTOR SHALL SECTION OFF FIRE ALARM FROM REST OF BUILDING DURING CONSTRUCTION.
- REFER TO GENERAL DEMOLITION NOTES ON SHEET E0.01 FOR ADDITIONAL DEMOLITION NOTES.
- ALL DEVICES SHOWN AS DASHED LINES ARE TO BE DEMOLISHED. REMOVE ASSOCIATED BRANCH CIRCUIT CONDUIT AND WIRING BACK TO NEAREST ACTIVE SOURCE.
- ALL DEVICES SHOWN AS GREY/HALFTONED LINES ARE TO REMAIN UNDISTURBED. COORDINATE ALL DEMOLITION WORK AROUND THESE DEVICES. IF NECESSARY TO REMOVE OR RECIRCUIT DEVICES, TO ALLOW FOR ARCHITECTURAL OR MECHANICAL WORK, DEVICES SHALL BE REINSTALLED AND RECONNECTED.
- FIELD COORDINATE ALL REMOVALS WITH GC PRIOR TO INITIATION OF WORK. VERFIY THE ABSENCE OF ASBESTOS IN CEILINGS WHERE LIGHTING/ELECTRICAL DEVICES SHALL BE REMOVED.
- G. ALL DEVICES WITH 'ER' DESIGNATION SHALL BE EXISTING TO BE RELOCATED OR RE-INSTALLED. UNINSTALL AND MAINTAIN DEVICES TO ALLOW FOR CEILING WORK. REFER TO NEW WOK PLAN FOR RE-INSTALLATION.

### **KEY NOTES**

- ED2 DISCONNECT AND REMOVE LIGHTING FIXTURES AND ALL ASSOCIATED BRANCH CIRCUIT POWER AND CONTROLS AS INDICATED.
- ED4 DISCONNECT AND REMOVE ELECTRICAL DEVICES, WIREMOLD AND SURFACE RACEWAY TO ALLOW FOR ARCHITECTURAL WORK. PULL BACK AND REMOVE ALL ASSOCIATED BRANCH CIRCUIT CONDUIT AND WIRING TO NEAREST ACTIVE SOURCE. CIRCUIT CONTINUITY SHALL BE MAINTAINED FOR EXISTING TO REMAIN DEVICES IN SAME CIRCUIT.
- ED5 DISCONNECT AND REMOVE FIRE ALARM DEVICE AND ALL ASSOCIATED CABLING BACK TO FACP. ED7 DE-ENERGIZE AND DISCONNECT MECHANICAL EQUIPMENT
- TO BE REMOVED (BY OTHERS). REMOVE DISCONNECTING MEANS AND ALL ASSOCIATED FIRE ALARM DUCT SMOKES AND FA SHUTDOWN CONNECTIONS. PULL BACK ALL ASSOCIATED BRANCH CIRCUIT CONDUIT AND WIRING TO SOURCE PANEL AND REMOVE. ED8 REMOVE AND MAINTAIN WIRELESS CLOCKS. CLOCKS TO
- BE RE-USED IN PROPOSED LOCATION. REFER TO NEW WORK PLAN. FINAL CLOCKS LOCATION TO BE FIELD COORDINATED WITH OWNER.
- ED9 DISCONNECT, REMOVE AND MAINTAIN WIRELESS ACCESS POINT. MAINTAIN ASSOCIATED DATA CABLING FOR RECONNECTION. DEVICE SHALL BE REINSTALLED AFTER RENOVATION WORK HAS BEEN COMPLETED.
- ED10 DISCONNECT AND REMOVE CEILING DEVICES (PA SPEAKER, SMOKE DETECTOR, RECEPTACLE). PULL BACK ALL ASSOCIATED BRANCH CIRCUIT CONDUIT AND WIRING TO NEAREST ACTIVE SOURCE.
- ED14 DISCONNECT AND REMOVE DOOR HOLDERS. PULL BACK ALL ASSOCIATED WIRING TO NEAREST ACTIVE SOURCE AND REMOVE.
- ED15 REMOVE DATA BOX AND ALL ASSOCIATED CABLES. PULL CABLES BACK TO SOURCE PANEL LOCATION. ED16 DISCONNECT, REMOVE AND MAINTAIN DEVICE INSTALLED IN PREVIOUS PHASE. TURN HARDWARE OVER TO OWNER
- AT COMPLETION OF DEMOLITION WORK. ED20 DISCONNECT AND TEMPORARILY REMOVE LIGHTING FIXTURES TO ALLOW FOR ARCHITECTURAL AND
- MECHANICAL RENOVATION WORK. MAINTAIN ALL ASSOCIATED POWER AND CONTROL CABLES FOR RE-INSTALLATION. REFER TO NEW WORK PLAN. ED22 PULL BACK AND REMOVE ALL INACTIVE/ABANDONED
- CABLING IN RENOVATION AREA. FIELD COORDINATE WITH DISTRICT IT TEAM PRIOR TO CUTTING AND REMOVING OF CABLING.
- ED23 DISCONNECT POWER TO ABANDONED CONTROL PANEL BE REMOVED BY OTHERS. ED25 PROVIDE SUPPORTS AND CABLE MANAGEMENT SYSTEM
- FOR ALL CABLES AND CONDUIT WITHIN INDICATED AREA WHERE CEILING TYPE IS CHANGING FROM DROP TO EXPOSED. COORDINATE WITH ENGINEER AND ARCHITECT FOR THE CLEANING OF ABOVE CEILING SPACES.
- ED26 DISCONNECT AND REMOVE LIGHTING FIXTURES AND ALL ASSOCIATED CONTROLS AS INDICATED. MAINTAIN ASSOCIATED BRANCH CIRCUIT FOR RE-USE WITH NEW LIGHTING FIXTURES IN THIS SPACE. REFER TO NEW WORK PLAN.
- ED27 ADD ALTERNATE: DISCONNECT AND REMOVE LIGHTING FIXTURES TO ALLOW FOR ARCHITECTURAL WORK IN THIS AREA. PULL ALL BRANCH CIRCUIT CONDUIT AND WIRING TO THE NEAREST ACTIVE SOURCE TO MAINTAIN CIRCUIT CONTINUITY.

![](_page_133_Figure_29.jpeg)

![](_page_134_Figure_0.jpeg)

![](_page_134_Figure_1.jpeg)

SEQUENCE A         1.       OCCUPANCY OR VACANCY SENSOR(S) FOR AUTO-OFF OF ALL FIXTURES AFTER 20 MIN. TIME DELAY         2.       NO DAYLIGHT SENSOR(S) IN SPACE         3.       NO FIXTURES LABELED AS 'EM'.         4.       3 BUTTON WALL STATION:         BUTTON 1: ON/OFF CONTROL OF GENERAL ILLUMINATION FIXTURES         BUTTON 2: DIM UP OF GENERAL ILLUMINATION FIXTURES**         BUTTON 3: DIM DOWN OF GENERAL ILLUMINATION FIXTURES**         SEQUENCE B         1.       OCCUPANCY OR VACANCY SENSOR(S) FOR AUTO-OFF OF ALL FIXTURES AFTER 20 MIN. TIME DELAY         2       NO DAYLIGHT SENSOR(S) IN SPACE
1.       OCCUPANCY OR VACANCY SENSOR(S) FOR AUTO-OFF OF ALL FIXTURES AFTER 20 MIN. TIME DELAY         2.       NO DAYLIGHT SENSOR(S) IN SPACE         3.       NO FIXTURES LABELED AS 'EM'.         4.       3 BUTTON WALL STATION:         BUTTON 1: ON/OFF CONTROL OF GENERAL ILLUMINATION FIXTURES         BUTTON 2: DIM UP OF GENERAL ILLUMINATION FIXTURES**         BUTTON 3: DIM DOWN OF GENERAL ILLUMINATION FIXTURES**         SEQUENCE B         1.       OCCUPANCY OR VACANCY SENSOR(S) FOR AUTO-OFF OF ALL FIXTURES AFTER 20 MIN. TIME DELAY         2.       NO DAYLIGHT SENSOR(S) IN SPACE
4. 3 BUTTON WALL STATION: BUTTON 1: ON/OFF CONTROL OF GENERAL ILLUMINATION FIXTURES BUTTON 2: DIM UP OF GENERAL ILLUMINATION FIXTURES** BUTTON 3: DIM DOWN OF GENERAL ILLUMINATION FIXTURES** <u>SEQUENCE B</u> 1. OCCUPANCY OR VACANCY SENSOR(S) FOR AUTO-OFF OF ALL FIXTURES AFTER 20 MIN. TIME DELAY     NO DAYLIGHT SENSOR(S) IN SPACE
SEQUENCE B 1. OCCUPANCY OR VACANCY SENSOR(S) FOR AUTO-OFF OF ALL FIXTURES AFTER 20 MIN. TIME DELAY 2. NO DAYLIGHT SENSOR(S) IN SPACE
SEQUENCE B 1. OCCUPANCY OR VACANCY SENSOR(S) FOR AUTO-OFF OF ALL FIXTURES AFTER 20 MIN. TIME DELAY 2. NO DAYLIGHT SENSOR(S) IN SPACE
3. WHERE APPLICABLE, U.O.N, UNSWITCHED CONTROL FOR ALL FIXTURES LABELED AS 'EM'. FIXTURES SHALL REMAIN ON AT ALL TIMES.
4. 3 BUTTON WALL STATION: BUTTON 1: ON/OFF CONTROL OF GENERAL ILLUMINATION FIXTURES BUTTON 2: DIM UP OF GENERAL ILLUMINATION FIXTURES**
BUTTON 3: DIM OF OF GENERAL ILLUMINATION FIXTURES**
SEQUENCE C
<ol> <li>NO DAYLIGHT SENSOR(S) IN SPACE</li> <li>WHERE APPLICABLE, U.O.N, UNSWITCHED CONTROL FOR ALL FIXTURES LABELED AS 'EM'. FIXTURES SHALL</li> </ol>
REMAIN ON AT ALL TMES. 4. 9 BUTTON WALL STATION:
BUTTON 1: ON/OFF CONTROL OF TYPE ALL FIXTURES BUTTON 2: DIM UP OF TYPE "a" SWITCH LEG
BUTTON 3: DIM DOWN OF TYPE "a" SWITCH LEG
BUTTON 4: DIM UP OF TYPE "b" SWITCH LEG
BUTTON 6: DIM DOWN OF TYPE "C" SWITCH LEG
BUTTON 7: DIM DOWN OF TYPE "c" SWITCH LEG
BUTTON 8: DIM UP OF TYPE "d" SWITCH LEG BUTTON 9: DIM DOWN OF TYPE "d" SWITCH LEG
SEQUENCE D
<ol> <li>WHERE APPLICABLE, U.O.N, UNSWITCHED CONTROL FOR ALL FIXTURES LABELED AS 'EM'. FIXTURES SHALL REMAIN ON AT ALL TMES.</li> </ol>
3. 7 BUTTON WALL STATION: BUTTON 1: ON/OFE CONTROL OF TYPE ALL FIXTURES
BUTTON 2: DIM UP OF TYPE "a" SWITCH LEG
BUTTON 3: DIM DOWN OF TYPE "a" SWITCH LEG
BUTTON 4: DIM UP OF TYPE "b" SWITCH LEG
BUTTON 5: DIM DOWN OF TYPE 10 SWITCH LEG BUTTON 6: DIM UP OF TYPE "c" SWITCH LEG
BUTTON 7: DIM DOWN OF TYPE "c" SWITCH LEG
SEQUENCE E 1 OCCUPANCY OR VACANCY SENSOR(S) FOR ALLTO OFF OF ALL EIVTHERS AFTER 20 MIN. TIME DEL AV
2. NO DAYLIGHT SENSOR(S) IN SPACE
3. WHERE APPLICABLE, U.O.N, UNSWITCHED CONTROL FOR ALL FIXTURES LABELED AS 'EM'. FIXTURES SHALL REMAIN ON AT ALL TIMES.
4. SINGLE SWITCH FOR ON/OFF CONTROL OF ALL FIXTURES 5. BUTTON WALL STATION:
BUTTON 1: ON/OFF CONTROL OF GENERAL ILLUMINATION FIXTURES
BUTTON 2: DIM UP OF GENERAL ILLUMINATION FIXTURES**
BUTTON 3. DIM DOWN OF GENERAL ILLUMINATION FIATURES
1. UCCUPANCY OR VACANCY SENSOR(S) FOR AUTO-OFF OF ALL FIXTURES AFTER 20 MIN. TIME DELAY 2. NO DAYLIGHT SENSOR(S) IN SPACE
3. WHERE APPLICABLE, U.O.N, UNSWITCHED CONTROL FOR ALL FIXTURES LABELED AS 'EM'. FIXTURES SHALL
REMAIN ON AT ALL TIMES.
5. BUTTON WALL STATION:
BUTTON 1: ON/OFF CONTROL OF TYPE ALL FIXTURES
BUTTON 2. DIM OF OF ITPE a SWITCH LEG** BUTTON 3: DIM DOWN OF TYPE "a" SWITCH LEG**
BUTTON 4: DIM UP OF TYPE "b" SWITCH LEG**
BUTTON 5: DIM DOWN OF TYPE "b" SWITCH LEG**
NOTES:
** = DIMMING UP AND DOWN BUTTONS MAY BE SUBSTITUTED WITH DIMMING SLIDE TYPE SWITCH.

![](_page_135_Picture_1.jpeg)

![](_page_135_Picture_2.jpeg)

![](_page_135_Picture_3.jpeg)

![](_page_135_Figure_4.jpeg)

![](_page_135_Figure_5.jpeg)

		{
		$\left\{ \right\}$
	LIGHTING SEQUENCE OF OPERATION	
SEQI	JENCE A	$\left\{ \right\}$
l.	OCCUPANCY OR VACANCY SENSOR(S) FOR AUTO-OFF OF ALL FIXTURES AFTER 20 MIN. TIME DELAY	$\left \right $
<u>/.</u> 2	NO DAYLIGHT SENSOR(S) IN SPACE NO FIXTURES LARELED AS 'EM'	3
). [	3 RUTTON WALL STATION:	$\sum$
•	BUTTON 1: ON/OFF CONTROL OF GENERAL ILLUMINATION FIXTURES	$\left\langle \right\rangle$
	BUTTON 2: DIM UP OF GENERAL ILLUMINATION FIXTURES**	13
	BUTTON 3: DIM DOWN OF GENERAL ILLUMINATION FIXTURES**	}
		$\left\{ \right\}$
EQ	JENCE B OCCURANCY OR MACANCY SENSOR(S) FOR ALLE OF ALL EIVILIES AFTER 20 MIN, TIME DELAY	$\left( \right)$
•	NO DAVI IGHT SENSOR(S) IN SPACE	2
	WHERE APPLICABLE, U.O.N. UNSWITCHED CONTROL FOR ALL FIXTURES LABELED AS 'EM'. FIXTURES SHALL	}
•	REMAIN ON AT ALL TIMES.	$\left( \right)$
	3 BUTTON WALL STATION:	$\left \right $
	BUTTON 1: ON/OFF CONTROL OF GENERAL ILLUMINATION FIXTURES	3
	BUTTON 2: DIM UP OF GENERAL ILLUMINATION FIXTURES**	$\left\{ \right\}$
	BUTTON 3: DIM DOWN OF GENERAL ILLUMINATION FIXTURES**	
<u>.</u>	OCCUPANCY OR VACANCY SENSOR(S) FOR AUTO-OFF OF ALL FIXTURES AFTER 20 MIN. TIME DELAY	13
2	NO DAYLIGHT SENSOR(S) IN SPACE	21
3.	WHERE APPLICABLE, U.O.N, UNSWITCHED CONTROL FOR ALL FIXTURES LABELED AS 'EM'. FIXTURES SHALL	$\left( \right)$
	REMAIN ON AT ALL TMES.	$\left \right $
	9 BUTTON WALL STATION:	}
	BUTTON 1: ON/OFF CONTROL OF TYPE ALL FIXTURES	$\left\{ \right\}$
	BUTTON 2: DIM UP OF TYPE "a" SWITCH LEG	
	BUTTON 3: DIM UP OF TYPE & SWITCH LEG	5
	BUTTON 5: DIM DOWN OF TYPE "b" SWITCH LEG	}
	BUTTON 6: DIM UP OF TYPE "c" SWITCH LEG	$\left( \right)$
	BUTTON 7: DIM DOWN OF TYPE "c" SWITCH LEG	
	BUTTON 8: DIM UP OF TYPE "d" SWITCH LEG	2
	BUTTON 9: DIM DOWN OF TYPE "d" SWITCH LEG	$\sum_{i=1}^{n}$
SEQI	JENCE D	$\left\{ \right\}$
l.	OCCUPANCY OR VACANCY SENSOR(S) FOR AUTO-OFF OF ALL FIXTURES AFTER 20 MIN. TIME DELAY	$\langle \rangle$
2.	WHERE APPLICABLE, U.O.N, UNSWITCHED CONTROL FOR ALL FIXTURES LABELED AS 'EM'. FIXTURES SHALL	2
	REMAIN ON AT ALL TMES.	$\left\{ \left  \right. \right\}$
3.	7 BUTTON WALL STATION:	$\left\langle \right\rangle$
	BUTTON 1: ON/OFF CONTROL OF TYPE ALL FIXTURES	2
	BUTTON 2: DIM OF OF TYPE A SWITCH LEG	}
	BUTTON 4: DIM UP OF TYPE "b" SWITCH LEG	$\left( \right)$
	BUTTON 5: DIM DOWN OF TYPE "b" SWITCH LEG	$\left \right $
	BUTTON 6: DIM UP OF TYPE "c" SWITCH LEG	3
	BUTTON 7: DIM DOWN OF TYPE "c" SWITCH LEG	$\left\{ \right\}$
		$\left\langle \right\rangle$
s⊨Ql ⊨		13
. )	NO DAVI IGHT SENSOR(S) IN SPACE	21
	WHERE APPLICABLE, U.O.N. UNSWITCHED CONTROL FOR ALL FIXTURES LABELED AS 'EM'. FIXTURES SHALL	$\left( \right)$
-	REMAIN ON AT ALL TIMES.	$\langle \rangle$
ι.	SINGLE SWITCH FOR ON/OFF CONTROL OF ALL FIXTURES	3
5.	BUTTON WALL STATION:	$\left\{ \right\}$
	BUTTON 1: ON/OFF CONTROL OF GENERAL ILLUMINATION FIXTURES	$\zeta$
	BUTTON 2: DIM OP OF GENERAL ILLUMINATION FIXTURES**	13
		21
EQI	JENCE F	$\left\{ \left  \right. \right\}$
•	OCCUPANCY OR VACANCY SENSOR(S) FOR AUTO-OFF OF ALL FIXTURES AFTER 20 MIN. TIME DELAY	(
	NO DAYLIGHT SENSOR(S) IN SPACE	13
•	WHERE APPLICABLE, U.O.N, UNSWITCHED CONTROL FOR ALL FIXTURES LABELED AS 'EM'. FIXTURES SHALL	$\sum$
	REMAIN ON AT ALL TIMES.	$\zeta$
•	SINGLE SWITCH FOR UN/OFF CONTROL OF ALL FIXTURES RUTTON WALL STATION	3
•	BUTTON WALL STATION. BUTTON 1: ON/OFF CONTROL OF TYPE ΔLL FIXTURES	21
	BUTTON 2: DIM UP OF TYPE "a" SWITCH LEG**	$\left\{ \right\}$
	BUTTON 3: DIM DOWN OF TYPE "a" SWITCH LEG**	$\langle  $
	BUTTON 4: DIM UP OF TYPE "b" SWITCH LEG**	21
	BUTTON 5: DIM DOWN OF TYPE "b" SWITCH LEG**	$\sum$
		$\left( \right)$

NOTES:

\*\* = DIMMING UP AND DOWN BUTTONS MAY BE SUBSTITUTED WITH DIMMING SLIDE TYPE SWITCH.

GALLERY 501B (E) F2-EM F2 UNISEX ADA -RESTROOM 181A UNISEX RESTROOM 181B \_\_\_\_\_\_ F1 TORAGE F1−EM B3-FM / F1 \$c,f OFFICE WS ₹1-EM WS<sub>F</sub> FLEX SPACE 🔪 LP-1- #1 b°C1 g°C1 \_a<sup>®</sup>C1 F ∖−EM STAFF ADA UNISEX RESTROOM b<sup>C</sup>C1 111D QUIET ROOM A2-EM τ<del>ώ</del> A2-EM UNISEX ADA UNISEX RESTROOM RESTROOM 111A \$3K 111B B1-EM B1-EM X 1 X1 VESTIBULE Α

![](_page_136_Figure_5.jpeg)

![](_page_137_Figure_0.jpeg)

![](_page_137_Figure_1.jpeg)

![](_page_138_Figure_0.jpeg)

$\sim$	POWER SHEET NOTES
A.	COORDINATE LOCATION OF CORD REELS WITH GC PRIOR TO CEILING INSTALLATION.
B.	FIELD COORDINATE ROUTING OF ALL FEEDERS AND BRANCH CIRCUITS.
C.	ALL PENETRATIONS THROUGH FIRE RATED WALLS AND FLOORS SHALL BE PROPERLY FIRE-STOPPED.
D.	REFER TO EQUIPMENT SCHEDULE ON DRAWING E10.01 FOR MECHANICAL EQUIPMENT ELECTRICAL REQUIREMENTS.
E.	ALL DEVICES SHALL BE RECESSED IN WALL. CONTACT ENGINEER AND ARCHITECT TO COORDINATE ANY AREAS WHERE EXISTING WALLS ARE SHOWN WITH NEW DEVICES.
	KEY NOTES
E2	PROVIDE REPLACEMENT PANEL IN SAME LOCATION AS REMOVED PANEL. CONNECT EXISTING MAIN POWER FEEDERS AND BRANCH CIRCUITS TO PROPOSED PANEL. REFER TO PANELBOARD DIRECTORY FOR PANEL'S CHARACTERISTICS.
E3	ADD ALTERNATE: PROVIDE REPLACEMENT PANEL IN SAM LOCATION AS REMOVED PANEL. CONNECT EXISTING MAIN POWER FEEDERS AND BRANCH CIRCUITS TO PROPOSED PANEL. FIELD VERIFY EXACT CIRCUIT BREAKER AMP RATING OF EACH BREAKER IN PANEL PRIOR TO PURCHASE. BREAKERS POLE SIZES WERE VERIFIED WITH FIELD OBSERVATION HOWEVER BREAKERS AMP RATING WAS NOT LEGIBLE IN ALL.
E9	UTILIZE SPARE BREAKER SPACES PREVIOUSLY FEEDING REMOVED UNIT FOR PROPOSED UNITS TO BE PROVIDED IN THIS PHASE. REFER TO PANEL BOARD DIRECTORY AN ELECRICAL EQUIPMENT SCHEDULE FOR BREAKER AND CIRCUIT INFORMATION.
E10	PROVIDE 20A, 120V-1PH CIRCUIT THROUGH FUSED DISCONNECT WITH AN AUXILIARY CONTACT ON THE MAIL POWER SUPPLY OF THE LIFT. FIELD COORDINATE EXACT DISCONNECT MOUNTING LOCATION PRIOR TO

E12 COORDINATE WITH GC FOR ROUTING OF POWER BELOW SLAB FOR FLOOR RECEPTACLE.

![](_page_138_Figure_3.jpeg)

![](_page_139_Figure_0.jpeg)

NEW WORK PLAN - SECOND FLOOR AREA D SCALE: 1/8" = 1'-0"

### POWER SHEET NOTES A. COORDINATE LOCATION OF CORD REELS WITH GC PRIOR TO CEILING INSTALLATION. B. FIELD COORDINATE ROUTING OF ALL FEEDERS AND BRANCH CIRCUITS. C. ALL PENETRATIONS THROUGH FIRE RATED WALLS AND FLOORS SHALL BE PROPERLY FIRE-STOPPED. D. REFER TO EQUIPMENT SCHEDULE ON DRAWING E10.01 FOR MECHANICAL EQUIPMENT ELECTRICAL REQUIREMENTS. E. ALL DEVICES SHALL BE RECESSED IN WALL. CONTACT ENGINEER AND ARCHITECT TO COORDINATE ANY AREAS WHERE EXISTING WALLS ARE SHOWN WITH NEW DEVICES. EF-2C **KEY NOTES** E8 RECONNECT EXISTING DISCONNECT FOR RELOCATED OUTDOOR CONDENSING UNITS. EXTEND CABLES AS NECESSARY MATCHING EXISTING SIZE AND TYPE. COORDINATE WITH MC FOR EXACT UNIT LOCATION.

![](_page_139_Figure_3.jpeg)

EF-2B

![](_page_139_Figure_4.jpeg)

![](_page_139_Picture_5.jpeg)

![](_page_139_Figure_6.jpeg)

![](_page_139_Figure_7.jpeg)

![](_page_140_Figure_0.jpeg)

![](_page_140_Figure_2.jpeg)

![](_page_141_Figure_0.jpeg)

		SYSTEMS SHEET NOTES							
	Α.	CONNECT ALL PROPOSED FIRE ALARM DEVICES TO EXISTING FIRE ALARM CONTROL PANEL. PANEL IS AN EDWARDS IO ADDRESSABLE PANEL LOCATED OUTSIDE OF BOILER ROOM 510.							
	В.	REFER TO DRAWING E10.03 FOR TECHNOLOGY DETAILS.							
	C.	PROVIDE FIRE ALARM RELAY AND CONNECTION FROM FIRE DAMPERS TO FIRE ALARM CONTROL PANEL.							
	D.	ALL DEVICES WITH 'ER' DESIGNATION SHALL BE EXISTING TO BE RELOCATED OR RE-INSTALLED AFTER CEILING INSTALLATION HAS BEEN COMPLETED. RE-INSTALL DEVICES IN PROPOSED LOCATION AND RECONNECT TO ASSOCIATED WIRING.							
	E.	ALL DEVICES SHALL BE RECESSED IN WALL. CONTACT ENGINEER AND ARCHITECT TO COORDINATE ANY AREAS WHERE EXISTING WALLS ARE SHOWN WITH NEW DEVICES.							
	F.	MDF ROOM LOCATED IN SECOND FLOOR TECH ROOM 242 (AREA D).							
)	G.	ALL IT AND SECURITY CABLES SHALL BE COLOR CODED AS FOLLOWS: A. DATA – BLUE B. WIRELESS ACCESS POINTS – GREEN C. CAMERAS – PURPLE D. DOORS – YELLOW E. SECURITY – RED							
	KEY NOTES								
	E7	PROVIDE FIRE ALARM CONNECTION TO FIRE SMOKE DAMPERS.							

![](_page_141_Figure_2.jpeg)

# 3 FIRST FLOOR PROPOSED PLAN - AREA A ADD ALT SCALE: 1/8" = 1'-0"

![](_page_142_Figure_1.jpeg)

![](_page_142_Figure_2.jpeg)

![](_page_142_Figure_3.jpeg)

![](_page_142_Figure_4.jpeg)

![](_page_142_Figure_5.jpeg)

![](_page_142_Figure_6.jpeg)

	POWER SHEET NOTES
LIGHTING SEQUENCE OF OPERATION	A. COORDINATE LOCATION OF CORD REELS WITH GC
SEQUENCE A 1. OCCUPANCY OR VACANCY SENSOR(S) FOR AUTO-OFF OF ALL FIXTURES AFTER 20 MIN. TIME DELAY	PRIOR TO CEILING INSTALLATION.
2. NO DAYLIGHT SENSOR(S) IN SPACE 3. NO FIXTURES LABELED AS 'EM'.	B. FIELD COORDINATE ROUTING OF ALL FEEDERS AND BRANCH CIRCUITS.
4. S BOTTON WALL STATION. BUTTON 1: ON/OFF CONTROL OF GENERAL ILLUMINATION FIXTURES BUTTON 2: DIM UP OF GENERAL ILLUMINATION FIXTURES**	C ALL PENETRATIONS THROUGH FIRE RATED WALLS A
BUTTON 3: DIM DOWN OF GENERAL ILLUMINATION FIXTURES**	FLOORS SHALL BE PROPERLY FIRE-STOPPED.
SEQUENCE B 1. OCCUPANCY OR VACANCY SENSOR(S) FOR AUTO-OFF OF ALL FIXTURES AFTER 20 MIN. TIME DELAY	D. REFER TO EQUIPMENT SCHEDULE ON DRAWING E10
2. NO DAYLIGHT SENSOR(S) IN SPACE 3. WHERE APPLICABLE, U.O.N. UNSWITCHED CONTROL FOR ALL FIXTURES LABELED AS 'EM'. FIXTURES SHALL	FOR MECHANICAL EQUIPMENT ELECTRICAL REQUIREMENTS.
REMAIN ON AT ALL TIMES. 4. 3 BUTTON WALL STATION:	E. ALL DEVICES SHALL BE RECESSED IN WALL. CONT
BUTTON 1: ON/OFF CONTROL OF GENERAL ILLUMINATION FIXTURES BUTTON 2: DIM UP OF GENERAL ILLUMINATION FIXTURES**	ENGINEER AND ARCHITECT TO COORDINATE ANY
BUTTON 3: DIM DOWN OF GENERAL ILLUMINATION FIXTURES**	NEW DEVICES.
1.       OCCUPANCY OR VACANCY SENSOR(S) FOR AUTO-OFF OF ALL FIXTURES AFTER 20 MIN. TIME DELAY         2.       NO DAYLIGHT SENSOR(S) IN SPACE	LIGHTING SHEET NOTES
3. WHERE APPLICABLE, U.O.N, UNSWITCHED CONTROL FOR ALL FIXTURES LABELED AS 'EM'. FIXTURES SHALL REMAIN ON AT ALL TMES.	
4. 9 BUTTON WALL STATION: BUTTON 1: ON/OFF CONTROL OF TYPE ALL FIXTURES	A. FIELD COORDINATE ROUTING OF ALL FEEDERS AND BRANCH CIRCUITS.
BUTTON 2: DIM UP OF TYPE "a" SWITCH LEG BUTTON 3: DIM DOWN OF TYPE "a" SWITCH LEG	B. ALL PENETRATIONS THROUGH FIRE RATED WALLS
BUTTON 4: DIM UP OF TYPE "b" SWITCH LEG BUTTON 5: DIM DOWN OF TYPE "b" SWITCH LEG	AND FLOORS SHALL BE PROPERLY FIRE-STOPPED.
BUTTON 6: DIM UP OF TYPE "C" SWITCH LEG BUTTON 7: DIM DOWN OF TYPE "C" SWITCH LEG	C. REFER TO LIGHTING FIXTURE SCHEDULE ON DWG
BUTTON 8: DIM OP OF TYPE "d" SWITCH LEG BUTTON 9: DIM DOWN OF TYPE "d" SWITCH LEG	
SEQUENCE D 1 OCCUPANCY OR VACANCY SENSOR(S) FOR AUTO-OFF OF ALL FIXTURES AFTER 20 MIN TIME DELAY	D. ALL PROPOSED EMERGENCY EXIT LIGHTING SHALL BE CONNECT TO LOCAL LIGHTING CIRCUIT AHEAD
2. WHERE APPLICABLE, U.O.N, UNSWITCHED CONTROL FOR ALL FIXTURES LABELED AS 'EM'. FIXTURES SHALL REMAIN ON AT ALL TIMES	OF ALL SWITCHING DEVICES. UTILIZE (2)#12, #12G. IN 3/4" EMT CONDUIT. EMERGENCY LIGHTING SHALL
3. 7 BUTTON WALL STATION: BUTTON 1: ON/OFF CONTROL OF TYPE ALL FIXTURES	REMAIN ON AS NIGHT LIGHTS.
BUTTON 2: DIM UP OF TYPE "a" SWITCH LEG BUTTON 3: DIM DOWN OF TYPE "a" SWITCH LEG	
BUTTON 4: DIM UP OF TYPE "b" SWITCH LEG BUTTON 5: DIM DOWN OF TYPE "b" SWITCH LEG	SYSTEMS SHEET NOTES
BUTTON 6: DIM UP OF TYPE "c" SWITCH LEG BUTTON 7: DIM DOWN OF TYPE "c" SWITCH LEG	
SEQUENCE E	EXISTING FIRE ALARM CONTROL PANEL. PANEL IS
1. OCCUPANCY OR VACANCY SENSOR(S) FOR AUTO-OFF OF ALL FIXTURES AFTER 20 MIN. TIME DELAY 2. NO DAYLIGHT SENSOR(S) IN SPACE	AN EDWARDS IO ADDRESSABLE PANEL LOCATED OUTSIDE OF BOILER ROOM 510.
3. WHERE APPLICABLE, U.O.N, UNSWITCHED CONTROL FOR ALL FIXTURES LABELED AS 'EM'. FIXTURES SHALL REMAIN ON AT ALL TIMES.	B. REFER TO DRAWING E10.03 FOR TECHNOLOGY
4. SINGLE SWITCH FOR ON/OFF CONTROL OF ALL FIXTURES 5. BUTTON WALL STATION:	DETAILS.
BUTTON 1: ON/OFF CONTROL OF GENERAL ILLUMINATION FIXTURES BUTTON 2: DIM UP OF GENERAL ILLUMINATION FIXTURES**	C. PROVIDE FIRE ALARM RELAY AND CONNECTION
SEQUENCE E	PANEL.
1. OCCUPANCY OR VACANCY SENSOR(S) FOR AUTO-OFF OF ALL FIXTURES AFTER 20 MIN. TIME DELAY	D. ALL DEVICES WITH 'ER' DESIGNATION SHALL BE
3. WHERE APPLICABLE, U.O.N, UNSWITCHED CONTROL FOR ALL FIXTURES LABELED AS 'EM'. FIXTURES SHALL REMAIN ON AT ALL TIMES.	EXISTING TO BE RELOCATED OR RE-INSTALLED AFTER CEILING INSTALLATION HAS BEEN
4. SINGLE SWITCH FOR ON/OFF CONTROL OF ALL FIXTURES 5. BUTTON WALL STATION:	COMPLETED. RE-INSTALL DEVICES IN PROPOSED LOCATION AND RECONNECT TO ASSOCIATED WIRING.
BUTTON 1: ON/OFF CONTROL OF TYPE ALL FIXTURES BUTTON 2: DIM UP OF TYPE "a" SWITCH LEG**	F ALL DEVICES SHALL BE RECESSED IN WALL
BUTTON 3: DIM DOWN OF TYPE "a" SWITCH LEG** BUTTON 4: DIM UP OF TYPE "b" SWITCH LEG**	CONTACT ENGINEER AND ARCHITECT TO COORDINATE
BUTTON 5: DIM DOWN OF TYPE "b" SWITCH LEG**	WITH NEW DEVICES.
	F. MDF ROOM LOCATED IN SECOND FLOOR TECH ROOM
NOTES:	242 (AREA D).
** = DIMMING UP AND DOWN BUTTONS MAY BE SUBSTITUTED WITH DIMMING SLIDE TYPE SWITCH.	G. ALL IT AND SECURITY CABLES SHALL BE COLOR CODED AS FOLLOWS:
	A. DATA - BLUE
	C. CAMERAS - PURPLE
	D. DOORS – YELLOW E. SECURITY – RED

1 PARTIAL FIRST FLOOR PROPOSED SYSTEMS PLANS - AREA A ADD ALT SCALE: 1/8" = 1'-0"

![](_page_142_Picture_9.jpeg)

Branch Panel: MP1-3		Branch Panel: 6B				Branch Panel: B1P						
Location: ELECT. Supply From: Mounting: RECESS	RM 258 SED	Volts: 120/208 Wye Phases: 3 Wires: 4	A.I.C. Rating: 22000 Mains Type: MCB Mains Rating: 200 A	Location: STORAGE Supply From: Mounting: RECESSE	118 D	Volts: 120/208 Wye Phases: 3 Wires: 4	A.I.C. Rating: 10000 Mains Type: 100A MLO Mains Rating: 100 A	Location: OFF Supply From: Mounting: REC	CE 124a ESSED	Volts: 120/208 Wye Phases: 3 Wires: 4	A.I.C. Rating: 65000 Mains Type: 300A MCB Mains Rating: 300 A	
	Trin Dalas								Tria Balas			
CKI     Circuit Description       1     EXISTING CKT.       3	Imp         Poles         A           20 A         2         0 VA         0 VA	B         C         Pole           0 VA         0 VA	Signature     Circuit Description     C       20 A     EXISTING CKT.	CKT     Circuit Description       2     1       4     3	Poles         A           20 A         3         0 VA         0 VA	B         C           A         0 VA         0 VA	Poles         Trip         Circuit Description         CKT           3         20 A         Spare         2              4	CKI     Circuit Description       1     EXISTING CKT.       3	Trip         Poles           20 A         2         0 VA	A         B         C           0 VA         0 VA         0 VA	Poles     Trip     Circuit Descripti       2     20 A     EXISTING CKT.	on CK 2 4
5 EXISTING CKT. 7 EXISTING CKT. 9	20 A         1	0 VA 0 VA 0 VA 0 VA 0 VA 0 VA	20 A         EXISTING CKT.	5            8         7         Spare         2           0         9          2	 20 A 3 0 VA 0 VA	0 VA 0 VA	6           2         20 A         Spare         8             10	5 EXISTING CKT. 7 9	20 A 3 0 VA	0 VA         0 VA         0 VA           0 VA         0 VA         0 VA	3         20 A         EXISTING CKT.	6 8 10
11 13 EXISTING CKT.	20 A         3         0 VA         0 VA	0 VA 0 VA 3	1           20 A         EXISTING CKT.         1	9            2         11            4         13         RECEPT - RM 112         2		A A A A A A A A A A A A A A A A A A A	1         20 A         REST RM 111D, 111C, 111B & 111A         12           1         20 A         RECEPT - RM 112 & CP-UV1C         14	11 EXISTING CKT. 13	20 A 3 0 VA		3         20 A         EXISTING CKT.	12
15            17            19         EXISTING CKT.	<th< td="" tr<=""><td>0 VA 0 VA 0 VA 0 VA 0 VA 1</td><td> 1  1 20 A EXISTING CKT. 2</td><td>0         15         CORD REEL RM 112         2           8         17         CORD REEL RM 112         2           0         19         RECEPT - OFFICE 4         2</td><td>20 A 1 20 A 1 20 A 21 20 A 21 20 A 21 20 A 21 20 A 20 A</td><td>0 VA 0 VA 0 VA 900 VA</td><td>1         20 A         CORD REEL RM 112         16           1         20 A         RECEPT - OFFICE 3         18           2         20 A         PRINTER RECEPT         20</td><td>15 17 EXISTING CKT. 19</td><td>20 A 2  0 VA</td><td>0 VA         0 VA         0 VA           0 VA         0 VA         0 VA</td><td>            1         20 A         EXISTING CKT.           1         20 A         EXISTING CKT.</td><td>18</td></th<>	0 VA 0 VA 0 VA 0 VA 0 VA 1	1 1 20 A EXISTING CKT. 2	0         15         CORD REEL RM 112         2           8         17         CORD REEL RM 112         2           0         19         RECEPT - OFFICE 4         2	20 A 1 20 A 1 20 A 21 20 A 21 20 A 21 20 A 21 20 A 20 A	0 VA 0 VA 0 VA 900 VA	1         20 A         CORD REEL RM 112         16           1         20 A         RECEPT - OFFICE 3         18           2         20 A         PRINTER RECEPT         20	15 17 EXISTING CKT. 19	20 A 2 0 VA	0 VA         0 VA         0 VA           0 VA         0 VA         0 VA	1         20 A         EXISTING CKT.           1         20 A         EXISTING CKT.	18
21 23 25 EXISTING CKT	  20 A 1 0 VA	0 VA 0 VA 1 0 VA 0 VA 1	20 A     EXISTING CKT.     2       20 A     EXISTING CKT.     2	2         21         MOTORIZED FIRE DAMPER         2           4         23         AC-1A; 2D; 1D; 1C         2	20 A 1 2 104 VA 182 V	0 VA 90 VA 104 VA 182 VA	22           2         20 A         AC-2A; 3A; 4A; 5A; 6A; 7A; 8A         24	21 EXISTING CKT. 23 EXISTING CKT. 25 EXISTING CKT	20 A 1 20 A 1 20 A 1	0 VA 0 VA 0 VA 0 VA 0 VA	120 AEXISTING CKT.120 AEXISTING CKT.120 AEXISTING CKT	22 24 26
27 29 OFFICE 19 & 20	20 A 1	0 VA 2 900 VA 0 VA	20 A EXISTING CKT. 2 3	25            8         27         AC-9A; 10A; 1B; 2B; 11A; 12A; 13A         2           0         29          2	104 VA 182 V 20 A 2	A         B         B         B           182 VA         52 VA         52 VA         52 VA           182 VA         52 VA         52 VA         52 VA	20           2         20 A         AC-1E; 2E         28             30	27 C 29 EXISTING CKT.	20 A 1 20 A 1 20 A 1	0 VA 0 VA 0 VA 0 VA	1         20 A         EXISTING CKT.           1         20 A         EXISTING CKT.           1         20 A         EXISTING CKT.	28
31           33         EXISTING CKT.           35	20 A 1 0 VA	0 VA 0 VA	20 A EXISTING CK1. 33	12         31         AC-14A; 15A & UV-1E & 1D         1           4         33 </td <td>20 A 2 478.4 VA 180 V </td> <td>/A 478.4 VA 270.4 VA 1393.6 VA 270.4 VA</td> <td>1         20 A         UV-1A;1B         32           2         15 A         UV-1C         34             36</td> <td>31         EXISTING CK1.           33         RECEPT - LAB 113           35         RECEPT - LAB 113</td> <td>20 A         1         0 VA           20 A         1        </td> <td>O VA         O VA           540 VA         0 VA           720 VA         720 VA</td> <td>1         20 A         EXISTING CK1.           1         20 A         CORD REELS LAB 113           1         20 A         RECEPT - LAB 113</td> <td>32 34 36</td>	20 A 2 478.4 VA 180 V 	/A 478.4 VA 270.4 VA 1393.6 VA 270.4 VA	1         20 A         UV-1A;1B         32           2         15 A         UV-1C         34             36	31         EXISTING CK1.           33         RECEPT - LAB 113           35         RECEPT - LAB 113	20 A         1         0 VA           20 A         1	O VA         O VA           540 VA         0 VA           720 VA         720 VA	1         20 A         EXISTING CK1.           1         20 A         CORD REELS LAB 113           1         20 A         RECEPT - LAB 113	32 34 36
37   EXISTING CKT.     39   EXISTING CKT.	20 A         1         0 VA         0 VA           20 A         2	0 VA         0 VA         1           0 VA         0 VA         2	20 A     EXISTING CKT.     3       20 A     EXISTING CKT.     4	8 37 0 39 EF-1E 2	1393.6 VA 1392 V 20 A 1	VA 696 VA 720 VA 6000 VA	1         20 A         EF-1C         38           1         20 A         DESTRATIFICATION FANS         40	<ul> <li>37 CORD REELS LAB 113</li> <li>39 RECEPT - AC SINK</li> <li>41 RECEPT - DESK</li> </ul>	20 A 1 0 VA 20 A 1 20 A 1	900 VA         900 VA           360 VA         720 VA	1     20 A     RECEPT - STUDENT LEARN       1     20 A     RECEPT - DESK	IING 38 40
	Total Load:0 VATotal Amps:0 A	0 VA         900 VA           0 A         8 A		41         CP-AC236; CP-UV2A; UV2B; UV2C;           43         CP-AC2D;AC8A;AC9A;AC10A;AC1B;AC           45         CP-UV1E; UV1D; UV1A; UV1B	20 A         1         1440 VA         900 V           20 A         1         1440 VA         900 V	A         T20 VA         T20 VA         T20 VA           720 VA         720 VA	1         20 A         CP-AC15A;AC14A;AC1C;AC3A;AC4A;A         42           1         20 A         CP-AC2A;AC1E;AC2E;AC13A;AC1A         44           1         20 A         COLUMN RECEPT - OPEN AREA         46		Total Load: Total Amps:	900 VA         1620 VA         2160 VA           8 A         14 A         19 A		
Notes: (EXISTING PANEL): ALL NEW BREAKERS SHALL	_ MATCH PANEL'S TYPE AND AIC RATI	ING.		47 COLUMN RECEPT - OPEN AREA 49 MOTORIZED FIRE DAMPER 51 LIFT DISCONNECT	20 A 1 0 VA 0 VA 20 A 1 0 VA 0 VA 20 A 1	A 1080 VA 1080 VA A 0 VA 720 VA	1         20 A         COLUMN RECEPT - OPEN AREA         48           1         20 A         MOTORIZED FURE DAMPER         50           1         20 A         RCPT 158 & COOLER (GFCI BRKR)         52	Notes: (EXISTING PANEL): ALL NEW BREAKERS SH	ALL MATCH PANEL'S TYP	E AND AIC RATING.		
Branch Panel: B1L	•			53 HAND DRYER RM 158 55 COOLER & TV RECEPT (GFCI BRKR)	20 A 1 20 A 1 20 A 720 V	0 VA 0 VA (A	1         20 A         HAND DRYER RM 158         54           1         20 A         RECEPT - OUTSIDE 108         56	Branch Panel: SF	)			
Location: ELEC. 1 Supply From: Mounting: BECESS	27 SED	Volts: 120/208 Wye Phases: 3 Wiros: 4	A.I.C. Rating: Mains Type: MCB Mains Bating: 250.4	59 59	Total Load: 9580 VA	5369 VA 8844 VA	60	Location: STC Supply From:	RAGE 120A	Volts: 120/208 Wye Phases: 3	A.I.C. Rating: Mains Type: 250A MLO	
				Load Classification	Total Amps: 84 A Connected Load	45 A 78 A Demand Factor Estimated Demand	Panel Totals		-55ED	wires: 4	Mains Rating: 250 A	
CKT         Circuit Description           1         EF-2B	Trip         Poles         A           20 A         1         1176 VA         0 VA	B C Pole	EssTripCircuit DescriptionCk20 AEXISTING CKT.2	T Equipment Motor Recentacle	6373 VA 7160 VA	80.00%         5098 VA           100.63%         7205 VA           98.73%         10130 VA	Total Conn. Load: 23793 VA	CKT Circuit Description 1 JOINER CORD REEL	Trip         Poles           15 A         2         0 VA	A B C	Poles         Trip         Circuit Descripti           1         20 A         BAND SAW CORD REEL	on CK
3 EXISTING CKT. 5 7 EXISTING CKT	15 A     2           20 A     1     0.\/A	0 VA 0 VA 1 0 VA 0 VA 1	20 AEXISTING CKT.420 AEXISTING CKT.620 AEXISTING CKT.8	Power	0 VA	0.00% 0 VA	Total Conn. Current:     66 A       Total Est. Demand Current:     62 A	3 5 DRILL PRESS	 20 A 3	0 VA 0 VA 60 VA 0 VA	2 15 A TABLE SAW	4
9 EXISTING CKT. 11 EXISTING CKT.	20 A         1         0 VA         0 VA           20 A         1	0 VA         0 VA         1           0 VA         0 VA         1	20 AEXISTING CKT.1020 AEXISTING CKT.1020 AEXISTING CKT.12	Notes: NEW PANEL				7            9            11         BENCH BAND SAW	60 V/  20 A 1	A         60 VA         60 VA         60 VA           60 VA         60 VA         60 VA         60 VA	3         20 A         DRILL PRESS	8 10 12
13     EXISTING CKT.       15     EXISTING CKT.       17     EXISTING CKT.	20 A         1         0 VA         0 VA           20 A         1	0 VA         0 VA         1           0 VA         0 VA         1	20 A         EXISTING CKT.         14           20 A         EXISTING CKT.         16           20 A         EXISTING CKT.         16	4 3				<ul> <li>13 SANDER RECEPT -RM 121</li> <li>15 RECEPT - DRILL PRESS</li> <li>17 3D PRINTER RECEPT</li> </ul>	20 A 1 360 V 20 A 1 20 A 1	YA         360 VA             360 VA         360 VA         540 VA            360 VA         360 VA         360 VA	1         20 A         RECEPT - SANDERS           1         20 A         RECEPTACLE 121           1         20 A         3D PRINTER	14 16 18
19     EXISTING CKT.       21     EXISTING CKT.       22     EXISTING CKT.	20 A         1         0 VA         0 VA           20 A         1	0 VA 0 VA 1	20 AEXISTING CKT.2020 AEXISTING CKT.2220 AEXISTING CKT.22	) 2				19         RECEPT - RM 121           21         EXISTING CKT.	20 A 1 360 V 20 A 1		1 20 A EXISTING CKT.	20
25     EXISTING CKT.       25     EXISTING CKT.       27     EXISTING CKT.	20 A         1         0 VA         0 VA           20 A         1         0 VA         0 VA	0 VA 686.4 VA 1 2	20 A         EXISTING CKT.         24           20 A         EXISTING CKT.         26           20 A         UV-1F; UV-1G         28	Branch Panel: PP-K	<b>(R)</b> A 505d	<b>Volts:</b> 120/208 Wye	A.I.C. Rating:	23 EXISTING CKT. 25 EXISTING CKT. 27 EXISTING CKT.	20 A         1           20 A         1         0 VA           20 A         1         0 VA	0 VA         0 VA         0 VA           0 VA         0 VA         0 VA	120 AEXISTING CKT.120 AEXISTING CKT.120 AEXISTING CKT.	22 26 28
29 EXISTING CKT. 31 EXISTING CKT. 33	20 A         1	0 VA 686.4 VA 1	30 20 A EF-2C 32	Supply From:       2     Mounting: RECESSE	D	Phases: 3 Wires: 4	Mains Type: MLO Mains Rating: 250 A	29         RECEPT - RM 121           31         RECEPT - RM 120           33         CORD REEL RM 121	20 A 1 20 A 1 720 V 20 A 1	Image: Mark Mark Mark Mark Mark Mark Mark Mark	1         20 A         RECEPT - RM 120           1         20 A         RECEPT - RM 120           1         20 A         CORD REEL RM 121	30 32 32
35 37			36	3				35         CORD RELE RM 121           35         WIND TUNNEL RECEPT 121           37         RECEPT - RM 120	20 A         1           20 A         1           20 A         1	0 VA         0 VA         360 VA         0 VA           0 VA         0 VA         0 VA         0 VA	1         20 A         CORD REEL RM 121           1         20 A         CORD REEL RM 120           1         20 A         HAND DRYER 160	36 38
39       41	Total Load: 2352 VA	686 VA 686 VA		CKT         Circuit Description           1         EXISTING CKT.         2           3         EXISTING CKT.         2	rip         Poles         A           0 A         1         0 VA         0 VA           0 A         1         0         0         0	B         C           A         0 VA         0 VA	Poles         Trip         Circuit Description         CKT           1         20 A         EXISTING CKT.         2           1         20 A         EXISTING CKT.         4	<ul><li>39 HAND DRYER 160</li><li>41 RECEPT CORRIDOR B &amp; RM 160</li></ul>	20 A 1 20 A 1 Total Load: 2	0 VA 360 VA 2640 VA 1020 VA 3360 VA		40 42
	Total Amps: 20 A	6 A 6 A	Devel Tetele	5 EXISTING CKT. 2 7 EXISTING CKT. 2	0 A 1 0 VA 0 VA		1         20 A         EXISTING CKT.         6           1         20 A         EXISTING CKT.         8           1         20 A         EXISTING CKT.         10		Total Amps:	24 A 9 A 30 A		
Equipment	3725 VA	Interview     Estimated Demand       100.00%     3725 VA	Total Conn. Load: 3725 VA	9EXISTING CKT.211EXISTING CKT.213EXISTING CKT.2	0 A 1 0 A 1 0 A 2 0 VA 0 VA	0 VA 0 VA 0 VA 0 VA 0 VA	1         20 A         EXISTING CK1.         10           1         20 A         EXISTING CKT.         12           1         20 A         EXISTING CKT.         14	Notes: (EXISTING PANEL): ALL NEW BREAKERS SH	ALL MATCH PANEL'S TYP	E AND AIC RATING.		
		т.	Total Est. Demand:       3725 VA         Total Conn. Current:       10 A         otal Est. Demand Current:       10 A	15            17         EXISTING CKT.         2           19         EXISTING CKT.         2	 0 A 1 0 VA 0 VA	0 VA 0 VA 0 VA 0 VA	1         20 A         EXISTING CKT.         16           1         20 A         EXISTING CKT.         18           1         20 A         EXISTING CKT.         20	Branch Panel: LF	<b>PE-10</b> H ROOM 162	<b>Volts</b> : 120/208 Wve	ALC Rating	
				21EXISTING CKT.223EXISTING CKT.225EXISTING CKT.2	0 A 1 0 A 1	0 VA 0 VA 0 VA 0 VA	1         20 A         EXISTING CKT.         22           1         20 A         EXISTING CKT.         24	Supply From: Mounting: REC	ESSED	Phases: 3 Wires: 4	Mains Type: MLO Mains Rating: 225 A	
Notes:				25EXISTING CKT.227EXISTING CKT.229EXISTING CKT.2	0 A 1 0 VA 0 VA 0 A 1 0 A 2	A         O         O         O         O         O         O         O         O         VA         O         VA <th< td=""><td>1         20 A         EXISTING CKT.         26           1         20 A         EXISTING CKT.         28           2         20 A         EXISTING CKT.         30</td><td></td><td></td><td></td><td></td><td></td></th<>	1         20 A         EXISTING CKT.         26           1         20 A         EXISTING CKT.         28           2         20 A         EXISTING CKT.         30					
Branch Panel: PP1	<b>-2</b>	Volto: 120/208 W/vo		31            33         EXISTING CKT.         2           35          2	0 VA 0 VA 0 A 2	A 0 VA 900 VA 0 VA	32           1         20 A         RECEPT - CAFETERIA ENTRANCE         34           1         20 A         EXISTING CKT.         36	CKT         Circuit Description           1         Spare           3         Spare	Trip         Poles           20 A         1         0 VA           20 A         1         1	A         B         C           ∆         0 VA	Poles         Trip         Circuit Description           1         20 A         Spare           2         20 A         UV-2A: 2B: 2C: 2D ECU-2A: 2B	n CKT 2 3:AC-236 4
Supply From: Mounting: RECESS	SED	Phases: 3 Wires: 4		37         RECEPT - BREAKOUT 501 (ADD-ALT)         2           39         RECEPT - BREAKOUT 500 (ADD-ALT)         2	0 A 1 900 VA 114.4 V 0 A 1	VA 900 VA 114.4 VA	2         20 A         FCU-500 & 501         38              40	5 EF-2A 7 Spare	20 A 1 20 A 1 0 VA	0 VA         1176 VA         765.6 VA	 1 20 A Spare	6
					Total Load: 1014 VA Total Amps: 10 A	1914 VA 0 VA 17 A 0 A		9 EF-1A 11 Spare 13 Spare	20 A         1           20 A         1           20 A         1           20 A         1	1176 VA         0 VA           0 VA         0 VA	1         20 A         Spare           1         20 A         Spare           1         20 A         Spare           1         20 A         Spare	10 12 14
CKT         Circuit Description           1         RECEPT RM M1064 (EXISTING)           2         RECEPT RM M1062 (EXISTING)	Trip         Poles         A           20 A         1         0 VA         0 VA           20 A         1         0 VA         0 VA	B         C         Pole           0\/0         0\/0         1	Open         Trip         Circuit Description         C           20 A         RECEPT RM M1079 (EXISTING)         20 A         RECEPT RM M1070 (EXISTING)         10 A	Notes:           2         (EXISTING PANEL): ALL NEW BREAKERS SHALL N	ATCH PANEL'S TYPE AND AIC	RATING. FIELD VERIFY EXISTING PANELS RA	TING.	15 Spare 17 Spare	20 A 1 20 A 1 20 A 1	0 VA 0 VA 0 VA 0 VA 0 VA	1         20 A         Spare           1         20 A         Spare           1         20 A         EE-1B	16 18 20
5RECEPT RM M1-003 (EXISTING)5RECEPT RM M1-106 (EXISTING)7ELEC WATER FOUNTAIN (EXISTING)	20 A         1            20 A         1            20 A         1         0 VA         0 VA	0 VA 0 VA 0 VA 1 0 VA 0 VA 1 1	20 ARECEPT RM M1079 (EXISTING)20 ARECEPT RM M1060 (EXISTING)20 ARECEPT RM M1060 (EXISTING)	Branch Panel: EC-7				21     Spare       23     Spare	20 A         1         0 V/           20 A         1         20 A         1	0 VA         0 VA           0 VA         0 VA	1 20 A Spare	20 22 24
9       RECEPT M1-106, 067 (EXISTING)       20 A       1       0 VA       0 VA       1       20 A       RECEPT RM M1060 (EXISTING)       10         11       MAG LOCK DOOR (EXISTING)       20 A       1       0 VA       0 VA       0 VA       1       20 A       RECEPT RM M1060 (EXISTING)       12         13       0 VA       0 VA       0 VA       1       20 A       RECEPT RM M1060 (EXISTING)       12			0     Location: STORAGE       2     Supply From:	118	Volts: 120/208 Wye Phases: 3	A.I.C. Rating: 22000 Mains Type: 100A MLO		Total Load:	1656 VA         1942 VA         1942 VA           14 A         17 A         17 A			
15 17				6 Mounting: RECESSE	D	Wires: 4	Mains Rating: 100 A	Load Classification Equipment	Connected 5539 V	Load         Demand Factor         Estimated Demand           A         80.00%         4431 VA	Panel Totals	
19       21       23				CKT     Circuit Description       1     EXISTING CKT	Frip     Poles     A       20.4     3     0.VA     0.VA	B C	Poles         Trip         Circuit Description         CKT           3         20.4         EXISTING CKT         2				Total Est. Demand:     4431 VA       Total Conn. Current:     15 A	
25 27 29				$\frac{\frac{6}{8}}{0} = \frac{3}{5} = \frac{1}{5}$		0 VA 0 VA 0 VA 0 VA	4 6				Total Est. Demand Current: 12 A	
31 33 35				2         7         EXISTING CK1         2           4         9          11		A 0 VA 0 VA 0 VA 0 VA	3         20 A         EXISTING CK1         8              10             12	Notes:				
33           37           39				13         REST RM 181A & 181B         2           0         15         RECEPT OFFICE 1 & 2         2           17         RECEPT LAB 116         2         2	20 A 1 900 VA 0 VA 20 A 1 20 A 1	A 1260 VA 1620 VA 720 VA 900 VA	1         20 A         HAND DRYER 181A         14           1         20 A         RECEPT RM 164 & 168         16           1         20 A         RECCEPT RM 116 & 119         18	Branch Panel: M	PH-1			
41	Total Load: 0 VA Total Amps: 0 A	0 VA 0 VA 0 A		2 19 HAND DRYER 181B 21 RECEPT OFFICE 18	20 A 1 0 VA 900 V 20 A 1	A 1080 VA 1260 VA	1         20 A         RECEPT LAB 115         20           1         20 A         RECEPT OFFICE 16 & 17         22	Location: ELE Supply From: Mounting: REC	CT. RM 258 ESSED	Volts: 480/277 Wye Phases: 3 Wires: 4	A.I.C. Rating: Mains Type: 225A MCB Mains Rating: 250 A	
Notes:				23         RECEPT CONF 114         2           25         RECEPT CONF 114         2           27         RECEPT OFFICE 13 & 14         2	20 A 1 720 VA 1080 V 20 A 1 720 VA 1080 V 20 A 1	VA         720 VA         720 VA           720 VA         1080 VA         720 VA	1         20 A         FLOOR RECEPT 114         24           1         20 A         RECEPT - OFFICE 12 & 13         26           1         20 A         RECEPT OFFICE 15         28					
Branch Panel: PNL	. X			29         RECEPT - OFFICE 11 & 12         2           31         RECEPT OFFICE 7 & 8         2           33         RECEPT - OFFICE 6         2	20 A         1         20 A           20 A         1         1260 VA         720 VA           20 A         1         1260 VA         720 VA	A 720 \/A 720 \/A	1         20 A         RECEPT OFFICE 9 & 10         30           1         20 A         RECEPT - OPEN AREA         32           1         20 A         RECEPT OFFICE 5         34	CKT         Circuit Description           1         ACC-2	Trip         Poles           50 A         3         10309.	A         B         C           1         2605 VA	PolesTripCircuit Description315 ADOAS-8	n <b>CK</b> 1 2
Location: MECH R Supply From:	ROOM 162	Volts: 120/208 Wye Phases: 3	A.I.C. Rating: Mains Type: MLO	33RECEPT - AMPHITHEATER35RECEPT - AMPHITHEATER37HAND DRYER 111A	20 A 1 0 VA 0 VA	720 VA         720 VA         540 VA           A	1         20 A         RECEPT - AMPHITHEATER         36           1         20 A         HAND DRYER 111B         38	3 5 7 HVAC-9	  15 A 3 3214 7	10309.1         2605 VA         10309.1         2605 VA           VA         9228.3 VA         10309.1         2605 VA	  3 50 A HVAC-12	4 6 8
Mounting: RECESS	SED	Wires: 4	Mains Rating: 225 A	39     HAND DRYER 111C     2       41     FLOOR RECEPT - OPEN AREA     2       43     RECEPT - LEARNING EXHANGE	20 A 1 20 A 1080 VA 1080 VA	0 VA 0 VA 360 VA 0 VA	1         20 A         HAND DRYER 111D         40           1         20 A         MOTOR OPERATED DAMPER         42           1         20 A         RECEPT - LEARNING EXCHANGE         44	9 11		VIX 0220.0 V/X         3214.7 VA         9228.3 VA           Image: Second	 	10 12
CKT Circuit Description	Trip Poles A	B C Pole	es Trip Circuit Description CK	45 RECEPT - LEARNING EXCHANGE 47 RECEPT - LEARNING EXCHANGE	20 A 1 20 A 1	1080 VA 1080 VA 1080 VA 1080 VA 180 VA	1     20 A     RECEPT - LEARNING EXCHANGE     46       1     20 A     Receptacle     48	13         HVAC-10           15            17	30 A 3 5293.1  	VA 6872.7 VA 5293.1 VA 6872.7 VA 5293.1 VA 6872.7 VA	3 40 A HV-2  	14 16 18
1       3     EXISTING CKT.       5     EXISTING CKT.	20 A         1         1055.6 VA           20 A         1         1	0 VA         1055.6 VA             0 VA         1055.6 VA	15 A         CMU-236         2             4             6	49         RECEPT 164 & 20         1           51         RECEPT - ST 121A         1           53         53         1	20 A 1 720 VA 180 V. 20 A 1 -	/A 540 VA 6	1         20 A         WATER COOLER (GFCI BRKR)         50           1         52         52           1         54	19         HVAC-1           21            23	40 A 3 6872.7 	VA 4434 VA 6872.7 VA 4434 VA 6872.7 VA 4434 VA	3 25 A ACC-S 	20 22 24
7 EXISTING CKT. 9 EXISTING CKT. 11 EXISTING CKT.	20 A         1         0 VA         0 VA           20 A         1	0 VA 0 VA 1	20 A     EXISTING CKT.     8       20 A     EXISTING CKT.     10       20 A     EXISTING CKT.     10	55           57           59			56 58 60	25 ACC-N 27	25 A 3 4434 V	/A 4434 VA 4434 VA		24 26 28
13     EXISTING CKT.       15     EXISTING CKT.	20 A         1         0 VA         0 VA           20 A         1         0         0         0	0 VA 0 VA 1 0 VA 0 VA 1 1	20 A         EXISTING CKT.         14           20 A         EXISTING CKT.         14           20 A         EXISTING CKT.         16	Image:	Total Load:8640 VATotal Amps:72 A	11160 VA 8460 VA 93 A 71 A		29            31		4434 VA		30 32 34
17EXISTING CKT.19EXISTING CKT.21EXISTING CKT.	20 A         1	0 VA 0 VA 1 0 VA 0 VA 1	20 A         EXISTING CKT.         18           20 A         EXISTING CKT.         20           20 A         EXISTING CKT.         20           20 A         EXISTING CKT.         20	Load Classification       Motor	Connected Load 0 VA	Demand FactorEstimated Demand0.00%0 VA	Panel Totals	35 37 20				36
23 EXISTING CKT.	20 A         1           Total Load:         1056 VA	0 VA 0 VA 1 1056 VA 1056 VA	20 A EXISTING CKT. 24	Receptacle	28260 VA	67.69% 19130 VA	Total Conn. Load:       28260 VA         Total Est. Demand:       19130 VA         Total Conn. Current:       70.4	39           41	Total Load: 5	3264 VA 53264 VA 53264 VA		40
Load Classification	Connected Load D	9 A 9 A Pemand Factor Estimated Demand	Panel Totals				Total Est. Demand Current: 53 A	Load Classification	Total Amps:	192 A     192 A     192 A       Load     Demand Factor     Estimated Demand	Danol Totolo	
Equipment	3167 VA	100.00% 3167 VA	Total Conn. Load: 3167 VA Total Est. Demand: 3167 VA	Notes: NEW PANEL				Equipment	159791	VA         80.00%         127833 VA	Total Conn. Load:         159791 VA	
		T	Total Conn. Current:     9 A       otal Est. Demand Current:     9 A								Total Est. Demand:127833 VATotal Conn. Current:192 ATotal Est. Demand Current:154 A	
Notes:								Notae				

![](_page_143_Figure_5.jpeg)
[						
		265000 - LIGHTII	NG FIXTURE SCHEDULE			
TAG	DESCRIPTION	MANUFACTURER	CATALOG NUMBER	WATTAGE / CCT / LAMP / CRI	VOLTAGE	REMARKS
A1	2'X4' RECESSED LED WITH BEVEL OPTION. DLC LISTED WITH 6500 LUMEN PACKAGE.	COOPER METALUX	24PD-65-PB1-L835	50W/3500K/LED/80+	UNV	
A1-EM	SAME AS A1 WITH EMERGENCY BATTERY PACK OPTION	COOPER METALUX	24PD-65-PB1-EL7W-L835	50W/3500K/LED/80+	UNV	
A2	2'X4' RECESSED LED WITH BEVEL OPTION. DLC LISTED WITH 3500 LUMEN PACKAGE.	COOPER METALUX	24PD-35-PB1-L835	26W/3500K/LED/80+	UNV	
A2-EM	SAME AS A2 WITH EMERGENCY BATTERY PACK OPTION	COOPER METALUX	24PD-35-PB1-EL7W-L835	26W/3500K/LED/80+	UNV	
A3	2'X4' RECESSED LED WITH BEVEL OPTION. DLC LISTED WITH 8500 LUMEN PACKAGE.	COOPER METALUX	24PD-85-PB1-L835	65W/3500K/LED/80+	UNV	
B1	2'X2' RECESSED LED WITH BEVEL OPTION. DLC LISTED WITH 3000 LUMEN PACKAGE.	COOPER METALUX	22PD-30-PB1-L835	25W/3500K/LED/80+	UNV	
B1-EM	SAME AS B1 WITH EMERGENCY BATTERY PACK OPTION	COOPER METALUX	22PD-30-PB1-EL7W-L835	25W/3500K/LED/80+	UNV	
B2	2'X2' RECESSED LED WITH BEVEL OPTION. DLC LISTED WITH 6500 LUMEN PACKAGE.	COOPER METALUX	22PD-65-PB1-L835	58W/3500K/LED/80+	UNV	
B2-EM	SAME AS B2 WITH EMERGENCY BATTERY PACK OPTION	COOPER METALUX	22PD-65-PB1-EL7W-L835	58W/3500K/LED/80+	UNV	
B3	2'X2' RECESSED LED WITH BEVEL OPTION. DLC LISTED WITH 5500 LUMEN PACKAGE.	COOPER METALUX	22PD-55-PB1-L835	46W/3500K/LED/80+	UNV	
В3-ЕМ	SAME AS B3 WITH EMERGENCY BATTERY PACK OPTION	COOPER METALUX	22PD-55-PB1-EL7W-L835	46W/3500K/LED/80+	UNV	
C1	6-INCH LED SELF-FLANGED, LENSED DOWNLIGHT WITH 2000 LUMEN PACKAGE.	COOPER HALO	PR6FS24D010	20W/3500K/LED/80+	UNV	
C1-EM	SAME AS C1 WITH EMERGENCY BATTERY PACK OPTION	COOPER HALO	PR6FS24D010-REM7	20W/3500K/LED/80+	UNV	
D1	ROUND 55" SUSPENDED DIRECT/INDIRECT LED FIXTURE WITH MOSSWALL WASABI	INTRA LIGHTING - ACOUSTO	12830-2-U-C-3-0-1-2-2	140W/3500K/LED/80+	UNV	
E1	ROUND 24" SUSPENDED DIRECT/INDIRECT LED FIXTURE WITH SATIN OPAL	INTRA LIGHTING - WAVE ROUND	12610-3-U-C-1-0-1	29W/3500K/LED/80+	UNV	
ELU	EMERGENCY LIGHTING UNIT - UL924 COMPLAINT WITH DUAL VOLTAGE INPUT, BROWNOUT CIRCUIT,	COOPER ATLITE	ATLELD-A-100-SD	LED	UNV	
	SEALED NICKEL CADMIUM BATTERYBACK-UP					
F1	DIRECT/INDIRECT 4' LINEAR LED FIXTURE STRUCTURE MOUNTED WITH 6500 LUMEN PACKAGE.	COOPER NEO-RAY	S921DIP-W535-ST4S-4-UDD-W	68W/3500K/LED/80+	UNV	
F1-EM	SAME AS F1 WITH EMERGENCY BATTERY PACK OPTION	COOPER NEO-RAY	S921DIP-W535-ST4S-4-UDD-W-EL7W	68W/3500K/LED/80+	UNV	
F2	DIRECT/INDIRECT 8' LINEAR LED FIXTURE STRUCTURE MOUNTED WITH 6500 LUMEN PACKAGE.	COOPER NEO-RAY	S921DIP-W535-ST8S-4-UDD-W	136W/3500K/LED/80+	UNV	
F2-EM	SAME AS F2 WITH EMERGENCY BATTERY PACK OPTION	COOPER NEO-RAY	S921DIP-W535-ST8S-4-UDD-W-EL7W	136W/3500K/LED/80+	UNV	
G1	DIRECT LED LINEAR RECESSED FIXTURE. DLC LISTED	COOPER NEO-RAY	S124DR-S-795D-35-U-DD	6.8W/FT/3500K/LED/80+	UNV	REFER TO FLOOR PLA FOR FIXTURE
X1	WALL MOUNTED EXIT FIXTURE WITH DUAL VOLTAGE INPUT, SELF-DIAGNOSTIC, LONG LIFE LED, BROWNOUT CIRCUIT, OVERLOAD/SHORT CIRCUIT PROTECTION	COOPER SURE-LITES	EUX7-R-WH-SD	LED	UNV	
X2	SAME AS X1 - CEILING MOUNTED	COOPER SURE-LITES	EUX7-R-WH-SD	LED	UNV	

	Electrical Equipment Schedule													
TAG		VOLTAGE	PHAS E	AMPS - (FLA/MCA)	POWER PANEL	CIRCUIT NUMBER	BREAKER RATING	<b>WIRE</b>	PROVIDE DISCONNECT		VFD	PROVIDE DUCT SMOKE	FSD	Notes
AC-1A AC-1B	INDOOR UNIT	208 V	1	.25 MCA	6B	25,25	15A-2P	(2)#12, #12G. IN 3/4" C. (2)#12, #12G. IN 3/4" C.	No	MC FURNISHED/EC INSTALLED	No	No	No	1
AC-1C AC-1D	INDOOR UNIT	208 V 208 V	1	1.6 MCA 1.6 MCA	6B 6B	23,25 23,25	15A-2P 15A-2P	(2)#12, #12G. IN 3/4" C. (2)#12, #12G. IN 3/4" C.	No No	MC FURNISHED/EC INSTALLED	No No	No No	No No	1
AC-1E AC-2A	INDOOR UNIT	208 V 208 V	1	2.3 MCA .25 MCA	6B 6B	28,30 24,26	15A-2P 15A-2P	(2)#12, #12G. IN 3/4" C. (2)#12, #12G. IN 3/4" C.	No No	MC FURNISHED/EC INSTALLED MC FURNISHED/EC INSTALLED	No No	No	No No	1
AC-2B		208 V	1	.25 MCA	6B	27,29	15A-2P	(2)#12, #12G. IN 3/4" C.	No		No	No	No	1
AC-2D AC-2E	INDOOR UNIT	208 V	1	2.3 MCA	6B	28,30	15A-2P	(2)#12, #12G. IN 3/4" C.	No	MC FURNISHED/EC INSTALLED	No	No	No	1
AC-3A AC-4A	INDOOR UNIT	208 V 208 V	1	.25 MCA .25 MCA	6B 6B	24,26 24,26	15A-2P 15A-2P	(2)#12, #12G. IN 3/4" C. (2)#12, #12G. IN 3/4" C.	No No	MC FURNISHED/EC INSTALLED MC FURNISHED/EC INSTALLED	No No	No No	No No	1
AC-5A AC-6A	INDOOR UNIT	208 V 208 V	1	.25 MCA	6B 6B	24,26 24,26	15A-2P 15A-2P	(2)#12, #12G. IN 3/4" C. (2)#12, #12G. IN 3/4" C.	No	MC FURNISHED/EC INSTALLED	No	No	No	1
AC-7A	INDOOR UNIT	208 V	1	.25 MCA	6B	24,26	15A-2P	(2)#12, #120. IN 0/4 0. (2)#12, #12G. IN 3/4" C.	No		No	No	No	1
AC-8A AC-9A	INDOOR UNIT	208 V 208 V	1	.25 MCA .25 MCA	6B 6B	24,26 27,29	15A-2P 15A-2P	(2)#12, #12G. IN 3/4" C. (2)#12, #12G. IN 3/4" C.	No	MC FURNISHED/EC INSTALLED	No	No	NO	1
AC-10A AC-11A	INDOOR UNIT	208 V 208 V	1	.25 MCA .25 MCA	6B 6B	27,29 27,29	15A-2P 15A-2P	(2)#12, #12G. IN 3/4" C. (2)#12, #12G. IN 3/4" C.	No No	MC FURNISHED/EC INSTALLED MC FURNISHED/EC INSTALLED	No No	No No	No No	1
AC-12A AC-13A	INDOOR UNIT	208 V 208 V	1	.25 MCA 25 MCA	6B 6B	27,29 27.29	15A-2P 15A-2P	(2)#12, #12G. IN 3/4" C. (2)#12, #12G, IN 3/4" C.	No	MC FURNISHED/EC INSTALLED	No	No	No No	1
AC-14A	INDOOR UNIT	208 V	1	.25 MCA	6B	31,33	15A-2P	(2)#12, #120. IN 3/4" C.	No		No	No	No	1
AC-15A AC-236	INDOOR UNIT	208 V 208 V	1	.25 MCA .2 MCA	LPE-10	31,33 4,6	15A-2P 15A-2P	(2)#12, #12G. IN 3/4" C. (2)#12, #12G. IN 3/4" C.	No	MC FURNISHED/EC INSTALLED	No No	NO NO	NO NO	1
ACC-2 ACC-N	OUTDOOR AIR UNIT OUTDOOR AIR UNIT	480 V 480 V	3 3	37.2 FLA 18.4 MCA	MPH-1 MPH-1	1,3,5 25,27,29	50A-3P 25A-3P	(3)#6, #10G. IN 1" C. (3)#10, #10G. IN 3/4" C.	No No	MC FURNISHED/EC INSTALLED MC FURNISHED/EC INSTALLED	No No	No No	No No	1
ACC-S	OUTDOOR AIR UNIT	480 V 208 V	3	18.4 MCA	MPH-1 PNIL X	20,22,24	25A-3P	(3)#10, #10G. IN 3/4" C. (3)#12, #12G, IN 3/4" C.	No	MC FURNISHED/EC INSTALLED	No	No	No	1
CP-AC1A	CONDENSATE DRAIN PUMP	120 V	1	1.5 FLA	6B	44	15A-1P	(0)#12, #120. IN 0/4 0. (2)#12, #12G. IN 3/4" C.	No		No	No	No	1
CP-AC1B CP-AC1C	CONDENSATE DRAIN PUMP CONDENSATE DRAIN PUMP	120 V 120 V	1	1.5 FLA 1.5 FLA	6B 6B	43 42	15A-1P 15A-1P	(2)#12, #12G. IN 3/4" C. (2)#12, #12G. IN 3/4" C.	No No	MC FURNISHED/EC INSTALLED	No No	No No	No No	1
CP-AC1D CP-AC1E	CONDENSATE DRAIN PUMP CONDENSATE DRAIN PUMP	120 V 120 V	1	1.5 FLA 1.5 FLA	6B 6B	42 44	15A-1P 15A-1P	(2)#12, #12G. IN 3/4" C. (2)#12, #12G. IN 3/4" C.	No No	MC FURNISHED/EC INSTALLED MC FURNISHED/EC INSTALLED	No No	No No	No No	1
CP-AC2A	CONDENSATE DRAIN PUMP	120 V	1	1.5 FLA	6B	44	15A-1P	(2)#12, #12G. IN 3/4" C.	No		No	No	No	1
CP-AC2B CP-AC2D	CONDENSATE DRAIN POMP	120 V 120 V	1	1.5 FLA	6B	43	15A-1P	(2)#12, #12G. IN 3/4" C. (2)#12, #12G. IN 3/4" C.	No	MC FURNISHED/EC INSTALLED	No	No	No	1
CP-AC2E CP-AC3A	CONDENSATE DRAIN PUMP CONDENSATE DRAIN PUMP	120 V 120 V	1	1.5 FLA 1.5 FLA	6B 6B	44 42	15A-1P 15A-1P	(2)#12, #12G. IN 3/4" C. (2)#12, #12G. IN 3/4" C.	No No	MC FURNISHED/EC INSTALLED MC FURNISHED/EC INSTALLED	No No	No No	No No	1
CP-AC4A CP-AC5A	CONDENSATE DRAIN PUMP CONDENSATE DRAIN PUMP	120 V 120 V	1	1.5 FLA 1.5 FLA	6B 6B	42 42	15A-1P 15A-1P	(2)#12, #12G. IN 3/4" C. (2)#12, #12G. IN 3/4" C.	No No	MC FURNISHED/EC INSTALLED MC FURNISHED/EC INSTALLED	No No	No No	No No	1
CP-AC6A	CONDENSATE DRAIN PUMP	120 V	1	1.5 FLA	6B	42	15A-1P	(2)#12, #12G. IN 3/4" C.	No		No	No	No	1
CP-AC7A CP-AC8A	CONDENSATE DRAIN POMP	120 V	1	1.5 FLA	6B	42 43	15A-1P	(2)#12, #12G. IN 3/4" C.	No	MC FURNISHED/EC INSTALLED	No	No	No	1
CP-AC9A CP-AC10A	CONDENSATE DRAIN PUMP CONDENSATE DRAIN PUMP	120 V 120 V	1 1	1.5 FLA 1.5 FLA	6B 6B	43 43	15A-1P 15A-1P	(2)#12, #12G. IN 3/4" C. (2)#12, #12G. IN 3/4" C.	No No	MC FURNISHED/EC INSTALLED MC FURNISHED/EC INSTALLED	No No	No No	No No	1
CP-AC11A CP-AC12A	CONDENSATE DRAIN PUMP CONDENSATE DRAIN PUMP	120 V 120 V	1	1.5 FLA 1.5 FLA	6B 6B	43 43	15A-1P 15A-1P	(2)#12, #12G. IN 3/4" C. (2)#12, #12G. IN 3/4" C.	No No	MC FURNISHED/EC INSTALLED	No No	No	No No	1
CP-AC13A	CONDENSATE DRAIN PUMP	120 V	1	1.5 FLA	6B	44	15A-1P	(2)#12, #12G. IN 3/4" C.	No		No	No	No	1
CP-AC14A CP-AC15A	CONDENSATE DRAIN POMP	120 V	1	1.5 FLA 1.5 FLA	6B	42 42	15A-1P	(2)#12, #12G. IN 3/4" C. (2)#12, #12G. IN 3/4" C.	No	MC FURNISHED/EC INSTALLED	No	No	No	1
CP-AC236 CP-FCU2A	CONDENSATE DRAIN PUMP CONDENSATE DRAIN PUMP	120 V 120 V	1 1	1.5 FLA 1.5 FLA	6B 6B	41 41	15A-1P 15A-1P	(2)#12, #12G. IN 3/4" C. (2)#12, #12G. IN 3/4" C.	No No	MC FURNISHED/EC INSTALLED MC FURNISHED/EC INSTALLED	No No	No No	No No	1
CP-FCU2B CP-FCU500	CONDENSATE DRAIN PUMP CONDENSATE DRAIN PUMP	120 V 120 V	1 1	1.5 FLA 1.5 FLA	6B PP-K(R)	41 39	15A-1P 15A-1P	(2)#12, #12G. IN 3/4" C. (2)#12, #12G. IN 3/4" C.	No No	MC FURNISHED/EC INSTALLED MC FURNISHED/EC INSTALLED	No No	No No	No No	1
CP-FCU501	CONDENSATE DRAIN PUMP	120 V	1	1.5 FLA	PP-K(R)	37	15A-1P	(2)#12, #12G. IN 3/4" C.	No		No	No	No	1
CP-UV1A CP-UV1B	CONDENSATE DRAIN POMP	120 V	1	1.5 FLA	6B	45	15A-1P	(2)#12, #12G. IN 3/4" C. (2)#12, #12G. IN 3/4" C.	No	MC FURNISHED/EC INSTALLED	No	No	No	1
CP-UV1C CP-UV1D	CONDENSATE DRAIN PUMP CONDENSATE DRAIN PUMP	120 V 120 V	1 1	1.5 FLA 1.5 FLA	6B 6B	14 45	15A-1P 15A-1P	(2)#12, #12G. IN 3/4" C. (2)#12, #12G. IN 3/4" C.	No No	MC FURNISHED/EC INSTALLED MC FURNISHED/EC INSTALLED	No No	No No	No No	1
CP-UV1E CP-UV1H	CONDENSATE DRAIN PUMP CONDENSATE DRAIN PUMP	120 V 120 V	1	1.5 FLA 1.5 FLA	6B B1P	45 36	15A-1P 15A-1P	(2)#12, #12G. IN 3/4" C. (2)#12, #12G. IN 3/4" C.	No No	MC FURNISHED/EC INSTALLED	No No	No	No No	1
CP-UV2A	CONDENSATE DRAIN PUMP	120 V	1	1.5 FLA	6B	41	15A-1P	(2)#12, #12G. IN 3/4" C.	No		No	No	No	1
CP-UV2B CP-UV2C	CONDENSATE DRAIN POMP	120 V	1	1.5 FLA 1.5 FLA	6B	41	15A-1P	(2)#12, #12G. IN 3/4" C.	No	MC FURNISHED/EC INSTALLED	No	No	No	1
CP-UV2D DOAS-8	CONDENSATE DRAIN PUMP ROOF TOP UNIT	120 V 480 V	1 3	1.5 FLA 10 MCA	6B MPH-1	<u>41</u> 2,4,6	15A-1P 15A-3P	(2)#12, #12G. IN 3/4" C. (3)#12, #12G. IN 3/4" C.	No No	MC FURNISHED/EC INSTALLED MC FURNISHED/EC INSTALLED	No No	No No	No No	1,2
EF-1A FF-1B	EXHAUST FAN FXHAUST FAN	120 V 120 V	1	9.8 FLA 13.8 FLA	LPE-10	9 20	20A-1P 20A-1P	(2)#12, #12G. IN 3/4" C. (2)#12, #12G. IN 3/4" C.	No No	MC FURNISHED/EC INSTALLED	No No	No	No No	1,2 1,2
EF-1C	EXHAUST FAN	120 V	1	5.8 FLA	6B	38	15A-1P	(2)#12, #12G. IN 3/4" C.	No		No	No	No	1
EF-10 EF-1E	EXHAUST FAN	120 V	1 1	5.8 FLA	6B	30 39	15A-1P 15A-1P	(2)#12, #12G. IN 3/4 C. (2)#12, #12G. IN 3/4" C.	No	MC FURNISHED/EC INSTALLED	No	No	No	1,2
EF-2A EF-2B	EXHAUST FAN EXHAUST FAN	120 V 120 V	1	9.8 FLA 9.8 FLA	LPE-10 B1L	5	20A-1P 20A-1P	(2)#12, #12G. IN 3/4" C. (2)#12, #12G. IN 3/4" C.	No No	MC FURNISHED/EC INSTALLED MC FURNISHED/EC INSTALLED	No No	No No	No No	1,2 1,2
EF-2C FCU-2A	EXHAUST FAN FAN COIL UNIT	120 V 208 V	1	9.8 FLA 3.8 MCA	B1L	32 4.6	20A-1P 15A-2P	(2)#12, #12G. IN 3/4" C. (2)#12, #12G. IN 3/4" C.	No No	MC FURNISHED/EC INSTALLED	No No	No	No No	1,2 1
FCU-2B	FAN COIL UNIT	208 V	1	3.8 MCA	LPE-10	4,6	15A-2P	(2)#12, #120. IN 3/4" C.	No		No	No	No	1
FCU-500 FCU-501	FAN COIL UNIT	208 V	ı 1	.0 FLA .6 FLA	PP-K(R)	38,40 38,40	15A-2P 15A-2P	( <i>2)</i> #12, #12G. IN 3/4" C. (2)#12, #12G. IN 3/4" C.	No	MC FURNISHED/EC INSTALLED	No	NO NO	NO	1
HV-2 HVAC-1	INDOOR UNIT ROOF TOP UNIT	480 V 480 V	3 3	28 MCA 28 MCA	MPH-1 MPH-1	14,16,18 19,21,23	40A-3P 40A-3P	(3)#6, #10G. IN 1" C. (3)#6, #10G. IN 1" C.	No No	MC FURNISHED/EC INSTALLED MC FURNISHED/EC INSTALLED	No No	No No	No No	1,2 1,2
HVAC-7 HVAC-9	ROOF TOP UNIT	480 V 480 V	3	28 MCA 13 MCA	MDB1-HS-HV MPH-1	2 7.9.11	40A-3P 15A-3P	(3)#6, #10G. IN 1" C. (3)#12, #12G_IN 3/4" C	No	MC FURNISHED/EC INSTALLED	No	No No	No	1,2 1,2
HVAC-10	ROOF TOP UNIT	480 V	3	22 MCA	MPH-1	13,15,17	30A-3P	(3)#10, #10G. IN 3/4" C.	No		No	No	No	1,2
HVAC-11 HVAC-12	ROOF TOP UNIT	480 V 480 V	3 3	38 MCA	אַטאיו-HS-HV MPH-1	ı 8,10,12	50A-3P	(3)#6, #10G. IN 1" C.	NO NO	MC FURNISHED/EC INSTALLED	No	NO NO	NO	1,∠ 1,2
REF-1 UV-1A	EXHAUST FAN UNIT VENTILATOR	120 V 208 V	1 1	5.8 FLA 6.8 FLA	6B	<unnamed> 35,37</unnamed>	20A-1P 15A-2P	(2)#12, #12G. IN 3/4" C. (2)#12, #12G. IN 3/4" C.	No No	MC FURNISHED/EC INSTALLED MC FURNISHED/EC INSTALLED	No No	No No	No No	1
UV-1B	UNIT VENTILATOR	208 V 208 V	1	3.3 FLA 2.6 FLA	6B 6B	35,37 34,36	15A-2P 15A-2P	(2)#12, #12G. IN 3/4" C. (2)#12, #12G. IN 3/4" C.	No	MC FURNISHED/EC INSTALLED	No	No No	No	1
UV-1D		208 V	1	2.3 FLA	6B	31,33	15A-2P	(2)#12, #12G. IN 3/4" C.	No	MC FURNISHED/EC INSTALLED	No	No	No	1
UV-1E UV-1F	UNIT VENTILATOR	208 V 208 V	ı 1	2.3 FLA 3.3 FLA	ы B1L	28,30	15A-2P 15A-2P	( <i>2)</i> #12, #12G. IN 3/4" C. (2)#12, #12G. IN 3/4" C.	NO NO	MC FURNISHED/EC INSTALLED	NO	NO NO	NO NO	1
UV-1G UV-1H	UNIT VENTILATOR UNIT VENTILATOR	208 V 208 V	1 1	3.3 FLA 3.3 FLA	B1L 6B	28,30 35,37	15A-2P 15A-2P	(2)#12, #12G. IN 3/4" C. (2)#12, #12G. IN 3/4" C.	No No	MC FURNISHED/EC INSTALLED MC FURNISHED/EC INSTALLED	No No	No No	No No	1
UV-2A	UNIT VENTILATOR	208 V 208 V	1	.1 MCA	LPE-10	4,6 4.6	15A-2P	(2)#12, #12G. IN 3/4" C.	No		No	No No	No	1
UV-2C		208 V	1	.1 MCA	LPE-10	4,6	15A-2P	(2)#12, #12G. IN 3/4" C.	No	MC FURNISHED/EC INSTALLED	No	No	No	1
UV-2D	UNIT VENTILATOR	208 V	1	.1 MCA	LPE-10	4,6	15A-2P	(2)#12, #12G. IN 3/4" C.	No	MC FURNISHED/EC INSTALLED	No	No	No	1

NOTES: 1. DISCONNECTS, COMBINATION STARTERS, VFDS TO BE MC FURNISHED/EC INSTALLED. 2. PROVIDE FIRE SHUT DOWN AND DUCT SMOKE DETECTOR WITH REMOTE TEST STATION. CONNECT TO EXISTING FIRE ALARM SYSTEM.

	Location: ELE Supply From: Mounting: REC	3	Volts: 120/208 Wye Phases: 3 Wires: 4						A.I.C. Rating: Mains Type: 400 MLO Mains Rating: 400 A				
скт	Circuit Description	Trip	Poles		A		8		C	Poles	Trip	Circuit Description	СК
1	LTG GALLERY 501B	20 A	1	1662.2 VA	- 892.2 VA		_			1	20 A	LTG RM 111A, 111B, 111C, 111D, 107,	2
3	CORRIDOR LTG	20 A	1			1088.2 VA	1497.8 VA			1	20 A	LTG RM 118, 5, 6, 7, 8, 9, 10, 11, 12, 13,	4
5	LTG - RM 168	20 A	1					1533.3 VA	1657.8 VA	1	20 A	LTG - CIRCULAR IN 168	6
7	LTG - 115, 116, 117, 119,	20 A	1	1177.8 VA	1454.9 VA	N I I I I I I I I I I I I I I I I I I I				1	20 A	Other	8
9	LTG - RM 168	20 A	1			1688.3 VA	906.7 VA			1	20 A	LTG - RM 168	10
11	LTG - RM 168	20 A	1					672.8 VA	634.6 VA	1	20 A	LTG CORRIDOR B	12
13	LTG 113	20 A	1	946 VA	1393.4 VA	N I I I I I I I I I I I I I I I I I I I				1	20 A	LTG RM 168, 20, 164, 165, 117	14
15	LTG - RM 160, 159, 157	20 A	1			788.6 VA	1735.7 VA			1	20 A	LTG RM 121, 121A, 120, 120A	16
17													18
19													20
21													22
23													24
25													26
27													28
29													30
31													32
33													34
35													36
37													38
39													40
41		Tata		044	7 \ / A	700		440					42
		Total	Amps:	644 <i>1</i> 56	A	66	3 VA 3 A	37	0 VA 7 A				
Load C	lassification		Со	nnected Lo	ad	Demand Fa	ctor	Estimated I	Demand			Panel Totals	
_ighting				12651 VA		100.00%	)	12651	VA				
Other				5895 VA		100.00%	)	5895 \	VA		Т	otal Conn. Load: 18324 VA	
											Тс	tal Est. Demand: 18324 VA	
											Tot	al Conn. Current: 51 A	
										Tota	l Est.	Demand Current: 51 A	



































































































# 6 EXISTING ELEVATION @ 217 SINK SCALE: 1/2" = 1'-0"





 EXISTING CONSTRUCTION TO BE REMOVED. PATCH ALL SURFACES AFFECTED BY DEMOLITION WORK. COORDINATE EXTENT OF DEMOLITION WORK WITH PROPOSED CONSTRUCTION.
EXISTING FLOOR SLAB TO BE SAWCUT TO ACCOMMODATE NEW UNDER SLAB UTILITIES AND MODIFICATIONS. REFER TO TYPICAL SAWCUT DETAIL FOR ADDITIONAL INFORMATION.

#### **DEMOLITION AND REMOVAL NOTES:**

















C.M.U		CARPET	EPOXY		EPOXY	TERRAZZO	NA	
	CONCRETE	MASONRY UNIT	GTW		GLAZED TILE	WAINSCOT	NIC	
CONC		CONCRETE	GYP		GYPS	SUM BOARD	PCB	
				$\overline{}$	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	$\sim$		$\gamma \gamma \gamma \gamma \gamma \gamma \gamma$
						DOOI	R SCHEDULE - TOI	DD ELEMENT
FROM RC	LOCATION OM TO ROOM	SIGNAGE	LEAF WIDTH	HEIGHT	DOOR THICKNESS TYPE	MATERIAL G	LAZING TYPE	FRAME MATERIAL
A LOBBY (1 A NURSE (1	00)         TOILET (43)           03)         NURSES TOILET (1)	D2 103a) D2	1 3' - 0" 1 3' - 0"	7' - 0" 7' - 0"	1 3/4"         D1           1 3/4"         D1	WD WD		
		S 22 AND 23	~ ~ ~ ~ ~ ~ ~	~~~~~				~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
				FIN	IISH SCHEDULE			
I. NO. LOCA	TION	FLOOR FINISH	BASE	FINISH	WALI	S	CEILING	
GIRI	_S VCT1	VCT1 VCT1	RUBBER BASE	RCB2 RCB2	CERAMIC TILE/PAINTED	CT3 CT3	ACT1	
NURSE	(103) VCT1	VCT1	RUBBER BASE	RCB2	CERAMIC TILE/PAINTED	CT3	ACT1	
		VCIT	RUBBER BASE	RUBZ	CERAMIC TILE/PAINTED	013	ACTI	
FIN I. ALL FINISH TYPES ( TO THE STANDARD	ISH NOTES STYLE/COLOR/PATTERN) SHALL ( OF QUALITY INDICATED BY THE F	CONFORM PROJECT	WALL TYPES	<u>S:</u>				
MANUAL. FINAL ST ARCHITECT. ALL CMU SURFACE EXTERIOR BLOCK F	YLE/COLOR/PATTERN TO BE SELI	ECTED BY OR & ANCE BY	TYPE P1: PAIN LATE COLO	T BY SHERWIN W X EGGSHELL ENA DR: AS SELECTED	ILLIAMS AMEL 9 BY ARCHITECT	TYPE P2:	PAINT BY SHERWIN W LATEX EGGSHELL EN COLOR: AS SELECTE	VILLIAMS IAMEL D BY ARCHITECT
BENJAMIN MOORE. ALL WINDOWS IN A OR BLINDS SUPPLII UNIT. G.C. SHALL S	PRIOR TO FINISH PAINT APPLICA REA OF WORK ARE TO HAVE NEW ED AND INSTALLED BY GC, (1) PER SUBMIT SHOP DRAWINGS FOR AP	V SHADES R WINDOW PROVAL.	TYPE CT1: 4" X 4 MANU COLLI	" CERAMIC WALL IFACTURER: CREA ECTION: MOSA	TILE ATIVE MATERIAL CO.	TYPE CT2:	4" X 4" CERAMIC WAL MANUFACTURER: CR COLLECTION: MOSA	
NEW AND EXISTING WORK SHALL BE PF MOORE' LATEX SEN SELECTED BY ARC	G DOOR FRAMES ASSOCIATED IN REPPED AND PAINTED WITH 'BEN MI-GLOSS PAINT BY GC. COLOR A HITECT. PI ANS FOR THE PATTERNS	SCOPE OF JAMIN AS	(WHIT <u>NOTE:</u> GROUT FOR C SPACED AT 1/8" UNLE	E MATTE) T1 TO BE CUSTON SS OTHERWISE I 24" CERAMIC FLO	A - #381 BRIGHT WHITE. NOTED.	NOTE: GROUT SPACED AT 1/8	(ORANGE) FOR CT1 TO BE CUSTO " UNLESS OTHERWISE	M - #381 BRIGHT NOTED.
G.C. SHALL PREP/P ENCLOSURES (INS <sup>-</sup> ARCHITECT.	RIME AND PAINT ALL SHEET MET, FALLED BY MC). COLOR AS SELEC	AL PIPE CTED BY	TYPE CT3: MANU COLLI COLO (BEIG NOTE: GROUT FOR C	IFACTURER: CRE/ ECTION: FRAMME R: BEIGE MACRO E TERRAZZO) T3 TO BE CUSTON	ATIVE MATERIAL CO. NTO - NATURAL - RECTIFIED // - #380 HAYSTACK.			
BEFORE PAINTING, DAYS, BLOCK AND DAYS.	CONCRETE SURFACES MUST CU PLASTER SURFACES MUST CURE	JRE 30 FOR 30	SPACED AT 1/16" UNL		NOTED.		······	<u> </u>
ALL NEW WOOD WI RECEIVE A "STAINE 'BENWOOD' POLYU 'BENJAMIN MOORE SELECTED BY ARC	NDOW SILLS, MOLDING AND TRIM D" FINISH AND RECEIVE (3) COAT RETHANE FINISH LOW LUSTER NO OR APPROVED EQUAL. STAIN CO HITECT. GC SHALL SUBMIT PHYS	1 SHALL TS OF D. 435 BY OLOR AS SICAL	RUBBER BAS	SE TYPE	<u>6:</u>			
COLOR SAMPLE FC ALL FINISHES SHAL UNLESS OTHERWIS FOR ADDITIONAL IN ALL INTERIOR FINIS RATED	R REVIEW AND APPROVAL. L BE PROVIDED AND INSTALLED I E NOTED. REFER TO SPEC SECT IFORMATION. SHES IN CORRIDOR SHALL BE CLA	BY GC FION 09900 ASS 'A'	TYPE RCB1: R c ((	UBBER COVE BA OLOR AS SELECT CORRIDORS)	SE BY "JOHNSONITE" "ED BY ARCHITECT	TYPE RCB	2: RUBBER COVE E	BASE BY "JOHNS
. PATCH, REPAIR AN POINTS OF DEMOLI EXISTING FINISHES	D FINISH CEILING, WALLS, AND FL TION TO MATCH EXISTING ADJAC TO REMAIN.	LOOR @ CENT.	CEILING TILE	E TYPES:				
2. SHOULD ANY FINIS MANUFACTURER, G AT NO ADDITIONAL APPROVAL PRIOR	H MATERIALS BE DISCONTINUED C MUST REPLACE WITH CLOSES COST, AND SUBMIT TO ARCHITE O INSTALLATION.	BY T MATCH CT FOR	TYPE ACT1: ACO SIZE STY	USTIC CEILING TI :: 24" X 24" X 3/4" E:: #1911 ULTIMA	LE BY "ARMSTRONG" BEVELED TEGULAR	TYPE ACT2:	ACOUSTIC CEILING T SIZE: 24" X 24" X 5/8" STYLE: # 770 CORTEC (STORAGE ROOMS/C)	ILE BY "ARMSTR( GA SQUARE LAY- USTODIAL)
3. REFER TO REFLEC PLANS FOR ADDITIO	TED CEILING PLANS AND FINISH F DNAL INFORMATION.							,
<ol> <li>DOOR FRAMES TO COLOR AS SELECT</li> <li>G.C. SHALL PREP. F UNLESS OTHERWIS WHITE- FLAT FINIS</li> </ol>	BE PREPPED & PAINTED AS PER S ED BY ARCHITECT. PRIME & PAINT SHEETROCK CEILI SE NOTED FINISH AS PER SPEC. C 1.	SPEC. INGS COLOR:	CEILING GRID: CE 15 <u>NOTE:</u> ALL CEILING TILI UNI ESS OTHERWISE N	EILING GRID BY "A /16" PRELUDE, WI E & GRID TO BE W	ARMSTRONG", HITE, U.O.N. /HITE			
6. REFER TO FINISH F TILE PATTERNS MA TO BE DESIGNED, I BID SHALL BE BASE	LOOR PLANS FOR TILE PATTERN Y NOT REPRESENT THE FINAL PA NSTALLED & TURNED OVER TO O D ON THE TILE MIX & PERCENTA	S - THE ATTERNS WNER. THE AGES, AS					······································	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
INDICATED IN THE I	PROJECT MANUAL. TED CEILING PLANS, TOILET ROO	M TILE					12" X 2/" CEDANALO EL C	)OR TIL E
PLANS, AND FINISH INFORMATION. 8. GENERAL CONTRA ACCORDANCE WITI TO INSTALLATION (	ED FLOOR PLANS FOR ADDITION, CTOR SHALL PERFORM A BOND T H MANUFACTURERS SPECIFICATI OF NEW V.C.T. FLOORING,	AL FINISH EST IN ONS PRIOR	MANUF IMPERI COLOR (CLASS	ACTURER: ARMS AL' : AS SELECTED B ROOMS, CORRID	Y ARCHITECT	NOTE: ALL GROU	MANUFACTURER: CRE COLLECTION: FRAMME COLOR: BEIGE MACRC (BEIGE TERRAZZO) JT FOR FLOORS TO BE	ATIVE MATERIAL ENTO ) - NATURAL - RE CUSTOM - #380
9. CONTRACTOR SHA OR APPROVED EQU SLAB TO PROVIDE MANUFACTURERS	LL INSTALL PLANI/PATCH PLUS BY JAL OVER SUBSTRATE AND/OR C A FLOOR SURFACE IN ACCORDAN WRITTEN INSTRUCTIONS AND AS	Y 'MAPEI' CONCRETE NCE WITH SPECIFIED			{	SPACED AT 1/16	UNLESS OTHERWISE	NOTED.
FOR INSTALLATION	OF NEW FINISH FLOOR MATERIA	ALS.						





#### ..WOOD ...WALK OFF MAT

....SLIP-RESISTANT FLOORING

### NOTES:

- 1. ALL DOORS, FRAMES AND HARDWARE SHALL BE PROVIDED AND INSTALLED BY GENERAL CONTRACTOR UNLESS OTHERWISE NOTED. 2. GENERAL CONTRACTOR SHALL COORDINATE ALL KEYING WITH OWNER.
- ALL FIRE RATED WOOD DOORS SHALL HAVE SOLID MINERAL CORE, ALL OTHER WOOD DOORS SHALL HAVE SOLID COMPOSITE LUMBER CORE.
- 4. FLUSH WOOD DOORS SHALL BE 5 PLY LAMINATED FACE SHEETS WITH 2 PLY FINISH VENEER OVER SPECIFIED CORE. AT FIRE RATED DOORS, TOP AND BOTTOM RAILS AND STILES SHALL BE FIRE RESISTANT COMPOSITION MATERIAL BONDED TO CORE. REFER TO SPECIFICATION SECTION 08211 FOR ADDITIONAL INFORMATION.
- ALL GLAZING IN DOORS SHALL BE INSTALLED IN METAL VISION KIT TO MATCH FIRE LABEL. VISION KIT COLOR SHALL BE AS SELECTED BY ARCHITECT.
- ALL NEW H.M. FRAMES SHALL BE WRAP AROUND TYPE (UNLESS OTHERWISE NOTED OR DETAILED). THROATS SHALL BE SIZED ACCORDING TO WALL THICKNESS AND FINISH, REFER TO FLOOR PLAN AND ENLARGED DETAILS FOR ADDITIONAL INFORMATION.
- NEW DOOR OPERATOR, LOCKSET LATCH, HINGES, DOOR SWING AND/OR CLOSER, ETC. AS REQUIRED FOR COMPLETE AND FUNCTIONAL OPERATION.
- 8. GENERAL CONTRACTOR IS RESPONSIBLE FOR VERIFYING HEIGHT AND WIDTH OF PROPOSED DOORS TO BE INSTALLED IN EXISTING FRAMES (PRIOR TO SHOP DRAWING SUBMITTAL) TO ENSURE PROPER FIT AND DOOR FUNCTION.
- 9. ALL NEW HOLLOW METAL FRAMES AND HOLLOW METAL DOORS SHALL BE FINISH PAINTED. COLOR AS SELECTED BY ARCHITECT.
- 10. GENERAL CONTRACTOR SHALL PROVIDE AND INSTALL A.D.A. ACCESSIBLE SIGNAGE AT ALL DOORS (WHERE SPECIFIED IN DOOR SCHEDULE AND/OR SHOWN ON FLOOR PLANS) AND INSTALLED IN CONFORMANCE WITH ALL A.D.A. REQUIREMENTS. ▼ A. WHERE DENOTED IN SCHEDULE, PROVIDE 4"x4" SIGNAGE WITH BRAILLE INDICATING ROOM NUMBER (COORD. WITH OWNER),
  - MODEL E-BTCUST. ▼ B. WHERE DENOTED IN SCHEDULE, PROVIDE 4"x12" SIGNAGE WITH BRAILLE INDICATING ROOM NAME AND NUMBER (COORD.
  - WITH OWNER), MODEL E-BTCUST. ▼ C. WHERE DENOTED IN SCHEDULE, PROVIDE 8"x8" SIGNAGE WITH BRAILLE INDICATING GENDER AND WHEELCHAIR PICTOGRAMS AND ROOM NAME AT MULTI-USE TOILET ROOMS. - AT MULTI-USE TOILET ROOMS, PROVIDE AND INSTALL MODEL No. X-5687 (WOMEN), X-5672 (MEN), X-7095 (BOYS), X-7096
  - (GIRLS) - AT MULTI-USE ACCESSIBLE TOILET ROOMS, PROVIDE AND INSTALL MODEL No. X-5688 (WOMEN), X-5671 (MEN), X-7108 (BOYS), X-7107 (GIRLS)
- ▼ D. WHERE DENOTED IN SCHEDULE, PROVIDE 6"x9" SIGNAGE WITH BRAILLE INDICATING GENDER AND WHEELCHAIR PICTOGRAMS AND ROOM NAME AT SINGLE-USE TOILET ROOMS. - AT SINGLE-USE TOILET ROOMS, PROVIDE AND INSTALL MODEL No. E-BTCUST. SIGN SHALL SPECIFY STAFF OR STUDENT USE, IF REQUIRED. - AT SINGLE-USE ACCESSIBLE TOILET ROOMS, PROVIDE AND INSTALL MODEL No. E-BTCUST. SIGN SHALL SPECIFY STAFF OR STUDENT USE, IF REQUIRED
- MANUFACTURER: "ALLSTATE SIGN AND PLAQUE" (REFER TO DOOR SCHEDULE AND FLOOR PLANS FOR SIGN TYPE AND LOCATION). ALL SIGNAGE SHALL BE SUBMITTED TO ARCHITECT FOR REVIEW AND APPROVAL. 11. ALL REMOVABLE MULLIONS ARE TO BE KEYED ALIKE AND TO MATCH EXISTING BUILDING SYSTEM.
- 12. GLAZING WITH SURFACE APPLIED FILMS WILL NOT BE CONSIDERED EQUIVALENT WHERE LAMINATED FILM IS SPECIFIED.



DOOR PLACEMENT DETAILS

LATCH SIDE OF

DOOR, TYP. -

TYPICAL ADA SIGNAGE DETAILS

— DOOR., SEE SCHEDULE. + + SIGN., SEE SCHEDULE. CHARACTER PER ANSI 117.1-703.5 ▶200 ₹ **BRAILLE PER** ANSI 117.1-703.4 -SIGN TYPE 'A' (REF. ADAAG 703. 4. 1) 1' - 0" CHARACTER PER SIGNS SHALL BE PROVIDED AND LOCATED AS REQUIRED BY CURRENT ANSI 117.1-703.5 -**—** 200 EDITIONS OF THE INTERNATIONAL BUILDING CODE AND REFERENCE SCIENCE **BRAILLE PER** STANDARD ICC ANSI 117.1 AND THE PROJECT MANUAL. ANSI 117.1-703.4 -LOCATIONS SHALL INCLUDE, BUT NOT LIMITED TO: ACCESSIBLE BUILDING ENTRANCES, AREAS OF REFUGE, OFFICES, CLASSROOMS, TOILETS, SIGN TYPE 'B' STAIRWAYS, ELEVATORS AND AS INDICATED ON DRAWINGS. SIGNS SHALL COMPLY WITH ICC ANSI A117.1-2017 OR CURRENT EDITION AND SIGNAGE FOR ALL SINGLE OCCUPANCY TOILET FACILITIES SHALL FOLLOW EDUCATION LAW TITLE 1, ARTICLE 9 SECTION 409-m, EFFECTIVE MARCH 2021.











F1 FRAME TYPES

2" DOOR 2

WIDTH

SCALE: 1/4" = 1'-0"



18" MIN

+ +

SECTION 10441 OF THE PROJECT MANUAL.

CENTERED ON TACTILE

CHARACTERS (REF. ADAAG 703. 4. 2)

NOTES:





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PROPOSED CEILING PI SCALE: 1/4" = 1'-0"

2 PROPOSED CEILING PLA SCALE: 1/4" = 1'-0"

	<ul> <li>FS-635 TROWEL ABLE COMPOUND, AS SUITABLE.</li> <li>4. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OF PRODUCTS TO BE USED FOR APPROVAL BY ARCHITECT.</li> <li>5. FIRESTOP MATERIALS OTHER THAN HILTI SHALL INCLUDE FULL TECHNICAL DATA WITH SHOP DRAWINGS TO DEMONSTRATE EQUALITY WITH THE SPECIFIED FIRE STOPS.</li> </ul>
LET NEAR ROOM 125 8'- 0'/ ACTI	STORAGE 20
NURSES TOILET 8' - 0"/ ACT1	BOOK ROOM 1 GIRLS 22 EQ EQ EQ EQ EQ EQ EQ EQ EQ EQ
AN @ NURSES TOILET ROOM 1	PROPOSED CEILING PLAN @ TOILET ROOMS 22 & 23

FIRE STOP/ACOUSTICAL SEALING NOTES
ALL PIPING PENETRATIONS THROUGH CORRIDOR WALLS AS WELL AS ALL FIRE RATED WALLS (SUCH AS STORAG ROOMS, CLOSETS, BOILER ROOMS, ETC) AND ALL OTHER FIRE RATED FLOORS OR STRUCTURES SHALL BE FIRE STOPPED.

- AGE
- 2. ALL PENETRATIONS THROUGH ALL OTHER WALLS, FLOORS, ETC. (I.E. CLASSROOMS AND LIBRARIES) SHALL BE ACOUSTICALLY SEALED IN ACCORDANCE WITH ANSI \$12.60-2002 REQUIREMENTS. THE SEALANT MATERIALS SHALL

BE " SPEC-SEAL, SMOKE AND SOUND ACOUSTIC SEALANT" AS MANUFACTURED BY STI, OR ARCHITECT APPROVED

3. THE FIRE STOP MATERIALS SHALL BE HILTI TYPE FS-657 FIRE BLOCK, FS-ONE SEALANT, CP-672 JOINT SPRAY, CP-601S ELASTOMERIC SEALANT, 6P-606 FLEXIBLE SEALANT, CP-643 OR CP-642 COLLAR, CP-618 PUTTY STICK, OR

EQUAL. SEALANT SHALL MEET ASTMC919 FOR SEALANTS IN ACOUSTICAL APPLICATIONS.

11. UNLESS OTHERWISE NOTED, ALL SOFFITS AND WINDOW POCKETS SHALL BE 5/8" TYPE 'X' GYP. BOARD OVER 18 GA.

X'-X"/ATX	
NO CEILING (CLG)	OPEN TO STRUCTURE AND DECK ABOVE - PAINT (G.C.)
	NEW SUSPENDED ACOUSTICAL CEILING AND GRID - SEE FINISH SCHEDULE (G.C.)
	EXISTING SUSPENDED ACOUSTICAL CEILING AND GRID
	GYPSUM BOARD SOFFIT OVER METAL FRAMING - TAPE, SPACKLE & PAINT (G.C.)
	RECESSED OR SURFACE MOUNTED LIGHT FIXTURE BY E.C. REFER TO ELECTRICAL DRAWINGS FOR INFO. (E.C.)
$\bigotimes$	EXIT SIGN. REFER TO ELECTRICAL DWGS. FOR ADDITIONAL INFO. (E.C.)
SPKR.	CEILING MOUNTED SPEAKER. REFER TO ELECTRICAL DWGS. FOR ADDITIONAL INFO. (E.C.)
$\langle S \rangle \langle H \rangle$	SMOKE/HEAT DETECTORS. REFER TO ELECTRICAL DWGS. FOR ADDITIONAL INFO. (E.C.)
OS	OCCUPANCY SENSOR. REFER TO ELECTRICAL DWGS. FOR ADDITIONAL INFO. (E.C.)
	CEILING GRILLE/REGISTER. REFER TO MECHANICAL DWGS. FOR ADDITIONAL INFO (M.C.)

SYMBOL LEGEND

ROOM TAG, CEILING TILE TYPE and FINISH CEILING ELEVATION (ABOVE FINISH FLOOR)

## TYPICAL REFLECTED CEILING NOTES

LAY-IN PANELS" REQUIREMENTS.

OTHERWISE REQUIRED.

DUCTWORK, ETC.

NAME No.

2. ALL FIXTURES SHALL BE CENTERED WITHIN THE GRID, U.O.N.

16" x 16" ACCESS PANEL

- 3. SUPPORT OF ALL ARCHITECTURAL COMPONENTS (I,E, HUNG CEILING SYSTEMS, GRIDS, ETC.) SHALL BE INSTALLED

TO WITHSTAND SEISMIC LOADS IN ACCORDANCE WITH THE IBC SECTION 1621, FOR SEISMIC DESIGN CATEGORY 'B' AND IMPORTANCE FACTOR 1.0. BASED UPON THE ABOVE, NO SPECIFIC SEISMIC RESTRAINTS ARE REQUIRED.

4. ALL ACOUSTICAL HUNG CEILING GRID SYSTEMS SHALL BE INSTALLED IN CONFORMANCE WITH ASTM, C636 "STANDARD PRACTICE FOR INSTALLATION OF METAL CEILING SUSPENSION SYSTEMS FOR ACOUSTICAL TILE AND

5. ACOUSTICAL CEILINGS SHALL HAVE A FLAME SPREAD OF 25 OR LESS COMPLYING WITH 'ASTM E-84'; SMOKE DEVELOPED RATING OF 50 OR LESS COMPLYING WITH PERFORMANCE REQUIREMENTS AND PHYSICAL

6. ACOUSTICAL CEILINGS SHALL HAVE A MINIMUM NOISE REDUCTION COEFFICIENT (NRC) RATING OF 0.65.

CHARACTERISTICS OF THE SPECIFIED CEILINGS AS INDICATED IN THE REFLECTED CEILING PLAN. (ASTM E-1264)

ALL LIGHTING FIXTURES REMAIN EXCEPT WHERE NOTED. ELECTRICAL CONTRACTOR TO DE-ENERGIZE DURING DEMOLITION AND INSTALLATION OF NEW CEILING. ELECTRICAL CONTRACTOR TO RE-INSTALL ALL OTHER ELECTRICAL DEVICES ( SPEAKERS, SMOKE DETECTORS, FIRE ALARM STROBES, ETC. ) WHETHER NOTED ON PLAN

9. PROVIDE CEILING EXPANSION JOINT AT ALL NEW TO EXISTING INTERACTIONS AND WHERE INDICATED ON PLAN.

10. ALL AREAS NOTED AS 'OPEN' AND/OR 'NO CEILING (CLG)' SHALL BE PAINTED. (INCLUDING DECK, STRUCTURE,

- MECHANICAL DRAWINGS FOR ADD'L INFO.

OR NOT. REFER TO ELECTRICAL DRAWINGS FOR ADD'L INFO.

REFER TO WALL SECTIONS AND SPECIFICATIONS.

COLD FORMED FRAMING AT 16" O.C.

- 1. CEILING PLANS MAY NOT INDICATE ALL MECHANICAL AND/OR ELECTRICAL CEILING ITEMS, REFER TO ELECTRICAL &

