ADDENDUM ISSUED BY

ABHA Architects, Inc.
1621 N. Lincoln Street
Wilmington, Delaware 19806

NOTICE: Attach this Addendum to the Project Manual for this project. It modifies and becomes a part of the Contract Documents. Work or materials not specifically mentioned herein are to be as described in the main body of the Specifications and as shown on the Drawings.

Acknowledge recipe of the Addendum in the spaced provided on the Bid Form. This Addendum is being transmitted to all contractors who have received Contract Documents. If there are any problems with legibility or content, please contact ABHA Architects, Inc. (302) 658-6426.

CHANGES TO PROJECT MANUAL

SECTION 08 71 01 - DOOR HARDWARE
Delete Section and replace with new section of the same name and renumbered 08 71 02, included in this addendum.

SECTION 08 71 02 - DOOR HARDWARE
Add new section included in this addendum.

SECTION 08 80 00 - GLAZING

Page 1, Article 2.01, Paragraph B and C:
Change to read:

B. Glass Type 1: Float Glass: All glazing is to be float glass unless otherwise indicated.
   1. Fully Tempered Types: ASTM C1048.
   2. Thickness: 1/4 inch.

C. Glass Type 2: Fire-Protection-Rated Glazing:
   1. IBC Fire Protection Rating: D-H-45 or OH-45 or W-60, minimum.
   2. Provide products listed by Underwriters Laboratories or Intertek Warnock Hersey.
   3. Products:
      a. SCHOTT North America Inc; Pyran Platinum L (laminated) Fire Rated Ceramic Glass.
      b. Vetrotech Saint-Gobain North America;.
      e. Minimum Roof Slope: 1/2 inch in 12 inches.

SECTION 08 92 00 – LOUVERED EQUIPMENT ENCLOSURES
Delete section.

SECTION 23 03 00 – VIBRATION AND SOUND ISOLATION
Page 1, Article 1.2, Paragraph A, Item 4:
Change to read:

4. Equipment

SECTION 23 03 00 – VIBRATION AND SOUND ISOLATION
Page 3, Article 2.2, Paragraph D:
Change to read:

D. Equipment Lagging

SECTION 23 06 00 – AIR DISTRIBUTION & ACCESSORIES - HVAC
Page 1, Article 1.2, Paragraph A:
Remove Item 3:

3. Double Wall Ductwork – Square and Rectangular

SECTION 23 06 00 – AIR DISTRIBUTION & ACCESSORIES - HVAC
Page 4, Article 2.3:
Remove Article:

2.3 Double Wall Ductwork – Square and Rectangular

CHANGES TO DRAWINGS

G-001 Cover Sheet: Replace drawing list with attached.

A-002 Partition Schedule: Replace sheet with attached.

A-112 Mezzanine:
Change Partition Tags “G3” & “G4”to “G5”

M-111 Second Floor Mechanical Plans:
Remove SAU-7 from the vertical duct. Refer to sketch M-700.
Relocate SAU-2 to 24” below elbow. Refer to sketch M-700.
Add note and indicate location of ductwork to be 16 gauge construction. Refer to sketch M-700.

M-112 Mezzanine Mechanical Plans:
Relocate SAU-2 to 24” below elbow. Refer to sketch M-701.
Remove SAU-9 from return duct of RTU-3. Refer to sketch M-701.
Add SAU-7 to elbow of return duct for RTU-3. Refer to sketch M-701.
Add SAU-8 to elbow of supply duct for RTU-3. Refer to sketch M-701.
Revise note for shaded ductwork. Refer to sketch M-701.
Remove shading to 24”x44” (RA) duct. Refer to sketch M-701.
Add note and indicated location of ductwork to be 16 gauge construction. Refer to sketch M-701.

M-113 Catwalks 7 Roof Mechanical Plans:
Remove SAU-9 from Section ‘C-C’. Refer to sketch M-702.
Remove SAU-8 from return duct of RTU-3. Refer to sketch M-702.
Remove shading and shading note from Auditorium ductwork. Refer to sketch M-702.
Add note and indicated location of ductwork to be 16 gauge construction. Refer to sketch M-702.

M-301 Mechanical Schedules:
Revise “Sound Attenuating Unit Schedule”. Refer to sketch M-703.

DRAWING LIST

Sheet Number	Sheet Name
GENERAL	
G-001	COVER SHEET
G-101	CODE REVIEW
G-111	CODE REVIEW PLAN - SECOND FLOOR
G-112	CODE REVIEW PLAN - MEZZANINE
G-113	CODE REVIEW PLAN - THIRD FLOOR
STRUCTURAL	
S-001	STRUCTURAL NOTES, SCHEDULES & ABBREVIATIONS
S-101	FOUNDATION PLAN
S-102	LOW ROOF/ MEZZANINE/ STADIUM SEATING FRAMING PLAN
S-102A	MEZZANINE FRAMING PLANS - ENLARGED
S-103	LOW ROOF/ MEZZANINE/ CATWALK FRAMING PLAN
S-104	ROOF FRAMING & GRID-IRON FRAMING PLANS
S-105	SECTIONS
S-106	SECTIONS
S-107	SECTIONS
S-108	SECTIONS
S-109	SECTIONS
ARCHITECTURAL	
A-001	GENERAL NOTES, SYMBOLS, & ABBREVIATIONS
A-002	PARTITION SCHEDULE
A-101	SECOND FLOOR DEMOLITION PLAN
A-102	MEZZANINE DEMOLITION PLAN
A-103	THIRD FLOOR DEMOLITION PLAN
A-104	ROOF DEMOLITION PLAN
A-111	SECOND FLOOR PLAN
A-112	MEZZANINE
A-113	THIRD FLOOR PLAN
A-114	ROOF PLAN
A-121	SECOND FLOOR REFLECTED CEILING PLAN
A-122	MEZZANINE REFLECTED CEILING PLAN
A-201	BUILDING ELEVATIONS
A-301	BUILDING SECTIONS
A-311	WALL SECTIONS
A-312	VESTIBULE 236 ENLARGED PLANS & WALL SECTION
A-313	VESTIBULE 237 ENLARGED PLANS & WALL SECTION
A-401	ENLARGE DRESSING ROOM PLANS, ELEVATIONS AND DETAILS
A-402	ENLARGED TICKET BOOTH PLANS
A-403	ENLARGED PLANS, SECTIONS AND DETAILS - TIERED SEATING

DRAWING LIST continued

Sheet Number	Sheet Name
A-404	DECORATIVE PROSCENIUM DETAILS
A-405	ENLARGED PLAN - ORCHESTRA PIT
A-406	SPIRAL STAIR PLANS & DETAILS
A-407	LOBBY CASEWORK
A-501	ACOUSTICAL PANEL DETAILS
A-502	SOFFIT DETAILS
A-503	CASEWORK / LOCKER ELEVATIONS & DETAILS
A-506	ROOFING DETAILS
A-507	GRID IRON & CATWALK DETAILS
A-508	REMOVABLE PIT RAILING
A-601	DOOR SCHEDULE & DETAILS
A-602	DOOR DETAILS
INTERIORS	
I-111	INTERIOR SECOND FLOOR FINISH PLAN - BASE BID
I-112	INTERIOR MEZZANINE FINISH PLAN - BASE BID
I-121	INTERIOR SECOND FLOOR PLAN - FURNITURE LAYOUT
MECHANICAL	
M-100	MECHANICAL LEGEND & ABBREVIATIONS
M-101	SECOND FLOOR MECHANICAL DEMOLITION
M-102	MEZZANINE MECHANICAL DEMOLITION
M-103	CATWALK & ROOF MECHANICAL DEMOLITION
M-111	SECOND FLOOR MECHANICAL PLANS
M-112	MEZZANINE MECHANICAL PLANS
M-113	CATWALKS & ROOF MECHANICAL PLANS
M-201	MECHANICAL DETAILS
M-202	MECHANICAL DETAILS
M-301	MECHANICAL SCHEDULES
PLUMBING	
P-100	PLUMBING & FIRE PROTECTION LEGEND, NOTES & SCHEDULES
P-101	SECOND FLOOR PLUMBING DEMOLITION
P-111	SECOND FLOOR PLUMBING PLANS
ELECTRICAL	
E-100	ELECTRIAL LEGEND AND SCHEDULES
E-101	SECOND FLOOR ELECTRICAL DEMOLITION
E-102	MEZZANINE ELECTRICAL DEMOLITION
E-103	CATWALK ELECTRICAL DEMOLITION

DRAWING LIST continued

Sheet Number	Sheet Name
E-111	SECOND FLOOR ELECTRICAL LIGHTING PLANS
E-112	MEZZANINE ELECTRICAL LIGHTING PLANS
E-113	CATWALK ELECTRICAL LIGHTING & POWER PLANS
E-210	FIRST FLOOR POWER PLAN
E-211	SECOND FLOOR POWER PLAN
E-212	MEZZANINE POWER PLANS
E-300	ELECTRICAL DETAILS AND SCHEDULES

STAGE LIGHTING

TL-100	STAGE LIGHTING SYSTEM STAGE LIGHT PLOT
TL-101	STAGE LIGHTING SYSTEM MEZZANINE FLOOR LIGHT PLOT
TL-102	STAGE LIGHTING SYSTEM AUDITORIUM FIRST FLOOR LIGHT PLOT
TL-103	STAGE LIGHTING SYSTEM ORCHESTRA CEILING LIGHTING PLAN
TL-104	STAGE LIGHTING SYSTEM APRON STAGE LIGHTING PLAN
TL-105	STAGE LIGHTING SYSTEM AUDITORIUM SYSTEM ONELINE
TL-106	STAGE LIGHTING SYSTEM AUDITORIUM DISTRIBUTION
TL-107	STAGE LIGHTING SYSTEM AUDITORIUM DISTRIBUTION
TL-108	STAGE LIGHTING SYSTEM AUDITORIUM CONDIUT RISER
TL-109	STAGE LIGHTING SYSTEM AUDITORIUM CIRCUIT SCHEDULE
TL-110	STAGE LIGHTING SYSTEM THIRD FLR AUDITORIUM DEVICE LOC.
TL-111	STAGE LIGHTING SYSTEM AUDITORIUM FIRST FLR DEVICE LOCATION
TL-112	STAGE LIGHTING SYSTEM ORCHESTRA PIT DEVICE LOCATION PLAN

THEATER SOUND

TS-100	A/V SYSTEM SOUND ONE-LINE DIAGRAM #1
TS-101	A/V SYSTEM SOUND ONE-LINE DIAGRAM #2
TS-102	A/V SYSTEM VIDEO ONE-LINE DIAGRAM #1
TS-103	A/V SYSTEM VIDEO ONE-LINE DIAGRAM #2
TS-104	A/V SYSTEM DETAILS #1
TS-105	A/V SYSTEM DETAILS #2
TS-106	A/V SYSTEM DEVICE LOCATIONS STAGE LEVEL
TS-107	A/V SYSTEM DEVICE LOCATIONS CONTROL BOOTH LEVEL
TS-108	A/V SYSTEM DEVICE LOCATIONS UPPER LEVEL
TS-109	A/V SYSTEM SYMBOL KEY
TS-110	A/V SYSTEM INTERCOM CONDUIT RISER
TS-111	A/V SYSTEM SPEAKER CONDUIT RISER
TS-112	A/V SYSTEM VIDEO & ANTENNA CONDUIT RISER
TS-113	A/V SYSTEM DANTE & AUDIO NETWORK CONDUIT RISER
TS-114	A/V SYSTEM MICROPHONE CONDUIT RISER

DRAWING LIST continued

Sheet Number	Sheet Name
THEATER EQUIPMENT	
TH-100	STAGE RIGGING SYSTEMS PLAN AT FLOOR BATTENS AND DRAPERY
TH-101	STAGE RIGGING SYSTEMS PLAN AT GRID STAGE RIGGING EQUIPMENT
TH-102	STAGE RIGGING SYSTEMS SECTION AT CENTER AND SCHEDULES
TH-103	STAGE RIGGING SYSTEMS ELEVATION - TYPICAL MANUAL
CONTERWEIGHT LINESET	
TH-104	STAGE RIGGING SYSTEMS ELEVATION - TYPCIAL STAGE ELECTRICS
MOTORIZED COUNTERWEIGHT ASSIST LINESET	
TH-105	STAGE RIGGING SYSTEMS ELEVATION - TYPICAL SHELL CEILING
MOTORIZED COUNTERWEIGHT ASSIST LINESET	
TH-106	STAGE RIGGING SYSTEMS ELEVATION - FIRE SAFETY CURTAIN RIGGING
TH-107	STAGE RIGGING SYSTEMS MISCELLANEOUS DETAILS
TH-108	STAGE RIGGING SYSTEMS SECTION AT ORCHESTRA PIT ACOUSTIC
CURTAIN & TRACK AND AUDITORIUM LIGHT LADDERS	
TH-109	STAGE RIGGING SYSTEMS ADJUSTABLE ACOUSTIC BANNERS ALTERNATE #5
TH-200	CONCERT SHELL SYSTEM
TH-201	CONCERT SHELL SYSTEM REMOVABLE TOWER TOPS
TH-202	ORCHESTRA PIT FILLER SYSTEM

SECTION 08 71 02
DOOR HARDWARE

PART 1 - GENERAL

1.01 SUMMARY

A. Section includes furnishing and installation of door hardware for doors specified in "Hardware Sets" and required by actual conditions. Including screws, bolts, expansion shields, electrified door hardware, and other devices for proper application of hardware.

B. Where items of hardware are not specified and are required for intended service, such omission, error or other discrepancy shall be submitted to Architect fourteen calendar days prior to bid date for clarification by addendum.

C. Products supplied but not installed under this Section:
   1. Hardware for aluminum doors will be furnished under this Section, but installed under Division 08 00 00 Openings
   2. Final replacement of cylinder cores to be installed by Owner.

D. Refer to Division 1 for alternates that may affect work of this Section.

E. Related Divisions:
   1. Division 08 00 00 Openings
   2. Division 26 00 00 Electrical

1.02 REFERENCES

A. American National Standards Institute/Builders Hardware Manufacturers Association (ANSI):
   1. ANSI/BHMA A156.1 Butts & Hinges (2006)
   2. ANSI/BHMA A156.2 Bored & Preassembled Locks & Latches (2003)
   3. ANSI/BHMA A156.3 Exit Devices (2008)
   4. ANSI/BHMA A156.4 Door Controls - Closers (2008)
   5. ANSI/BHMA A156.5 Auxiliary Locks (2010)
   6. ANSI/BHMA A156.6 Architectural Door Trim (2010)
   7. ANSI/BHMA A156.7 Template Hinge Dimensions (2009)
   8. ANSI/BHMA A156.8 Door Controls - Overhead Stops and Holders (2010)
   9. ANSI/BHMA A156.15 Closer Holder Release Devices (2006)
   10. ANSI/BHMA A156.16 Auxiliary Hardware (2008)
   11. ANSI/BHMA A156.18 Materials & Finishes (2006)
   12. ANSI/BHMA A156.21 Thresholds (2009)
   13. ANSI/BHMA A156.22 Door Gasketing Systems (2005)
   14. ANSI/BHMA A156.26 Continuous Hinges (2006)
   15. ANSI/BHMA A156.28 Keying Systems (2007)
   16. ANSI/BHMA A156.29 Exit Locks and Alarms (2007)
   17. ANSI/BHMA A156.30 High Security Cylinders (2003)
   18. ANSI/BHMA A156.115 Hardware Preparation in Steel Doors and Steel Frames (2006)
   19. ANSI/BHMA A156.115W Hardware Preparation in Wood Doors with Wood or Steel Frames (2006)

B. International Code Council/American National Standards Institute (ICC/ANSI)/ADA:
   1. ICC/ANSI A117.1 Standards for Accessible and Usable Buildings and Facilities (2003)

2. Americans with Disabilities Act Accessibility Guidelines (ADAAG).

C. Underwriters Laboratories, Inc. (UL):
1. UL 10C Positive Pressure Fire Test of Door Assemblies
2. UL 1784 Air Leakage Test of Door Assemblies
3. UL/ULC Listed

D. Door and Hardware Institute (DHI):
1. DHI Publication - Keying Systems and Nomenclature (1989)
2. DHI Publication - Abbreviations and Symbols
3. DHI Publication - Installation Guide for Doors and Hardware
4. DHI Publication - Sequence and Format of Hardware Schedule (1996)

E. National Fire Protection Agency (NFPA)
1. NFPA 70 National Electrical Code (2008)
2. NFPA 80 Standard for Fire Doors and Other Opening Protective's (2007)
3. NFPA 101 Life Safety Code (2006)
4. NFPA 105 Standard for the Installation of Smoke Door Assemblies (2007)

F. Building Codes
1. IBC International Building Code (2009)
2. Local Building Code

1.03 SUBMITTALS

A. Submit in accordance with Conditions of the Contract and Division 1 Administrative Requirements.

B. Shop Drawings:
1. Hardware schedule shall be organized in vertical format illustrated in DHI Publications Sequence and Formatting for the Hardware Schedule. Include abbreviations and symbols page according to DHI Publications Abbreviations and Symbols. Complete nomenclature of items required for each door opening as indicated.
2. Coordinate the final Door Hardware Schedule with doors, frames, and related work to ensure proper size, thickness, hand, function, and finish of hardware.
3. Architectural Hardware Consultant (AHC), as certified by DHI, who shall affix seal attesting to completeness and correctness, shall review hardware schedule prior to submittal.

C. Submit manufacturer's catalog sheet on design, grade and function of items listed in hardware schedule. Identify specific hardware item per sheet, provide index, and cover sheet.

D. Coordination:
1. Distribute door hardware templates to related divisions within fourteen calendar days of approved hardware schedule.

E. Closeout Submittals: Submit to Owner in a three ring binder or CD if requested.
1. Warranties.
2. Maintenance and operating manual.
3. Maintenance service agreement.
4. Record documents.
5. Copy of approved hardware schedule.
6. Copy of approved keying schedule with bitting list.
7. Hardware supplier name, phone number and fax number.

1.04 QUALITY ASSURANCE

A. Hardware supplier shall employ an Architectural Hardware Consultant (AHC) as certified by DHI and a member of the seal program who shall be available at reasonable times during course of work for Project hardware consultation.

B. Door hardware shall conform to ICC/ANSI A117.1.
   1. Handles, Pulls, Latches, Locks and operating devices: Shape that is easy to grasp with one hand and does not require tight grasping, tight pinching, or twisting of the wrist.

C. Fire Rated Door Assemblies: Where fire-rated door assemblies are indicated, provide door hardware rated for use in assemblies complying with NFPA 80 that are listed and labeled by a qualified testing agency, for fire-protection ratings indicated, based on testing at positive pressure according to UL 10C, unless otherwise indicated.

D. Smoke and Draft Control Door Assemblies: Where smoke and draft control door assemblies are required, provide door hardware that meets requirements of assemblies tested according to UL 1784 and installed in compliance with NFPA 105.

E. Door hardware shall be certified to ANSI/BHMA standards as noted, participate and be listed in BHMA Certified Products Directory.

F. Substitution request: Refer to Division 1Substitutions for procedures to submit products meeting the requirements in this Section.

G. Pre-installation Meeting: Comply with requirements in Division 1 Section “Project Meetings.”
   1. Convene meeting seven days before installation. Participants required to attend:
      a. Contractor, installer, material supplier, manufacturer representatives.
   2. Include in conference decisions regarding proper installation methods and procedures for receiving and handling hardware.
   3. Review and finalize construction schedule and verify availability of materials, installer’s personnel, equipment and facilities needed to make progress and avoid delays.

H. Within fourteen days of receipt of approved door hardware submittals contact Owner with representative from hardware supplier to establish a keying conference. Verify keyway, visual key identification, number of master keys and keys per lock. Provide keying system per Owners instructions.

I. Installer Qualifications: Specialized in performing installation of this Section and shall have five years minimum documented experience.

J. Hardware listed in 3.07- Hardware Schedule is intended to establish a type and grade.

1.05 DELIVERY, STORAGE AND HANDLING

A. Provide a clean, dry and secure room for hardware delivered to Project but not yet installed.

B. Furnish hardware with each unit marked and numbered in accordance with approved finish hardware schedule. Include door and item number for each type of hardware.

C. Pack each item complete with necessary parts and fasteners in manufacturer’s original packaging.

D. Deliver permanent keys, cores to Owner via registered mail or overnight package service. Instructions for delivery to Owner shall be established at “Keying Conference.”

E. Waste Management and Disposal

1. Separate waste materials for reuse or recycling in accordance with Division 1.

1.06 WARRANTY

A. General Warranty: Owner may have under provisions of the Contract Documents and shall be an addition and run concurrent with other warranties made by Contractor under requirements of the Contract documents.

B. Special Warranty: Warranties specified in this article shall not deprive Owner of other rights. Contractor, hardware supplier, and hardware installer shall be responsible for servicing hardware and keying related problems.
   1. Ten years for manual door closers.
   2. Five years for mortise, auxiliary and bored locks.
   3. Five years for exit devices.
   4. Two years for electromechanical door hardware.

C. Products judged defective during warranty period shall be replaced or repaired in accordance with manufacturer's warranty at no cost to Owner. There is no warranty against defects due to improper installation, abuse and failure to exercise normal maintenance.

PART 2 - PRODUCTS

2.01 HINGES

A. Hinges, continuous hinges shall be of one manufacturer as listed for continuity of design and consideration of warranty.

B. Standards: Products to be certified and listed by the following:
   1. Butts and Hinges: ANSI/BHMA A156.1
   2. Template Hinge Dimensions: ANSI/BHMA A156.7
   3. Self-Closing Hinges: ANSI/BHMA 156.17
   4. Continuous Hinges: ANSI/BHMA A156.26

C. Butt Hinges:
   1. Hinge weight and size unless otherwise indicated in hardware sets:
      a. Doors up to 36" wide and up to 1-3/4" thick provide hinges with a minimum thickness of.134" and a minimum of 4-1/2" in height.
      b. Doors from 36" wide up to 42" wide and up to 1-3/4" thick provide hinges with a minimum thickness of.145" and a minimum of 4-1/2"" in height.
      c. For doors from 42" wide up to 48" wide and up to 1-3/4" thick provide hinges with a minimum thickness of.180" and a minimum of 5" in height.
      d. Doors greater than 1-3/4" thick provide hinges with a minimum thickness of.180" and a minimum of 5" in height.
      e. Width of hinge is to be minimum required to clear surrounding trim.
   2. Base material unless otherwise indicated in hardware sets:
      a. Exterior Doors: 304 Stainless Steel, Brass or Bronze material.
      b. Interior Doors: Steel material.
      c. Fire Rated Doors: Steel or 304 Stainless Steel materials.
      d. Stainless Steel ball bearing hinges shall have stainless steel ball bearings. Steel ball bearings are unacceptable.
   3. Quantity of hinges per door unless otherwise stated in hardware sets:
      a. Doors up to 60"in height provide 2 hinges.
      b. Doors 60" up to 90" in height provide 3 hinges.
      c. Doors 90" up to 120" in height provide 4 hinges.

d. Doors over 120" in height add 1 additional hinge per each additional 30" in height.
e. Dutch doors provide 4 hinges.

4. Hinge design and options unless otherwise indicated in hardware sets:
   a. Hinges are to be of a square corner five-knuckle design, flat button tips and have ball bearings unless otherwise indicated in hardware sets.
   b. Out-swinging exterior and out-swinging access controlled doors shall have non-removable pins (NRP) to prevent removal of pin while door is in closed position.
   c. When full width of opening is required, use hinges that are designed to swing door completely from opening when door is opened to 95 degrees.
   d. Provide mortar boxes for frames that require any electrically modified hinges if not an integral part of frame.
   e. When shims are necessary to correct frame or door irregularities, provide metal shims only.

5. Acceptable Manufactures:

		Standard Weight	Heavy Weight
a.	Hager	BB1279/BB1191	BB1168/BB1199
b.	Bommer	BB5000/BB5002	BB5004/BB5006
c.	McKinney	TA2714/TA2314	T4A3786/T4A3386

2.02 CONTINUOUS HINGES

A. Continuous hinges shall be of one manufacturer as listed for continuity of design and consideration of warranty.

B. Standards: Products to be certified and listed by the following:
   1. Continuous Hinges: ANSI/BHMA A156.26 Grade 1

C. Continuous Geared Hinges:
   1. Determine model number by door and frame application, door thickness, frequency of use, and fire rating requirements according to manufacturer's recommendations.
      a. Length of hinge shall be 1" less door height unless otherwise stated in hardware sets.

D. Material and Design:
   1. Base material: Anodized aluminum manufactured from 6063-T6 material, unexposed working metal surfaces shall be coated with TFE dry lubricant
   2. Bearings:
      a. Vertical loads shall be carried on Lubriloy RL bearings for non Fire Rated doors.
      b. Standard weight hinges shall have a minimum spacing between bearings of 5-1/8". Typical door from 80" to 84" in height to have a minimum of 16 bearings.
      c. Heavy Weight hinges shall have a minimum spacing between bearings of 2-9/16". Typical door from 80" to 84" in height to have a minimum of 32 bearings.
   3. Options:
      a. Removable Electric Through-Wire (RETW) shall have appropriate number of wires to transfer power through door frame to door for proper connection of finish hardware. Provide RETW in a form that can be removed for connection, servicing without removing entire hinge from door and frame, and certified to

handle an amperage rating of 3.5AMPS/continuous duty with 16.0AMPS/intermittent duty.

b. Hinges shall have Rounded Back Cover Channel (RBCC).
c. When full width of opening is required, use hinges that are designed to swing door completely from opening when door is opened to 95 degrees.
d. Fire rated hinges shall carry UL certification, up to and including 90-minute applications for wood doors and up to 3-hour applications for metal doors.

E. Acceptable Manufactures:

		Heavy Duty
1.	Hager Companies	780-224HD 780-210HD
2.	Bommer	FM120HD
3.	Zero	914A

2.03 FLUSH BOLTS AND COORDINATORS

A. Flushbolts shall be of one manufacturer as listed for continuity of design and consideration of warranty.

B. Standards: Manufacturer to be listed by the following:
1. Auxiliary Hardware: ANSI/BHMA A156.16

C. Labeled openings: Provide automatic or constant latching flush bolts per hardware schedule for inactive leaf of pairs of doors. Provide dust proof strikes for bottom bolt.

D. Non-Labeled openings: Provide two flush bolts for inactive leaf of pairs of doors per hardware schedule. Top bolt shall not be more than 78” centerline from floor. Provide dust proof strike for bottom bolt.

E. Acceptable Manufactures:

		Manual Flush Bolt	Auto Flush Bolt	Dust Proof Strike
1.	Hager Companies	282D	291D/292D/295W/295M	280X
2.	Rockwood	555	1942	570
3.	Trimco	3917	3815	3911

F. Coordinators: Provide for labeled pairs of doors with automatic flush bolts or with vertical rod exit device with a mortise-locking device per hardware schedule. Provide filler piece to extend full width of stop on frame. Provide mounting brackets for closers and special preparation for latches where applicable.

G. Acceptable Manufactures:

		Coordinator	Bracket	Bracket for stops > 2-1/4”
1.	Hager Companies	297D	297M	297N
2.	Rockwood	1600	1601AB	1601C
3.	Trimco	3094	3095	3096

2.04 LOCKS AND LATCHES (GRADE 1 CYLINDRICAL)

A. Locks and latches shall be of one manufacturer as listed for continuity of design and consideration of warranty.

B. Standards: Product to be certified and listed by following:
1. ANSI/BHMA A156.2 Series 4000 Certified to Grade 1.
2. ANSI/BHMA A250.13 Certified for a minimum design load of 1150lbf (100psf) for single out swinging doors measuring 36” in width and 84” in height and a minimum design load of 1150lbf (70psf) for out swinging single doors measuring 48” in width and 84” in height.

3. UL/cUL Labeled and listed for functions up to 3 hours for single doors up to 48" in width and up to 96" in height.
4. UL10C/UBC 7-2 Positive Pressure Rated.
5. ICC/ANSI A117.1.

C. Lock and latch function numbers and descriptions of manufactures series as listed in hardware sets.

D. Material and Design:
1. Lock and Latch chassis to be Zinc dichromate for corrosion resistance.
2. Keyed functions to be of a freewheeling design to help resists against vandalism.
3. Non-handed, field reversible.
4. Thru-bolt mounting with no exposed screws.
5. Levers shall be Zinc cast and plated to match finish designation in hardware sets.
6. Roses shall be of solid Brass or Stainless Steel material.

E. Latch and Strike:
1. Stainless Steel latch bolt with minimum of ½" throw and deadlocking for keyed and exterior functions. Provide ¾" latchbolt for pairs of fire rated doors. Standard backset to be 2-3/4" and faceplate shall be adjustable to accommodate a square edge door or a standard 1/8" beveled edge door.
2. Strike is to fit a standard ANSI A115 prep measuring 1-1/4" x 4-7/8" with proper lip length to protect surrounding trim.

F. Acceptable Manufactures:
1. Schlage: ND Series - Everest - no equal

2.05 DEADBOLTS (GRADE 1)

A. Deadbolts shall be of one manufacturer as listed for continuity of design and consideration of warranty.

B. Standards: Manufacturer to be certified by the following:
1. Auxiliary Locks: ANSI/BHMA A156.5 Grade 1
2. UL/cUL listed for functions up to 3 hours for "A" label
3. UL10C/UBC 7-2 Positive Pressure Rated

C. Deadbolt function numbers and descriptions of manufactures series as listed in hardware sets.

D. Material and Design:
1. Latch bolt 1"throw, material brass with concealed harden steel roller to prevent sawing or cutting.
2. Freewheeling collar design to help resists against vandalism.
3. Non-handed, field reversible.

E. Acceptable Manufactures:
1. Hager Companies: 3830S Series.
2. Schlage:
3. Sargent:

2.06 EXIT DEVICES (GRADE 1)

A. Shall be touch pad type, finish to match balance of door hardware. Exit Devices shall be of one manufacturer as listed for continuity of design and consideration of warranty.

B. Standards: Manufacturer to be certified and or listed by the following:
1. BHMA Certified ANSI A156.3 Grade 1
2. UL/cUL Listed for up to 3 hours for "A" labeled doors

3. UL10C/UBC 7-2 Positive Pressure Rated
4. UL10B Neutral Pressure Rated
5. UL 305Listed for Panic Hardware

C. Material and Design:
1. Touch pad shall extend a minimum of one half-door width. Freewheeling lever design shall match design of locks levers. Exit device to mount flush with door.
2. Latchbolts:
a. Rim device - ¾" throw, Pullman type with automatic dead-latching, stainless steel
b. Surface vertical rod device - Top ½" throw, Pullman type with automatic dead-latching, stainless steel. Bottom ½" throw, Pullman type, held retracted during door swing, stainless steel.
3. Fasteners: Wood screws, machine screws and thru-bolts.

D. Lock and Latch Functions: Function numbers and descriptions of manufacturer's series and lever styles indicated in door hardware sets.

E. Acceptable Manufactures:
1. Hager Companies: 4500 Series
2. Von Duprin: 99 Series
3. Sargent: 80 Series

2.07 CYLINDERS AND KEYING

A. Cylinders shall be of one manufacturer as listed for continuity of design and consideration of warranty.

B. Standards: Manufacturer shall meet the following:
1. Auxiliary Locks: ANSI/BHMA A156.5
2. DHI Handbook "Keying systems and nomenclature" (1989)

C. Cylinders:
1. Schlage Everest cores for interior and Primus for exterior.
2. Shall be furnished with cams/tailpieces as required for locking device that is being furnished for project.

D. Keying:
1. Contact Owner with representative from hardware supplier to establish a keying conference. Verify keyway, visual key identification, number of master keys and keys per lock. Provide keying system per Owners instructions.
2. Copy of Owners approved keying schedule shall be submitted to Owner and Architect with documentation of which keying conference was held and Owners sign-off.
3. Provide a bitting list to Owner of combinations as established, and expand to twenty five percent for future use or as directed by Owner.
4. Key into Owner's existing keying system.
5. Keys to be shipped to Owner's representative, individually tag per keying conference.
6. Provide visual key control identification on keys.

E. Acceptable manufactures:
1. Schlage - no equal

2.08 PUSH/PULL PLATES AND BARS

A. Push and pull plates shall be of one manufacturer as listed for continuity of design and consideration of warranty.

B. Standards: Manufacturer to be certified by the following:
   1. Architectural Door Trim: ANSI/BHMA A156.6
   2. Americans with Disabilities Act Accessibility Guidelines (ADAAG).

C. Push plates:.050" thick, square corner and beveled edges with counter sunk screw holes. Width and height as stated in hardware sets.
   1. Acceptable Manufactures:
      a. Hager Companies: 30S
      b. Rockwood
      c. Trimco

D. Pull plates:.050" thick, square corner and beveled edges. Width and height as stated in hardware sets, ¾" diameter pull, with clearance of 2-1/2" from face of door.
   1. Acceptable Manufactures:
      a. Hager Companies: H33
      b. Rockwood
      c. Trimco

E. Push Pull Bar Sets: 1" round bar stock with 2 ½" clearances from face of door. Offset to be 3", 90-degree standard. Center to center size should be door width less 1 stile width.
   1. Acceptable Manufacturers:
      a. Hager Companies: H160D
      b. Rockwood
      c. Trimco

F. Back-to-Back pulls for Pocket/Barn Doors: 3" clearance from face of door
   1. Acceptable Manufactures:
      a. Hager Companies: H20L
      b. Rockwood: RM301
      c. Trimco: 1195-3J

2.09 CLOSERS (CAST IRON BODY GRADE 1)

A. Shall be product of one manufacturer. Unless otherwise indicated on hardware schedule, comply with manufacturer's recommendation for size of closer, depending on width of door, frequency of use, atmospheric pressure, ADAAG requirements, and fire rating.

B. Standards: Manufacturer to be certified and or listed by the following:
   1. BHMA Certified ANSI A156.4 Grade 1
   2. ADA Compliant ANSI A117.1
   3. UL/cUL Listed up to 3 hours.
   4. UL10C Positive Pressure Rated
   5. UL10B Neutral Pressure Rated

C. Material and Design:
   1. Provide cast iron non-handed bodies with full plastic covers.
   2. Closers shall have separate staked adjustable valve screws for latch speed, sweep speed, and backcheck.
   3. Provide Tri-Pack arms and brackets for regular arm, top jamb, and parallel arm mounting.
   4. One-piece seamless steel spring tube sealed in hydraulic fluid.

5. Double heat-treated steel tempered springs.
6. Precision-machined heat-treated steel piston.
7. Triple heat-treated steel spindle.
8. Full rack and pinion operation.

D. Mounting:
1. Out swing doors shall have surface parallel arm mount closers except where noted on hardware schedule.
2. In swing doors shall have surface regular arm mount closers except where noted on hardware schedule.
3. Provide brackets and shoe supports for aluminum doors and frames to mount fifth screw.
4. Furnish drop plates where top rail conditions on door do not allow for mounting of closer and where backside of closer is exposed through glass.

E. Size closers in compliance with requirements for accessibility (ADDAG). Comply with following maximum opening force requirements.
1. Interior hinged openings: 5.0 lbs.
2. Fire rated and exterior openings shall have minimum opening force allowable by authority having jurisdiction.

F. Fasteners: Provide self-reaming and self-tapping wood and machine screws and sex nuts and bolts for each closer.

G. Acceptable manufactures:
1. Hager Companies: 5100 Series
2. LCN: 4040 Series
3. Sargent: 281 Series

2.10 PROTECTIVE TRIM

A. Size of protection plate: Single doors, size two inches less door width (LDW) on push side of door, and one inch less on pull side of door. For pairs of doors, size one inch less door width (LDW) on push side of door, and ½ inch on pull side of door.
1. Kickplates 10” high or sized to door bottom rail height
2. Mop Plates 4” high.

B. Standards: Manufacturer shall meet requirements for:
1. Architectural Door Trim: ANSI/BHMA A156.6
2. UL

C. Material and Design:
1. 0.050” gage stainless steel
2. Corners shall be square. Polishing lines or dominant direction of surface pattern shall run across the door width of plate.
3. Bevel top, bottom and sides uniformly leaving no sharp edges. Edges shall be de-burred.
4. Countersink holes for screws. Screws holes shall be spaced equidistant eight inches CTC, along a centerline not over ½ inch in from edge around plate. End screws shall be a maximum of 0.53 inch from corners.

D. UL label stamp required on protection plates when top of plate is more than 16 inches above bottom of door on fire rated openings. Verify door manufactures UL listing for maximum height and width of protection plate to be used.

E. Acceptable Manufactures:
1. Hager Companies: 194S

2. Rockwood
3. Burns

2.11 STOPS AND HOLDERS

A. Wall Stops: Provide door stops wherever necessary to prevent door or hardware from striking an adjacent partition or obstruction. Provide wall stops when possible. Door stops and holders mounted in concrete floor or masonry walls shall have stainless steel machine screws and lead expansion shields.

B. Standards: Manufacturer shall meet requirements for:
1. Auxiliary Hardware: ANSI/BHMA A156.16

C. Acceptable Manufactures:

		Convex	Concave	Floor
1.	Hager Companies	232W	236W	242F
2.	Rockwood			
3.	Burns			

D. Overhead Stops and Holders: Provide overhead stop and holders for doors that open against equipment, casework sidelights and other objects that would make wall stops/holders and floor stops/holders inappropriate. Provide sex bolt attachments for mineral core wood door applications.

E. Standards: Manufacturer shall be certified by the following:
1. Overhead Stops and Holders: ANSI/BHMA A156.8 Grade 1

F. Acceptable Manufactures:

		Heavy Duty Surface	Heavy Duty Concealed
1.	Hager Companies	7000-S	7000-C
2.	Rixson	9 Series	6 Series
3.	Glynn Johnson	90 Series	100 Series

2.12 DOOR GASKETING AND WEATHERSTRIP

A. Provide continuous weatherstrip gasketing on exterior doors and provide smoke, light, or sound gasketing where indicated on hardware schedule. Provide non-corrosive fasteners for exterior applications.
1. Perimeter gasketing: Apply to head and jamb, forming seal between door and frame.
2. Meeting stile gasketing: Fasten to meeting stiles, forming seal when doors are in closed position.
3. Door bottoms: Apply to bottom of door, forming seal with threshold or floor when door is in closed position.
4. Sound Gasketing: Cutting or notching for stop mounted hardware not permitted.
5. Drip Guard: Apply to exterior face of frame header. Lip length to extend 4” beyond width of door.

B. Standards: Manufacturer shall meet requirements for:
1. Door Gasketing and Edge Seal Systems: ANSI/BHMA A156.22

C. Smoke-Labeled Gasketing: Comply with NFPA 105 listed, labeled, and acceptable to authorities having jurisdiction, for smoke control indicated.
1. Provide smoke labeled gasketing on 20 minute rated doors and on smoke rated doors.

D. Fire-Rated Gasketing: Comply with NFPA 80 listed, labeled, and acceptable to Authorities Having Jurisdiction, for fire ratings indicated.

2.13 THRESHOLDS

A. Set thresholds for exterior and acoustical openings in full bed of sealant with lead expansion shields and stainless steel machine screws complying with requirements specified in Division 7 Section "Joint Sealants". Notched in field to fit frame by hardware installer. Refer to Drawings for special details.

B. Standards: Manufacturer to be certified by the following:
   1. Thresholds: ANSI/BHMA A156.21
   2. Americans with Disabilities Act Accessibility Guidelines (ADAAG).

C. Acceptable Manufactures:
   1. Hager Companies: 412S and 413S
   2. Zero
   3. Reese

2.14 SILENCERS

A. Where smoke, light, or weather seal are not required, provide three silencers per single door frame, two per double door frame and four per Dutch door frame.

B. Standards: Manufacturer shall meet requirements for:
   1. Auxiliary Hardware: ANSI/BHMA A156.16

C. Acceptable Manufactures:

	Hollow Metal Frame	Wood Frame
1. Hager Companies:	307D	308D
2. Rockwood:		
3. Trimco:		

2.15 FINISHES

A. Appearance of Finished Work: Variations in appearance of abutting or adjacent pieces are acceptable if within 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 range of approved Samples.

B. Comply with base material and finish requirements indicated by ANSI/BHMA A156.18 designations in hardware schedule.

PART 3 - EXECUTION

3.01 EXAMINATION

A. 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.

B. Examine roughing-in for electrical power systems to verify actual locations of wiring connections before electrified door hardware installation.

C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.02 INSTALLATION

A. Install hardware per manufacturer's instructions and in compliance with:
   1. NFPA 80.
   2. NFPA 105.
   3. ICC/ANSI A117.1.
   4. ANSI/BHMA A156.115 Hardware Preparation in Steel Doors and Steel Frames
   5. ANSI/BHMA A156.115W Hardware Preparation in Wood Doors with Wood or Steel Frames

6. DHI Publication - Installation Guide for Doors and Hardware
7. UL10C/UBC7-2
8. Local building code.
9. Approved shop drawings.
10. Approved finish hardware schedule.

B. Do not install surface mounted items until finishes have been completed on substrates involved. Set unit level, plumb and true to line location. Adjust and reinforce attachment substrate as necessary for proper installation and operation.

3.03 FIELD QUALITY CONTROL

A. Material supplier to schedule final walk through to inspect hardware installation ten business days before final acceptance of Owner. Material supplier shall provide a written report detailing discrepancies of each opening to General Contractor within seven calendar days of walk through.

3.04 ADJUSTMENT, CLEANING AND DEMONSTRATING

A. Adjustment: Adjust and check each opening to ensure proper operation of each item of finish hardware. Replace items that cannot be adjusted to operate freely and smoothly or as intended for application at no cost to Owner.

B. Cleaning: Clean adjacent surfaces soiled by hardware installation. Clean finished hardware per manufacturer's instructions after final adjustments has been made. Replace items that cannot be cleaned to manufacturer's level of finish quality at no cost to Owner.

C. Demonstration: Conduct a training class for building maintenance personnel demonstrating the adjustment, operation of mechanical and electrical hardware. Special tools for finished hardware to be turned over and explained usage at this meeting.

3.05 PROTECTION

A. Leave manufacturer's protective film intact and provide proper protection for all other finish hardware items that do not have protective material from the manufacture until Owner accepts Project as complete.

3.06 HARDWARE SETS

A. Guide: Door hardware items have been placed in sets which are intended to be a guide of design, grade, quality, function, operation, performance, exposure, and like characteristics of door hardware, and may not be complete. Provide door hardware required to make each set complete and operational.

B. Hardware schedule does not reflect handing, backset, method of fastening and like characteristics of door hardware and door operation.

C. Review door hardware sets with door types, frames, sizes and details on drawings. Verify suitability and adaptability of items specified in relation to details and surrounding conditions.

3.07 HARDWARE SCHEDULE

HEADING 1

Door #204

Each opening to receive:

QTY		TYPE	DESCRIPTION	FINISH
2	ea.	Continuous Hinge	780-224HD	Clear

2	ea.	SVR Exit Device	4501 SVR F LBR w/fire bolt	US32D
2	ea.	Trim	45CE	US26D
2	ea.	Mortise Cylinder	Schlage to existing system	US26D
2	ea.	Closer	5100 HDCS	ALM
2	ea.	Kick Plate	194S 10” x 1 1/2” LDW	US32D
2	ea.	Mop Plate	194S 4” x 1”LDW	US32D
1	ea.	Gasket	721 x head and jambs	Charcoal

Fill existing hinge preparations as required.

HEADING 2

Door # 226, 229

Each opening to receive:

QTY		TYPE	DESCRIPTION	FINISH
3	ea.	Hinges	BB1168 4.5” x 4.5”	US26D
1	ea.	Push Plate	30S 4” x 16”	US32D
1	ea.	Pull Plate	H33E 4” x 16”	US32D
1	ea.	Classroom Deadbolt	3833S less cylinder	US26D
1	ea.	Mortise Cylinder	Schlage to existing system	US26D
1	ea.	Closer	5100 MLT	ALM
1	ea.	Kick Plate	194S 10” x 2” LDW	US32D
1	ea.	Mop Plate	194S 4” x 1” LDW	US32D
1	ea.	Gasket	721 x head and jambs	Charcoal

HEADING 3

Door #223A, 223C

Each opening to receive:

QTY		TYPE	DESCRIPTION	FINISH
2	ea.	Continuous Hinge	780-224HD UL-STUD	Clear
2	ea.	SVR Exit Device	4501 SVR F LBR w/fire bolt	US32D
2	ea.	Trim	45CE	US26D
2	ea.	Mortise Cylinder	Schlage to existing system	US26D
2	ea.	Closer	5100 HDCS	ALM
2	ea.	Kick Plate	194S 10” x 1 1/2” LDW	US32D
2	ea.	Mop Plate	194S 4” x 1”LDW	US32D
1	ea.	Gasket	721 x head and jambs	Charcoal
1	set	Astragal Seal	872S x (2) door height	CLR
2	ea.	Auto Door Bottom	743S	MIL
1	ea.	Threshold	413S x ¼” x 5”	MIL

Fill existing hinge preparations as required.

HEADING 4

Door #223B, 223D, 236B, 237B, 240B, 242B

Each opening to receive:

QTY		TYPE	DESCRIPTION	FINISH
6	ea.	Hinges	BB1168 4.5” x 4.5”	US26D
2	ea.	Push Plate	30S 4” x 16”	US32D
2	ea.	Pull Plate	H33E 4” x 16”	US32D
2	ea.	Closer	5100 HDHOCS	ALM
2	ea.	Kick Plate	194S 10” x 1 1/2” LDW	US32D
2	ea.	Mop Plate	194S 4” x 1”LDW	US32D
1	ea.	Gasket	721 x head and jambs	Charcoal
1	set	Astragal Seal	872S x (2) door height	CLR
2	ea.	Auto Door Bottom	743S	MIL
1	ea.	Threshold	413S x ¼” x 5”	MIL

HEADING 5

Door #227A

Each opening to receive:

QTY		TYPE	DESCRIPTION	FINISH
3	ea.	Hinges	BB1168 4.5” x 4.5”	US26D
1	ea.	Privacy Lock	ND40	US26D
1	ea.	Kick Plate	194S 10” x 2” LDW	US32D
1	ea.	Mop Plate	194S 4” x 1”LDW	US32D
1	ea.	Wall Bumper	236W	US32D
1	ea.	Gasket	721 x head and jambs	Charcoal

HEADING 6

Door #231A

Each opening to receive:

QTY		TYPE	DESCRIPTION	FINISH
2	ea.	Continuous Hinge	780-224HD	Clear
2	set	Automatic Flush Bolt	296W	US26D
1	ea.	Coordinator	297D	Black
2	ea.	Mounting Brackets	297M/N	Black
1	ea.	Classroom Lock	ND75 Everest	US26D
2	ea.	Closer	5100 HDCS	ALM
2	ea.	Kick Plate	194S 10” x 1 1/2” LDW	US32D
2	ea.	Mop Plate	194S 4” x 1”LDW	US32D
1	ea.	Gasket	721 x head and jambs	Charcoal
1	set	Astragal Seal	872S x (2) door height	CLR
2	ea.	Door Bottom	750S N	CLR
1	ea.	Threshold	412S x ½” x 5”	MIL

Fill existing hinge preparations as required.

HEADING 7

Door #221, 222, 232

Each opening to receive:

QTY		TYPE	DESCRIPTION	FINISH
3	ea.	Hinges	BB1168 4.5" x 4.5"	US26D
1	ea.	Classroom Lock	ND75 Everest	US26D
1	ea.	Kick Plate	194S 10" x 2" LDW	US32D
1	ea.	Closer	5100 HDCS	ALM
1	ea.	Gasket	721 x head and jambs	Charcoal

HEADING 8

Door #228, 244, 246, 248

Each opening to receive:

QTY		TYPE	DESCRIPTION	FINISH
3	ea.	Hinges	BB1168 4.5" x 4.5"	US26D
1	ea.	Classroom Lock	ND75 Everest	US26D
1	ea.	Kick Plate	194S 10" x 1 1/2" LDW	US32D
1	ea.	Mop Plate	194S 4" x 1"LDW	US32D
1	ea.	Closer	5100 HDCS	ALM
1	ea.	Closer	5100 HD (#228)	ALM
1	ea.	Wall Bumper	236W (#228)	US32D
1	ea.	Gasket	721 x head and jambs	Charcoal

HEADING 9

Door #233

Each opening to receive:

QTY		TYPE	DESCRIPTION	FINISH
2	ea.	Continuous Hinge	780-210HD x 119"	Clear
2	ea.	Flush Bolt	282D	US26D
1	ea.	All thread	48" for top flush bolt	-
1	ea.	Storeroom LockND80	Everest	US26D
1	ea.	Closer	5100 HDHO (active leaf)	ALM
1	ea.	O.H. Holder	7017 SRF	US32D
2	ea.	Kick Plate	194S 10" x 1 1/2" LDW	US32D
1	ea.	Gasket	721 x head and jambs	Charcoal
1	set	Astragal Seal	872S x (2) door height	CLR
2	ea.	Door Bottom	750S N	CLR
1	ea.	Threshold	412S x ½" x 5"	MIL

Fill existing frame hinge preparations as required.

HEADING 10

Door #235A, 236A

Each opening to receive:

QTY		TYPE	DESCRIPTION	FINISH
2	ea.	Continuous Hinge	780-210HD UL-STUD (235A)	Clear
2	ea.	SVR Exit Device	4501 SVR F LBR w/fire bolt	US32D
2	ea.	Trim	45CE	US26D
2	ea.	Mortise Cylinder	Schlage to existing system	US26D
2	ea.	Closer	5100 HDCS	ALM
2	ea.	Kick Plate	194S 10” x 1 1/2” LDW	US32D
2	ea.	Mop Plate	194S 4” x 1”LDW	US32D
1	ea.	Gasket	721 x head and jambs	Charcoal
1	ea.	Astragal Seal	872S x (2) door height	CLR
2	ea.	Door Bottom	750S N	CLR
1	ea.	Threshold	448S x ¼” x 10”	MIL
1	ea.	Threshold Stop	484S x ¼”	MIL

Fill existing hinge preparations as required.

HEADING 11

Door #235B, 235D, 235E

Each opening to receive:

QTY		TYPE	DESCRIPTION	FINISH
3	ea.	Hinges	BB1168 4.5” x 4.5”	US26D
1	ea.	Classroom Lock	ND75 Everest	US26D
2	ea.	Kick Plate	194S 10” x 1 1/2” LDW	US32D
1	ea.	Closer	5100 HDCS	ALM
1	ea.	Gasket	721 x head and jambs	Charcoal
1	ea.	Auto Door Bottom	740S	CLR
1	ea.	Threshold	448S x ¼” x 10”	MIL

HEADING 12

Door #237A

Each opening to receive:

QTY		TYPE	DESCRIPTION	FINISH
2	ea.	Continuous Hinge	780-210HD	Clear
2	ea.	SVR Exit Device	4501 SVR (EXIT ONLY)	US32D
2	ea.	Closer	5100 HDCS	ALM
2	ea.	Kick Plate	194S 10” x 1 1/2” LDW	US32D
1	ea.	Gasket	721 x head and jambs	Charcoal
1	set	Astragal Seal	872S x (2) door height	CLR
2	ea.	Door Bottom	750S N	CLR
1	ea.	Threshold	452S x ½” x 10”	MIL

1	ea.	Threshold Stop	484S x ¼”	MIL
1	ea.	Drip Cap	810S (door width + 4”)	MIL

HEADING 13

Not Used

HEADING 14

Door #239, 241A, 241B, 243

Each opening to receive:

QTY		TYPE	DESCRIPTION	FINISH
6	ea.	Hinges	BB1168 4.5” x 4.5”	US26D
2	ea.	Flush Bolt	282D	US26D
1	ea.	Storeroom Lock	ND80 Everest	US26D
2	ea.	Kick Plate	194S 10” x 1 1/2” LDW	US32D
2	ea.	Mop Plate	194S 4” x 1”LDW	US32D
1	ea.	Wall Stop	236W (active side)	US32D
1	ea.	O.H. Stop	7016 CON	US32D
1	ea.	Gasket	721 x head and jambs	Charcoal
1	set	Astragal Seal	872S x (2) door height	CLR
2	ea.	Auto Door Bottom	743S	MIL
1	ea.	Threshold	413S x ¼” x 5”	MIL

Make #’s 239 and 241B LH active, and #’s 241A and 243 RH active.

HEADING 15

Door #240A, 242A

Each opening to receive:

QTY		TYPE	DESCRIPTION	FINISH
6	ea.	Hinges	BB1168 4.5” x 4.5” NRP	US26D
2	ea.	SVR Exit Device	4501 SVR F LBR w/fire bolt	US32D
2	ea.	Trim	45CE	US26D
2	ea.	Mortise Cylinder	Schlage to existing system	US26D
2	ea.	Closer	5100 HDCS	ALM
2	ea.	Kick Plate	194S 10” x 1 1/2” LDW	US32D
2	ea.	Mop Plate	194S 4” x 1”LDW	US32D
1	ea.	Gasket	721 x head and jambs	Charcoal
1	set	Astragal Seal	872S x (2) door height	CLR
2	ea.	Door Bottom	750S N	CLR
1	ea.	Threshold	412S x ½” x 5”	MIL

HEADING 16

Door #245

Each opening to receive:

QTY		TYPE	DESCRIPTION	FINISH
3	ea.	Hinges	BB1168 4.5” x 4.5”	US26D
1	ea.	Push Plate	30S 4” x 16”	US32D
1	ea.	Flush Pull	15P	US32D
1	ea.	Single Cyl. Deadbolt	3830S less cylinder	US26D
1	ea.	Mortise Cylinder	Schlage to existing system	US26D
1	ea.	Closer	5100 MLT	ALM
1	ea.	Kick Plate	194S 10” x 2” LDW	US32D
1	ea.	Mop Plate	194S 4” x 1” LDW	US32D

HEADING 17

Door #247 (Unequal pair)

Each opening to receive:

QTY		TYPE	DESCRIPTION	FINISH
6	ea.	Hinges	BB1168 4.5” x 4.5”	US26D
2	ea.	Auto Flush Bolt	296W	US26D
1	ea.	Classroom Lock	ND70 Everest	US26D
2	ea.	Closer	5100 HDCS	ALM
1	ea.	Coordinator	297D	PC
2	ea.	Mtg. Brackets	297M/N	PC
2	ea.	Kick Plate	194S 10” x 1 1/2” LDW	US32D
2	ea.	Mop Plate	194S 4” x 1”LDW	US32D
1	ea.	Gasket	721 x head and jambs	Charcoal
1	set	Astragal Seal	872S x (2) door height	CLR
2	ea.	Auto Door Bottom	743S	MIL
1	ea.	Threshold	413S x ¼” x 5”	MIL

HEADING 18

Door #230A

Each opening to receive:

QTY		TYPE	DESCRIPTION	FINISH
1	ea.	Continuous Hinge	780-224HD RETW	Clear
1	ea.	Continuous Hinge	780-224HD	Clear
1	ea.	Exit Device	4501 RIM ELRX	US32D
1	ea.	Exit Device	4501 RIM	US32D
2	ea.	Trim	45CE	US26D
1	ea.	Keyed Rem. Mullion	4900 KR	USP
2	ea.	Mortise Cylinder	Schlage to existing system	US26D
1	ea.	Rim Cylinder	Schlage to existing system	US26D
2	ea.	Closer	5100 HDCS	ALM
2	ea.	Kick Plate	194S 10” x 1 1/2” LDW	US32D
2	ea.	Mop Plate	194S 4” x 1”LDW	US32D

1	ea.	Gasket	721 x head and jambs	Charcoal
1	set	Astragal Seal	872S x (2) door height	CLR
2	ea.	Door Bottom	750S N	CLR
1	ea.	Threshold	412S x ½" x 5"	MIL
1	ea.	Power Supply	2902	-

Fill existing hinge preparations as required. Connect electric latch retraction to existing card reader system.

Description of Operation:

Door exit device lever trim locked or un-locked by key. When locked, access by card reader to activate electric latch retraction. Free egress at all times.

HEADING 19

Door #230B

Each opening to receive:

QTY		TYPE	DESCRIPTION	FINISH
2	ea.	Continuous Hinge	780-224HD	Clear
2	ea.	Dummy Exit Device	4501D	US32D
2	ea.	Dummy Trim	45DT	US26D
2	ea.	Closer	5100 HDCS	ALM
2	ea.	Kick Plate	194S 10" x 1 1/2" LDW	US32D
2	ea.	Mop Plate	194S 4" x 1"LDW	US32D
1	ea.	Gasket	721 x head and jambs	Charcoal
1	set	Astragal Seal	872S x (2) door height	CLR
2	ea.	Door Bottom	750S N	CLR
1	ea.	Threshold	412S x ½" x 5"	MIL

Fill existing hinge preparations as required.

HEADING 20

Door #354

Each opening to receive:

QTY		TYPE	DESCTIPTION	FINISH
3	ea.	Hinges	BB1199 4.5" x 4.5" NRP	US32D
1	ea.	Exit Device	4501 RIM Fire	US32D
1	ea.	Exit Device Trim	45NL	US26D
1	ea.	Rim Cylinder	Schlage to existing system	US26D
2	ea.	Kick Plate	194S 10" x 1 1/2" LDW	US32D
1	ea.	Closer	5100 HDCS	ALM
1	ea.	Gasket	721 x head and jambs	Charcoal
1	ea.	Auto Door Bottom	740S	CLR
1	ea.	Threshold	412S x ½" x 5"	MIL
1	ea.	Drip Cap	810S (door width + 4")	MIL

HEADING 21

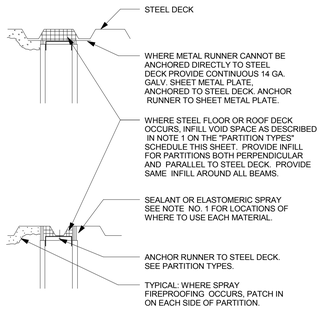
Door #354A, 354B

Each opening to receive:

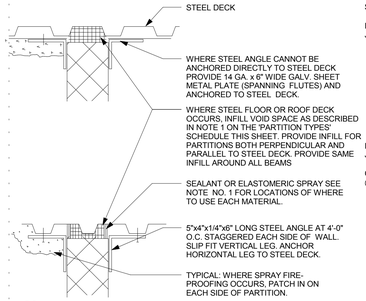
QTY		TYPE	DESCRIPTION	FINISH
3	ea.	Hinges	BB1168 4.5” x 4.5”	US26D
1	ea.	Exit Device	4501 RIM Fire	US32D
1	ea.	Exit Device Trim	45BE	US26D
2	ea.	Kick Plate	194S 10” x 1 1/2” LDW	US32D
1	ea.	Closer	5100 HDCS	ALM
1	ea.	Gasket	721 x head and jambs	Charcoal
1	ea.	Auto Door Bottom	740S	CLR
1	ea.	Threshold	412S x ½” x 5”	MIL

END OF SECTION

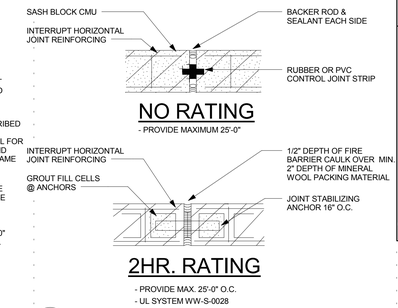
END OF ADDENDUM NO. 1



E3 STUD PARTITION TO STEEL DECK
1 1/2" = 1'-0"



E4 MASONRY PARTITION TO STEEL DECK
1 1/2" = 1'-0"

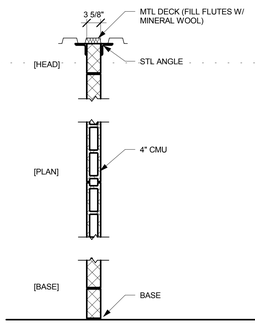


E5 CONTROL JOINT DETAIL
1 1/2" = 1'-0"

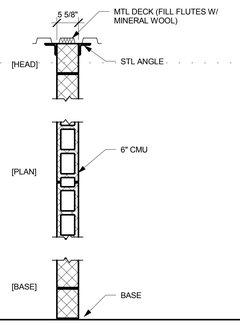
GENERAL SHEET NOTES

1. VERIFY ALL DIMENSIONS AND CONDITIONS IN THE FIELD BEFORE PROCEEDING WITH WORK.
2. ALL CONSTRUCTION SHOWN IS NEW (UNLESS OTHERWISE NOTED).
3. ALL MASONRY PARTITIONS ARE DIMENSIONED TO FACE OF PARTITION OR OPENING
4. EXTERIOR WALLS ARE DIMENSIONED TO THE OUTSIDE FACE (UNLESS OTHERWISE NOTED).
5. TOOTH ALL NEW MASONRY INTO EXISTING TO CREATE UNIFORM APPEARANCE (UNLESS OTHERWISE NOTED).
6. SEAL ALL PENETRATIONS THRU RATED PARTITIONS AND FLOOR SLABS WITH FIRE SAFING INSULATION AND SEALANT AS REQUIRED TO MAINTAIN RATED SEPARATION.
7. SEE SHEETS G-101 FOR LOCATIONS OF RATED PARTITIONS AND SMOKE PARTITIONS.
8. ALL GROUND FACE CMU TO BE STACKED BOND CONSTRUCTION

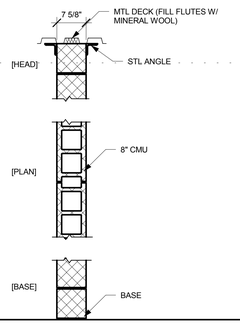
PARTITION SCHEDULE



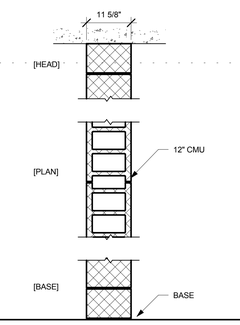
M4 PARTITION TYPE
EXTEND TO UNDERSIDE OF DECK
SMOKE TIGHT PARTITION



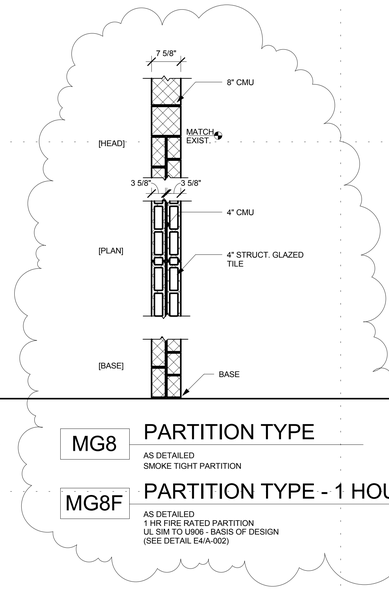
M6 PARTITION TYPE
EXTEND TO UNDERSIDE OF DECK
SMOKE TIGHT PARTITION



M8 PARTITION TYPE
EXTEND TO UNDERSIDE OF DECK
SMOKE TIGHT PARTITION

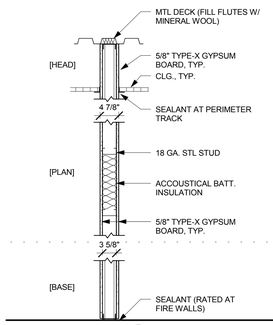


M12 PARTITION TYPE
EXTEND TO UNDERSIDE OF SLAB

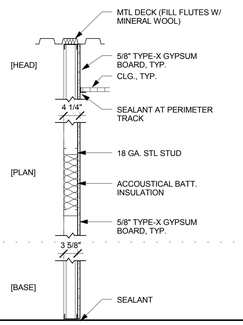


MG8 PARTITION TYPE
AS DETAILED
SMOKE TIGHT PARTITION

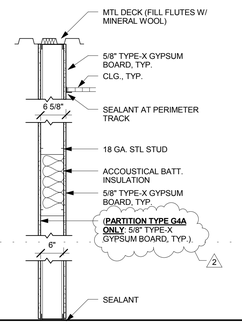
MG8F PARTITION TYPE - 1 HOUR
AS DETAILED
1 HR FIRE RATED PARTITION
UL SIM TO U906 - BASIS OF DESIGN
(SEE DETAIL E4/A-002)



G1 PARTITION TYPE - 1 HOUR
EXTEND TO UNDERSIDE OF DECK
1 HR FIRE RATED PARTITION
UL U419 (SEE DETAIL E3/A-002)

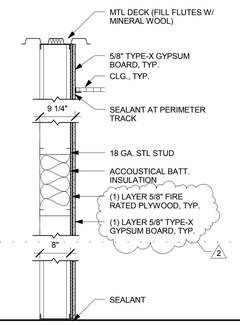


G2 PARTITION TYPE
EXTEND TO UNDERSIDE OF DECK
SMOKE TIGHT PARTITION

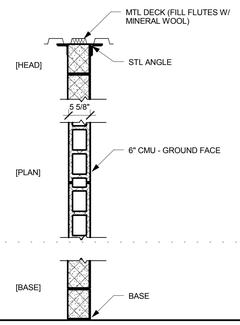


G4 PARTITION TYPE
EXTEND TO UNDERSIDE OF DECK

G4A PARTITION TYPE
AS DETAILED



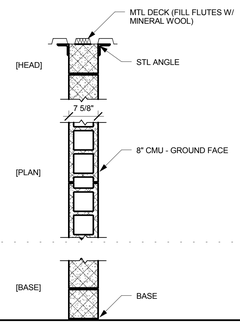
G5 PARTITION TYPE
EXTEND TO UNDERSIDE OF DECK



GF6 PARTITION TYPE
GROUND FACE BLOCK - DOUBLE SIDED
AS DETAILED

GF6A PARTITION TYPE
GROUND FACE BLOCK - SINGLE SIDED
AS DETAILED

GF6F PARTITION TYPE - 1 HOUR
GROUND FACE BLOCK - SINGLE SIDED
EXTEND TO UNDERSIDE OF DECK
1 HR FIRE RATED PARTITION
UL SIM TO U906 - BASIS OF DESIGN
(SEE DETAIL E4/A-002)



GF8 PARTITION TYPE
GROUND FACE BLOCK - DOUBLE SIDED
AS DETAILED

GF8A PARTITION TYPE
GROUND FACE BLOCK - SINGLE SIDED
AS DETAILED

GF8F PARTITION TYPE - 1 HOUR
GROUND FACE BLOCK - DOUBLE SIDED
EXTEND TO UNDERSIDE OF DECK
1 HR FIRE RATED PARTITION
UL SIM TO U906 - BASIS OF DESIGN
(SEE DETAIL E4/A-002)

ABHA architects
1621 N. Lincoln Street
Wilmington, DE 19806
(P) 302 . 658 . 6426
(F) 302 . 658 . 8431
abhagen@ABHA.com
www.ABHA.com

CONSULTANTS
Larsen & Landis
Structural Engineers
1615 Sunset Lane
Wilmington, DE 19810

Furlow Associates
Mechanical/Electrical Engineers
1206 Society Drive
Claymont, DE 19703

Scheu Consulting Service, Inc.
Theater Consultant
210 Falls Boulevard
Chittenango, NY 13037

PROJECT
WILMINGTON CAMPUS RENOVATIONS

100 NORTH DUPONT ROAD
WILMINGTON, DE 19807

OWNER
RED CLAY CONSOLIDATED SCHOOL DISTRICT
1502 SPRUCE AVENUE
WILMINGTON, DE 19805

MARK	DATE	DESCRIPTION
2	06-07-13	ADDENDUM 1
1	05-28-13	ISSUED FOR BID PACK B

PROJECT NUMBER: 1219
FILE NAME: 1219 - CAB CALLOWAY.rvt
DRAWN BY: SMM / DDB
CHECKED BY: CK

SHEET TITLE
PARTITION SCHEDULE

(BID PAC B)

A-002

2

SAU N PLAN SYMBOL

SOUND ATTENUATING UNIT SCHEDULE

EQUIPMENT NUMBER	TYPE	SIZE (WxHxL)	CFM	PD (IN. W.C.)	DYNAMIC INSERTION LOSS DB OCTAVE BAND & MID-FREQUENCY								SYSTEM	MAKE & MODEL	REMARKS
					63 1	125 2	250 3	500 4	1000 5	2000 6	4000 7	8000 8			
SAU-1	RECTANGULAR EXTENDED CASING	66"x36"x120"	9,450	0.18	17	27	38	51	50	33	21	17	RTU-1(S)	PRICE MODEL 'RLX120/XF'	1
SAU-2	RECTANGULAR EXTENDED CASING	68"x24"x60"	4,475	0.07	11	20	26	36	34	22	16	13	RTU-1(R)	PRICE MODEL 'RMX60/XG'	1
SAU-3	RECTANGULAR EXTENDED CASING	46"x40"x60"	4,475	0.09	11	18	31	40	44	30	19	13	RTU-1(R)	PRICE MODEL 'RLX60/9G'	1
SAU-4	RECTANGULAR EXTENDED CASING	36"x66"x120"	9,450	0.18	17	29	38	47	43	27	20	18	RTU-2(S)	PRICE MODEL 'RLX120/ZF'	1
SAU-5	RECTANGULAR EXTENDED CASING	46"x40"x84"	8950	0.13	13	20	34	45	47	32	17	12	RTU-2(R)	PRICE MODEL 'RMX84/9F'	1
SAU-6	ELBOW SILENCER	90"x40"x120"	20,000	0.05	10	13	16	24	27	30	29	24	RTU-3(S)	PRICE MODEL 'ERM75/5B'	1
SAU-7	ELBOW SILENCER	40"x90"x120"	20,000	0.11	13	22	41	54	55	50	42	33	RTU-3(R)	PRICE MODEL 'ERM120/4D'	1
SAU-8	ELBOW SILENCER	40"x90"x120"	20,000	0.05	10	8	25	47	45	46	39	29	RTU-3(S)	PRICE MODEL 'RMX72/8G'	1

NOTES:
1. ATTENUATOR SHALL BE PROVIDED WITH 16 GAUGE CASING, 22 GAUGE PERFORATED LINER, GLASS FIBER ACOUSTIC MEDIA, FIBERGLASS CLOTH LINER AND SLIP INLET & OUTLET CONNECTIONS.

REFERENCE DWG M-301
ADDENDUM #1

ABHA Architects
1621 N. Lincoln Street
Wilmington, DE 19806
(P)302-658-6426
(F)302-658-8431

abhagen@ABHA.com
www.ABHA.com

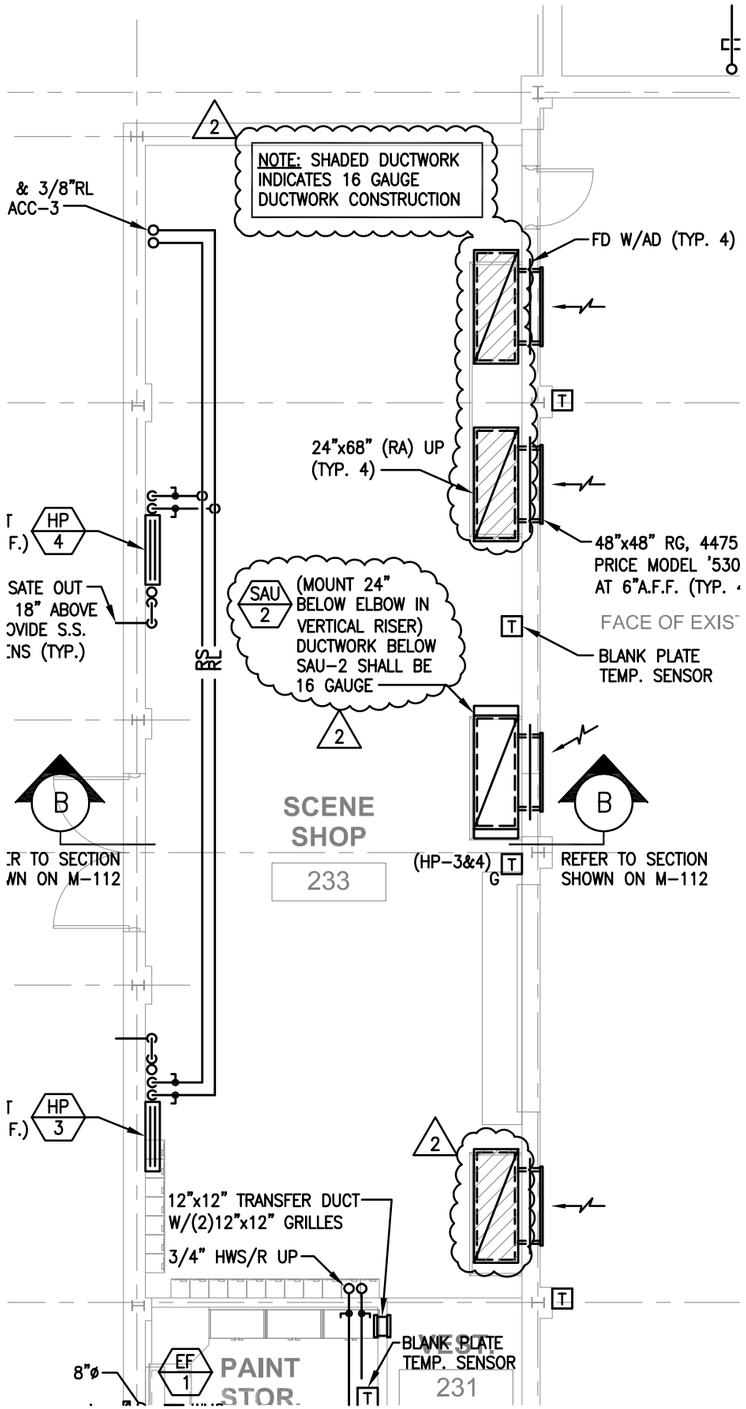
REV:	2
ISSUE:	06/07/13
PROJECT NO:	1219
FILE NAME:	1219 WILM CAMPUS.rvt
DRAWN BY:	DEG
CHECKED BY:	SAJ

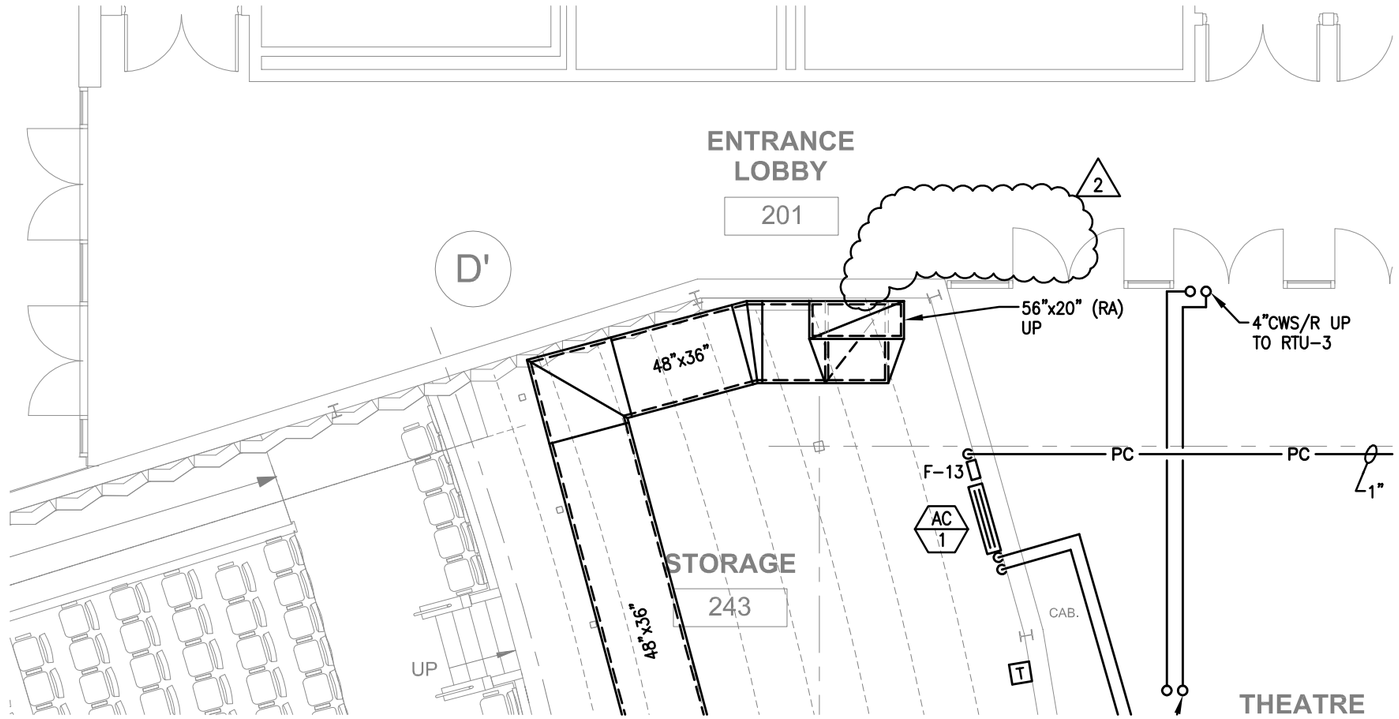
SHEET TITLE
MECHANICAL SCHEDULES

PROJECT
WILMINGTON CAMPUS RENOVATIONS

CONSULTANT
FURLOW ASSOCIATES, INC.
MECHANICAL/ELECTRICAL ENGINEERS

M-703





REFERENCE DWG M-111
ADDENDUM #1

1621 N. Lincoln Street
Wilmington, DE 19806
(P)302-658-6426
(F)302-658-8431

abhagen@ABHA.com
www.ABHA.com

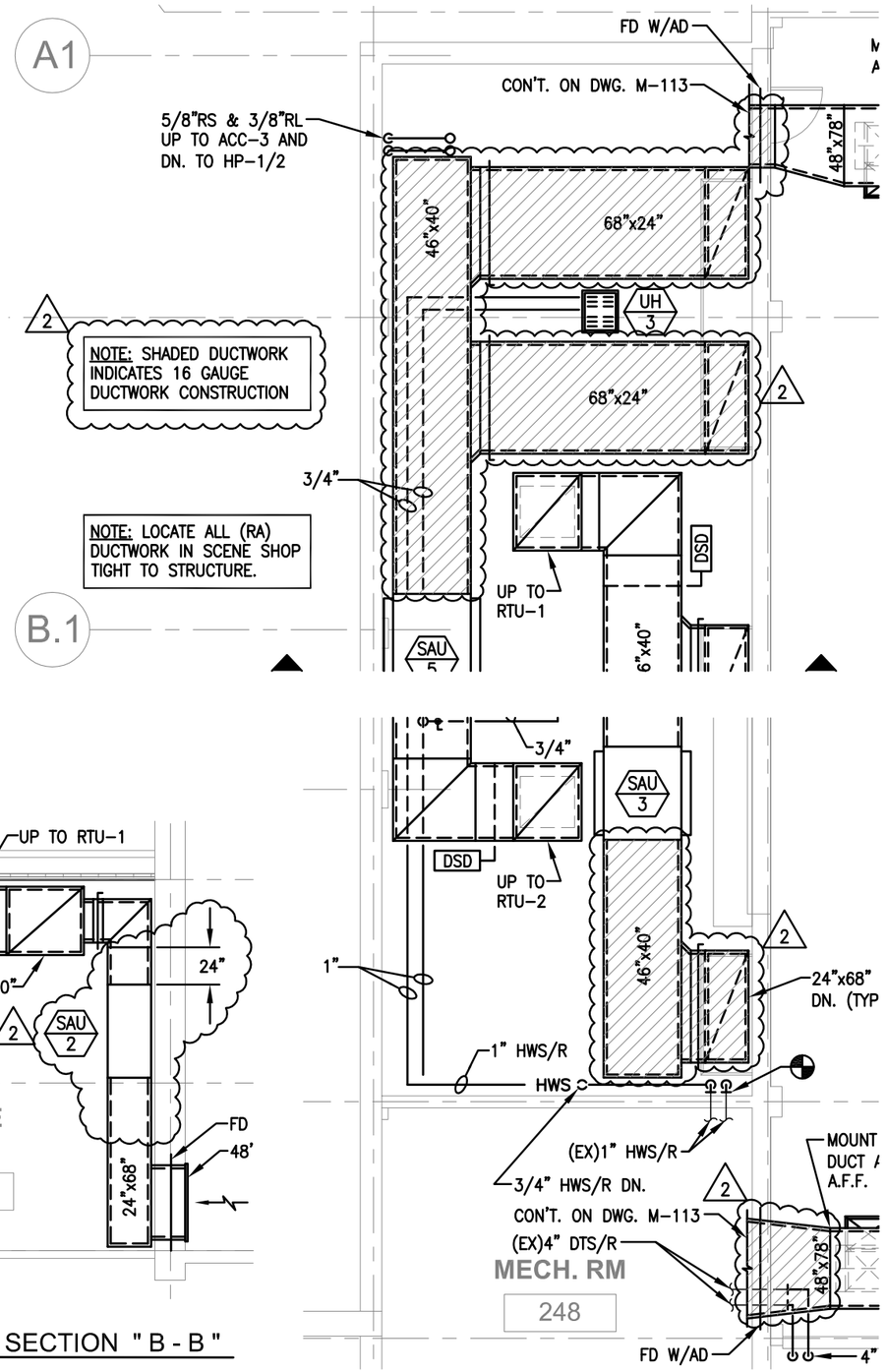
REV:	2
ISSUE:	06/07/13
PROJECT NO:	1219
FILE NAME:	1219 WILM CAMPUS.rvt
DRAWN BY:	DEG
CHECKED BY:	SAJ

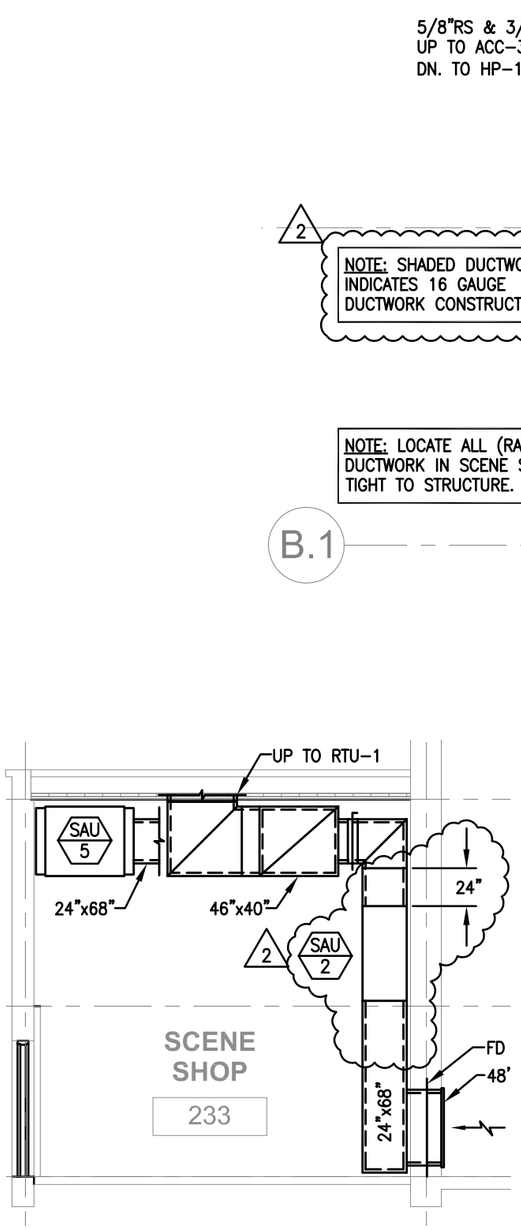
SHEET TITLE
SECOND FLOOR MECHANICAL PLAN

PROJECT
WILMINGTON CAMPUS RENOVATIONS

CONSULTANT
FURLOW ASSOCIATES, INC.
MECHANICAL/ELECTRICAL ENGINEERS

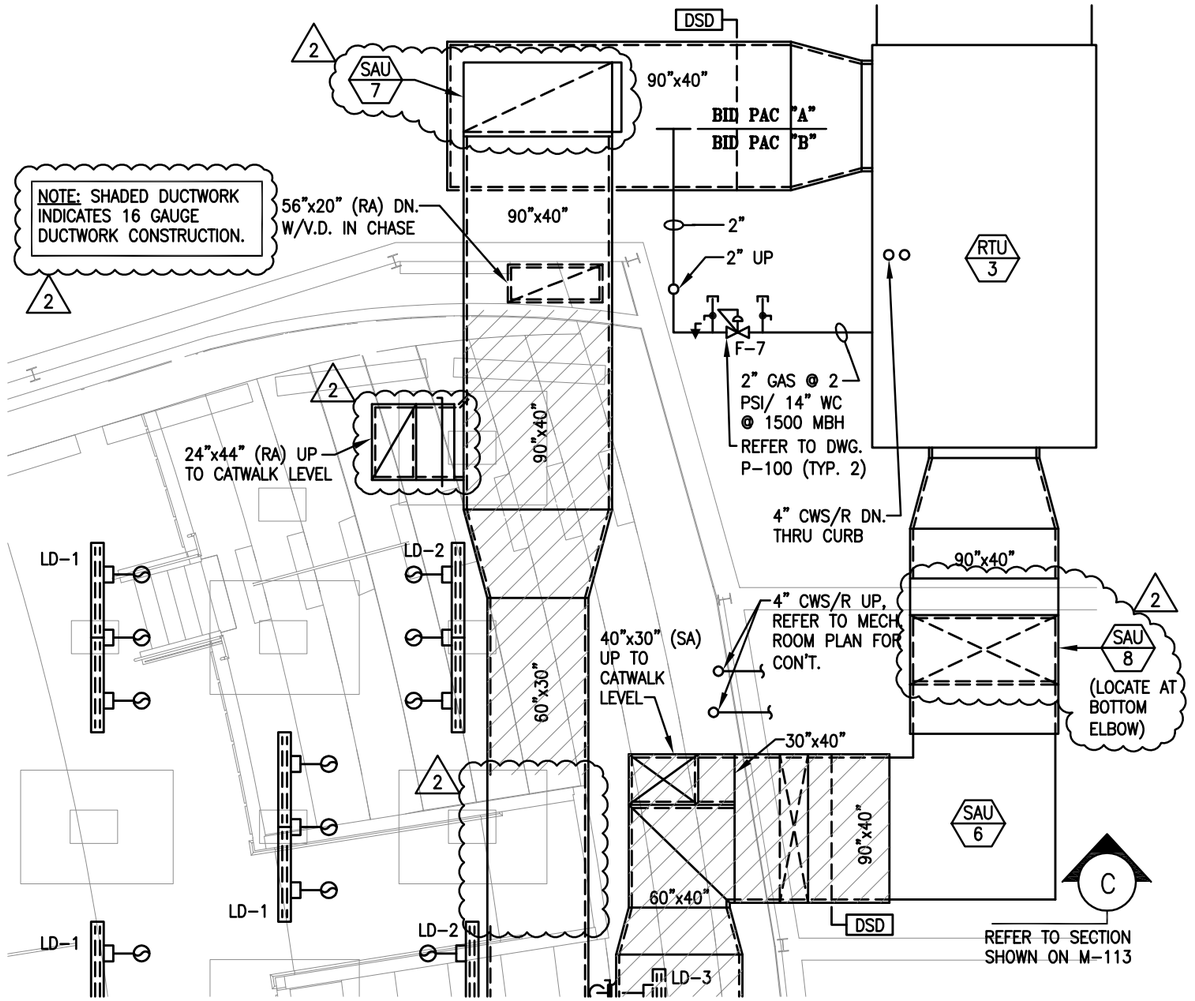
M-700





3 MECHANICAL SECTION " B - B "
1/8" = 1'-0"

1 MECHANICAL PLAN - MEZZANINE - BASE BID
1/8" = 1'-0"



REFERENCE DWG M-112
ADDENDUM #1

1621 N. Lincoln Street
Wilmington, DE 19806
(P)302-658-6426
(F)302-658-8431

abhagen@ABHA.com
www.ABHA.com

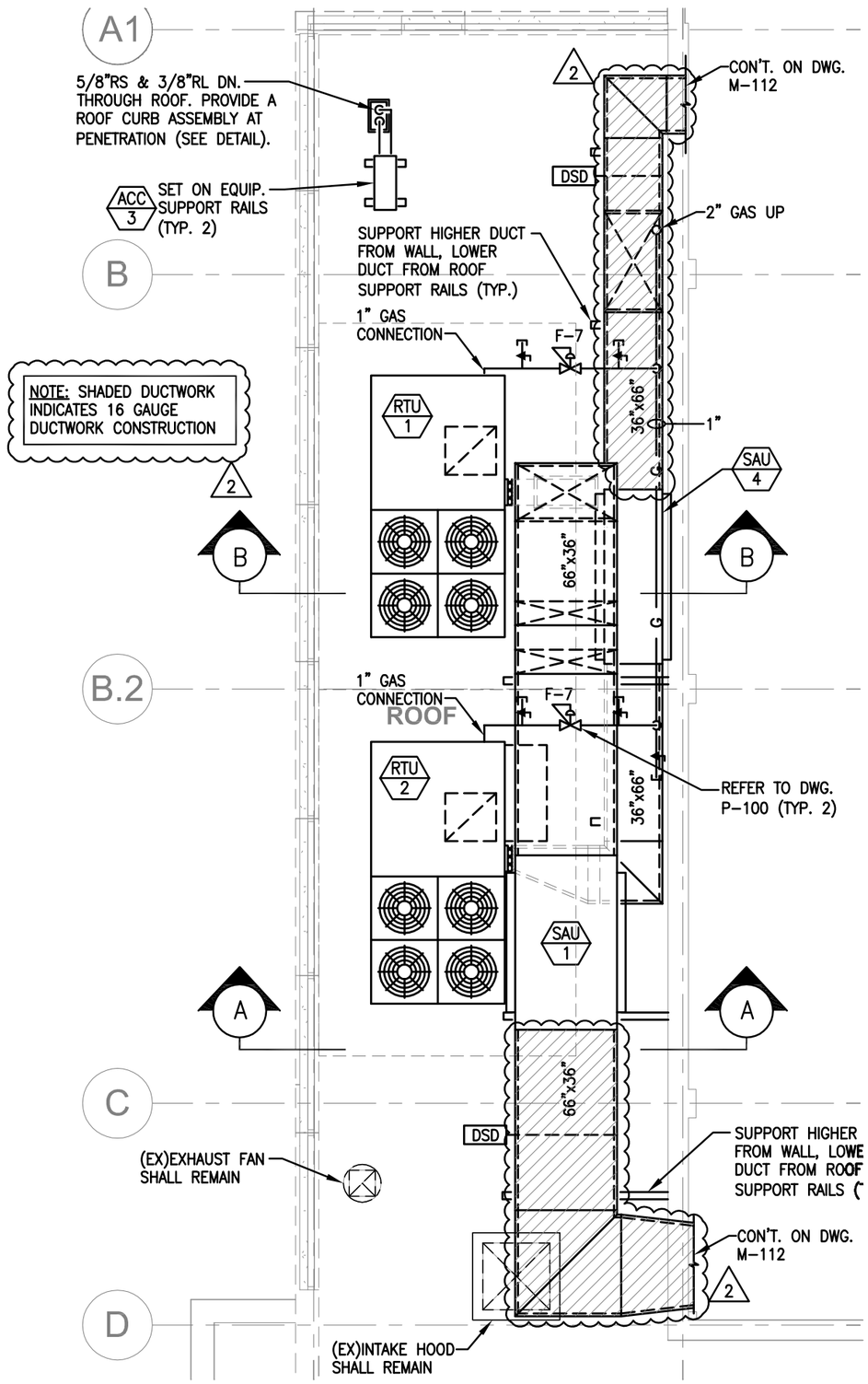
REV:	2
ISSUE:	06/07/13
PROJECT NO:	1219
FILE NAME:	1219 WILM CAMPUS.rvt
DRAWN BY:	DEG
CHECKED BY:	SAJ

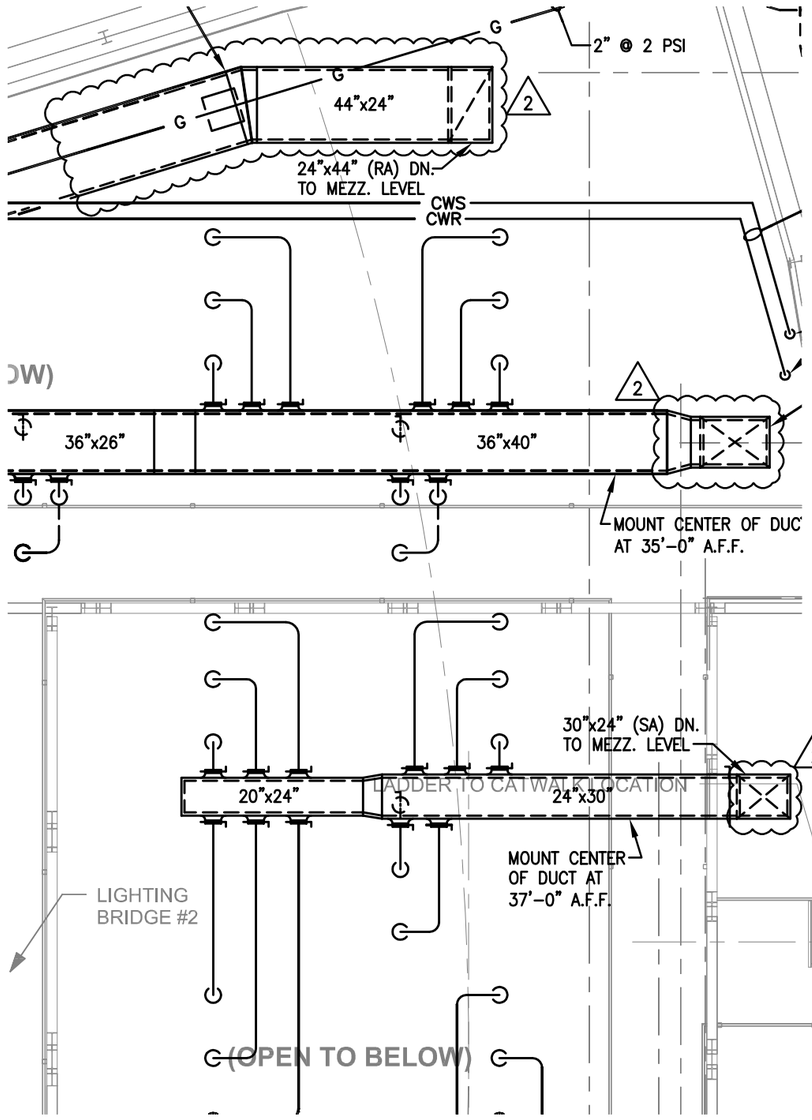
SHEET TITLE
MEZZANINE MECHANICAL PLANS

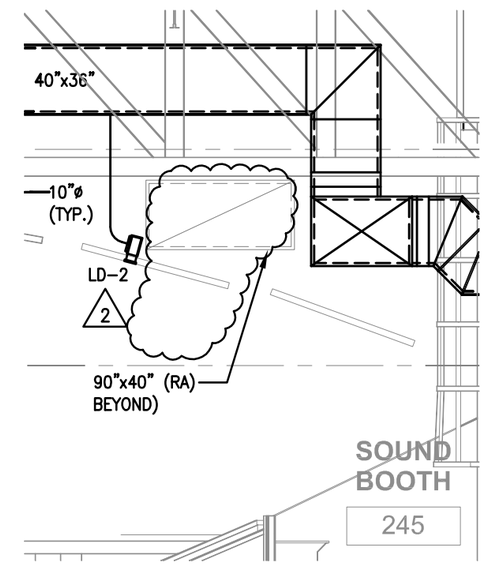
PROJECT
WILMINGTON CAMPUS RENOVATIONS

CONSULTANT
FURLOW ASSOCIATES, INC.
MECHANICAL/ELECTRICAL ENGINEERS

M-701







5 MECHANICAL SECTION " C - C "
1/8" = 1'-0"

1 MECHANICAL PLAN - CATWALKS - BASE BID
1/8" = 1'-0"

REFERENCE DWG M-113
ADDENDUM #1

1621 N. Lincoln Street
Wilmington, DE 19806
(P)302-658-6426
(F)302-658-8431

abhagen@ABHA.com
www.ABHA.com

REV:	2
ISSUE:	06/07/13
PROJECT NO:	1219
FILE NAME:	1219 WILM CAMPUS.rvt
DRAWN BY:	DEG
CHECKED BY:	SAJ

SHEET TITLE
CATWALKS & ROOF MECHANICAL PLANS

PROJECT
WILMINGTON CAMPUS RENOVATIONS

CONSULTANT
FURLOW ASSOCIATES, INC.
MECHANICAL/ELECTRICAL ENGINEERS

M-702