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September 18, 2014

ADDENDUM #2
IFB #15-35
LAURA LEE EXTERIOR DOOR PROJECT

The number of this Addendum, Addendum No. 2, must be entered in the space provided on the Bid Form, for each of the four bids.

REPLACE:

- **COMPLETE Revised Drawings and Specifications**

Sincerely

P. Michael Vaughn
Chief Procurement Officer

LAURA LEE THERAPEUTIC DAY SCHOOL
DOOR REPLACEMENT

235 POWELL STREET
LOWELL, MA

PREPARED FOR:

LOWELL PUBLIC SCHOOLS

SPECIFICATION

SECTION 08 11 13

HOLLOW METAL DOORS AND FRAMES

PART 1 GENERAL

1.1 SUMMARY

A. Provide all labor, materials, and equipment required for the complete finished and functioning installation of hollow metal doors and frames as shown and specified

B. Provide all panels, glass and glazing for doors, transoms, and sidelights

C. Provide all hardware and accessories required for a complete installation whether shown and specified or not.

D. Demolish and properly dispose of all existing doors, frames, hardware, and associated material as required and prepare openings for new work.

1.2 SUBMITTALS

A. Shop Drawings: Indicate door and frame elevations, internal reinforcement, cut-outs & stops for glazing, and finishes. Show all infill panels, brake metal, trim, sealants, and accessories necessary for a complete installation. Show exact sizes as verified by field measures

B. Product Data: Submit door and frame configurations, location of cut-outs for hardware reinforcement and glazing

1.3 QUALITY ASSURANCE

A. Perform Work in accordance with the following Steel Door Institute (SDI):
   1. SDI-100 Recommended Specifications for Standard Steel Doors and Frames.
   2. SDI-111 Recommended Details for Standard Steel Doors, Frames, Accessories and Related Components.

B. Warranty: Provide manufacturer's standard warranty.

PART 2 PRODUCTS

2.1 STEEL DOORS AND FRAMES

A. Product Description: Standard shop fabricated steel doors and welded frames; non-fire rated types, flush face with shop installed glazing

2.2 COMPONENTS

A. Exterior Doors (Insulated): SDI 108, 1-3/4 inch thick
   1. Level 2 - Heavy Duty, nominal 18 gage/0.042 inch thick face sheets; Model 1, full flush design, galvanized and primed

B. Exterior Frames
   1. Level 2, nominal 16 gage/0.053 inch thick material, base metal thickness, galvanized and primed

C. Door Core
   1. Exterior: polyurethane foam

D. Closures: Channel, 0.04 inch thick, flush and sealed on top, inverted on bottom.

2.3 FABRICATION

A. Fabricate doors and frames with hardware reinforcement welded in place. Protect exterior frame hardware preparations with mortar guard boxes.

B. Fabricate frames as face welded units.

C. Fabricate frames to match existing openings. Field measure all openings prior to fabrication

2.4 FINISHING

A. Steel Sheet: Galvanized to ASTM A653/A653M A40.

B. Primer: Manufacturer's standard rust inhibitive type, shop applied, baked

C. Field Paint: Exterior Metal, Gloss Finish
   1. 1st Coat: MPI 107 Sherwin Williams Pro Industrial Pro-Cryl Universal Primer or equal, B66-310 Series (5-10 mils wet, 2-4 mils dry)
   2. 2nd Coat: MPI 163 Sherwin Williams Pro Industrial Zero VOC Acrylic Gloss or equal, B66 Series (Wet mils: 6.0 - 12.0 Dry mils: 2.5 - 4.0
   3. 3rd Coat: MPI 163 Sherwin Williams Pro Industrial Zero VOC Acrylic Gloss or equal, B66 Series (Wet mils: 6.0 - 12.0 Dry mils: 2.5 - 4.0

D. Coat inside of exterior frame profile with bituminous coating
   1. Bituminous Coating for exterior frame: Fibered (non-asbestos) asphalt emulsion.

PART 3 EXECUTION

3.1 EXAMINATION

A. Field measure opening sizes and confirm tolerances are acceptable.

3.2 PREPARATION

A. Remove old doors and frames and prepare openings for new work.

B. Ensure openings to receive frames are plumb, level, square, and in tolerance

C. Provide shims, infill, repairs, and all corrective work required to prepare openings for new frames

D. Provide any temporary enclosures required to maintain security, egress, safety, and weather protection as directed by the Owner

3.3 INSTALLATION

A. Install doors and frames in accordance with SDI-100.

B. Coordinate installation of doors and frames with installation of hardware specified in Section 08 71 00.

C. Coordinate door frames with masonry, wood, or other wall construction for frame anchor placement. Field verify all materials prior to fabrication.

D. Provide glass and glazing as shown on the drawings.

E. Set thresholds in bed of mastic and backseal

F. Repair minor damages to finish in accordance with manufacturer's instructions and as approved by Architect.

G. Remove and replace damaged components that cannot be successfully repaired as determined by Architect.

H. Tolerances:
   1. Maximum Diagonal Distortion: 1/8 inch measured with straight edge, corner to corner.

3.4 ADJUSTING

A. Adjust doors, hinges, and locksets for smooth operation without binding.

B. Provide up to 180 days of adjustment service of doors and hardware for proper operation from date of substantial completion.

3.5 CLEANING

A. Clean doors promptly after installation in accordance with manufacturer's instructions.

B. Do not use harsh cleaning materials or methods that would damage finish.

3.6 PROTECTION

A. Protect installed doors to ensure that, except for normal weathering, doors will be without damage or deterioration at time of substantial completion.

END OF SECTION

SECTION 08 17 43

FIBERGLASS REINFORCED POLYESTER (FRP) DOORS & ALUMINUM FRAMES

PART 1 GENERAL

1.1 SUMMARY

A. Provide all labor, materials, and equipment required for the complete finished and functioning installation of fiberglass reinforced polyester (FRP) flush doors with aluminum frames as shown and specified

B. Provide all panels, glass and glazing for doors, transoms, and sidelights

C. Provide all hardware and accessories required for a complete installation whether shown and specified or not.

D. Demolish and properly dispose of all existing doors, frames, hardware, and associated material as required and prepare openings for new work.

1.2 REFERENCES

A. American Architectural Manufacturers Association (AAMA)
   1. AAMA 1503-98 - Thermal Transmittance and Condensation Resistance of Windows, Doors and Glazed Wall Sections

B. ASTM INTERNATIONAL (ASTM)
   1. ASTM D 256 - Determining the Pendulum Impact Resistance of Notched Specimens of Plastics
   2. ASTM D 570 - Water Absorption of Plastics.
   3. ASTM D 638 - Tensile Properties of Plastics.
   4. ASTM D 790 - Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials.
   5. ASTM D 1308 - Effect of Household Chemicals on Clear and Pigmented Organic Finishes.
   6. ASTM D 1621 - Compressive Properties of Rigid Cellular Plastics.
   7. ASTM D 1623 - Tensile and Tensile Adhesion Properties of Rigid Cellular Plastics.
   8. ASTM E 84 - Surface Burning Characteristics of Building Materials.
   9. ASTM E 90 - Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions.
   10. ASTM E 283 - Determining the Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen.
   11. ASTM E 331 - Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Uniform Static Air Pressure Difference.

1.3 PERFORMANCE REQUIREMENTS

A. General: Provide door assemblies that have been designed and fabricated to comply with specified performance requirements, as demonstrated by testing manufacturer's corresponding standard systems.

B. Air Infiltration: For a single door 3'-0" x 7'-0", test specimen shall be tested in accordance with ASTM E 283 at pressure differential of 6.27 psf. Door shall not exceed 0.58 cfm/ft2.

C. Water Resistance: For a single door 3'-0" x 7'-0", test specimen shall be tested in accordance with ASTM E 331 at pressure differential of 7.50 psf. Door shall not have water leakage.

D. Thermal Transmission, Exterior Doors, U-Value, AAMA 1503-98: Maximum of 0.29 BTU/hr x sf x degrees F. Minimum of 55 CRF value

E. Surface Burning Characteristics, Class A on Interior Faces of FRP Exterior Panels and Both Faces of FRP Interior Panels, ASTM E 84:
   1. Flame Spread: Maximum of 25.

2. Smoke Developed: Maximum of 450.

F. Impact Strength, FRP Doors and Panels, Nominal Value, ASTM D 256: 14.0 foot-pounds per inch of notch

G. Tensile Strength, FRP Doors and Panels, Nominal Value, ASTM D 638: 13,000 psi

H. Flexural Strength, FRP Doors and Panels, Nominal Value, ASTM D 790: 21,000 psi

I. Water Absorption, FRP Doors and Panels, Nominal Value, ASTM D 570: 0.20 percent after 24 hours

J. Stain Resistance, ASTM D 1308: Face sheet unaffected after exposure to red cabbage, tea, and tomato acid. Stain removed easily with mild abrasive or FRP cleaner when exposed to crayon and crankcase oil.

K. Compressive Strength, Foam Core, Nominal Value, ASTM D 1621: 79.9 psi

L. Tensile Adhesion, Foam Core, Nominal Value, ASTM D 1623: 45.3 psi

1.4 SUBMITTALS

A. Product Data: Submit manufacturer's product data, including description of materials, components, fabrication, finishes, and installation.

B. Shop Drawings: Submit manufacturer's shop drawings, including elevations, sections, and details, indicating dimensions, tolerances, materials, fabrication, doors, panels, framing, hardware schedule, and finish.

C. Samples:
   1. Door: Submit manufacturer's sample of door showing face sheets, core, framing, and finish.
   2. Color: Submit manufacturer's samples of standard colors of doors and frames.

D. Test Reports: Submit certified test reports from qualified independent testing agency indicating doors comply with specified performance requirements.

E. Maintenance Manual: Submit manufacturer's maintenance and cleaning instructions for doors, including maintenance and operating instructions for hardware.

F. Warranty: Submit manufacturer's standard warranty.

1.5 QUALITY ASSURANCE

A. Manufacturer's Qualifications:
   1. Continuously engaged in manufacturing of doors of similar type to that specified, with a minimum of 5 years successful experience.
   2. Door and frame components from same manufacturer.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Delivery: Deliver materials to site in manufacturer's original, unopened containers and packaging, with labels clearly identifying opening door mark and manufacturer.

B. Storage: Store materials in clean, dry area indoors in accordance with manufacturer's instructions.

C. Handling: Protect materials and finish from damage during handling and installation.

1.7 WARRANTY

A. Warrant doors, frames, and factory hardware against failure in materials and workmanship, including excessive deflection, faulty operation, defects in hardware installation, and deterioration of finish or construction in excess of normal weathering.

B. Warranty Period: Ten years from date of substantial completion. In addition, a limited lifetime (while the door is in its specified application in its original installation) warranty covering: failure of corner joinery, core deterioration, delamination or bubbling of door skin.

PART 2 PRODUCTS

2.1 FRP FLUSH DOORS

A. Flush aluminum framed doors with fiberglass reinforced polyester (FRP) face sheets.

B. Construction:
   1. Door Thickness: 1-3/4 inches.
   2. Stiles and Rails: Aluminum extrusions made from 6063-T6 alloy, minimum of 2-5/16-inch depth.
   3. Corners: Mitered.
   4. Provide joinery of 3/8-inch diameter full-width tie rods through extruded splines top and bottom integral to standard tubular shaped stiles and rails reinforced to accept hardware as specified.
   5. Securing Internal Door Extrusions: 3/16-inch angle blocks and locking hex nuts for joinery. Welds, glue, or other methods are not acceptable.
   6. Furnish extruded stiles and rails with integral reglets to accept face sheets. Lock face sheets into place to permit flush appearance.
   7. Rail caps or other face sheet capture methods are not acceptable.
   8. Extrude top and bottom rail legs for interlocking continuous weather bar.
   9. Meeting Stiles: Pile brush weatherseals. Extrude meeting stile to include integral pocket to accept pile brush weatherseals.
   10. Bottom of Door: Install bottom weather bar with nylon brush weatherstripping into extruded interlocking edge of bottom rail.
   11. Glue: Use of glue to bond sheet to core or extrusions is not acceptable.

C. Face Sheet:
   1. Material: Fiberglass reinforced polyester, 0.120-inch thickness, finish color throughout.
   2. Protective coating: Abuse-resistant engineered surface.
   3. Texture: Pebble.
   4. Color: As selected by Owner from manufacturer's standards.
   5. Adhesion: The use of glue to bond face sheet to foam core is prohibited.

D. Core:
   1. Material: Poured-in-place polyurethane foam.
   2. Density: Minimum of 5 pounds per cubic foot.
   3. R-Value: Minimum of 9

E. Cutouts:
   1. Manufacture doors with cutouts for required vision lites.
   2. Factory install vision lites.

F. Hardware:
   1. Pre-machine doors in accordance with templates from specified hardware manufacturers and hardware schedule.
   2. Factory install hardware reinforcing.

2.2 MATERIALS

A. Aluminum Members:
   1. Aluminum Extrusions: 6063-T6 alloy: ASTM B 221
   2. Aluminum Sheet and Plate: ASTM B 209.
   3. Alloy and Temper: As required by manufacturer for strength, corrosion resistance, application of required finish, and control of color.

B. Components: Door and frame components from same manufacturer.

C. Fasteners:
   1. Material: Aluminum, 18-8 stainless steel, or other noncorrosive metal.
   2. Compatibility: Compatible with items to be fastened.
   3. Exposed Fasteners: Screws with finish matching items to be fastened.

2.3 FABRICATION

A. Sizes and Profiles: Required sizes for door and frame units, and profile requirements shall be as indicated on the Drawings.

B. Coordination of Fabrication: Field measure before fabrication and show recorded measurements on shop drawings.

C. Assembly:
   1. Complete cutting, fitting, forming, drilling, and grinding of metal before assembly.
   2. Remove burrs from cut edges.

D. Welding: Welding of doors or frames is not acceptable.

E. Fit:
   1. Maintain continuity of line and accurate relation of planes and angles.
   2. Secure attachments and support at mechanical joints with hairline fit at contacting members.

2.4 ARCHITECTURAL PANELS

A. Insulated FRP Panels:
   1. Insulated Panels: Two 0.120-inch minimum thickness sheets.
   2. Core: Foam polyurethane core of a minimum of 5 pounds per cubic foot density.
   3. Form components to function as single unit.
   4. R-Value: Minimum of 4 for 1-inch panels.
   5. Size: As indicated on the Drawings.
   6. Thickness: 1 inch.

B. Face Sheets: 0.120-inch thickness, finish color throughout. Abuse-resistant engineered surface.
   1. Texture: Pebble.
   2. Color: To match doors.

C. Face Sheet Flame Spread and Smoke Developed Rating:
   1. Class A flame spread and smoke developed rating on interior faces of exterior panels and both faces of interior panels.
   2. Flame Spread, ASTM E 84: Maximum of 25.
   3. Smoke Developed, ASTM E 84: Maximum of 450.

CONTINUE SHEET A-2

City of Lowell
Public Schools

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LAURA LEE THERAPEUTIC DAY SCHOOL
235 POWELL STREET
LOWELL, MA
PREPARED FOR:
LOWELL PUBLIC SCHOOLS

MARK	DATE	DESCRIPTION
0	09/10/14	ISSUED FOR BID
2	09/18/14	ADDENDUM # 2

PROJECT NO: 14401-06
MODEL FILE: A-1.dwg
DRAWN BY: LSP
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COVER & SPECIFICATION

A-1
SHEET 1 OF 3

Plot Date: 9/18/2014 8:51:28 AM File Path: J:\01 Projects\14XXX\14401-06 Lowell Public Schools Doors\11.0 Working Files - LAURA LEE\11.1 Drawings\11.1.1 Sheet Files\A-1.dwg

SPECIFICATION

2.5 ALUMINUM DOOR FRAMING SYSTEMS

A Tubular Framing
1 Size and Type: As indicated on the Drawings
2 Materials: Aluminum extrusions, 6063-T6 alloy, 1/8-inch minimum wall thickness
3 Applied Door Stops: 0.625-inch high, with screws and weatherstripping. Door stop shall incorporate pressure gasketing for weathering seal. Counterpunch fastener holes in door stop to preserve full metal thickness under fastener head
4 Frame Members: Box type with 4 enclosed sides. Open-back framing is not acceptable
5 Caulking: Caulk joints with silicone sealant before assembling frame members
6 Joints:
a Secure joints with fasteners
b Provide hairline butt joint appearance
7 Field Fabrication: Field fabrication of framing using stick material is not acceptable
8 Applied Stops: For side, transom, and borrowed lites and panels. Applied stops shall incorporate pressure gasketing for weathering seal. Reinforce with solid bar stock fill for frame hardware attachments
9 Hardware
a Pre-machine and reinforce frame members for hardware in accordance with manufacturer's standards and hardware schedule
b Factory install hardware to the extent practicable
10 Anchors:
a Use anchors appropriate for wall conditions to anchor framing to wall materials
b Door Jamb and Header Mounting Holes: Maximum of 24-inch centers
c Secure head and sill members of transom, side lites, and similar conditions.
11 Side Lites: Factory preassemble side lites to greatest extent practicable.

B Insert Framing System
1 Use insert frames where scheduled
2 Insert frame as indicated on the Drawings, using integral stop fitted with weatherstripping
3 Corner joints of miter design, secure with furnished aluminum clips, and screw into place.
4 Hardware
a Pre-machine and reinforce frame members for hardware in accordance with manufacturer's standards and hardware schedule
b Factory install hardware to the extent practicable
5 Anchors:
a Anchors of suitable type to fasten insert framing to existing frame materials
b Minimum of 5 anchors on jambs up to 7'-4" height, 3 anchors on headers, and 1 additional anchor for each additional foot of frame.
6 Frame Cap: Provide with insert frame as required to achieve complete finished installation.
7 Finish: Match tubular framing.

2.6 HARDWARE

A Pre-machine and reinforce doors in accordance with templates from specified hardware manufacturers and hardware schedule
B Factory install hardware to the extent practicable
C Hardware Schedule: As specified in Section 08 71 00 and as indicated on the drawings
D Provide integral hardware as follows:
1 Concealed adjustable bottom brush. Install door manufacturer's multidirectional adjustable bottom with double nylon brush weatherstripping. Door bottom must be concealed and adjust to accommodate irregular tapered floor conditions
2 Concealed adjustable meeting stile astragal for double doors. Install door manufacturer's adjustable astragal with double pile and weather seal weatherstripping.

2.7 VISION LITES

A Factory Glazing: 1-inch glass insulating units, clear laminated safety glass
B Lites in Exterior Doors: Allow for thermal expansion
C Rectangular Lites:
1 Size: As indicated on the Drawings
2 Factory glazed with screw-applied aluminum stops anodized to match perimeter door rails

2.8 ALUMINUM FINISHES

A Anodized Finish: Class I finish, 0.7 mils thick
1 Clear 215 R1, AA-M10C12C22A41, Class I, 0.7 mils thick

PART 3 EXECUTION

3.1 EXAMINATION

A Examine areas to receive doors. Notify Architect of conditions that would adversely affect installation or subsequent use. Do not proceed with installation until unsatisfactory conditions are corrected

3.2 PREPARATION

A Remove old doors and frames and prepare openings for new work.
B Ensure openings to receive frames are plumb, level, square, and in tolerance.
C Provide shims, infill, repairs, and all corrective work required to prepare openings for new frames.
D Provide any temporary enclosures required to maintain security, egress, safety, and weather protection as directed by the Owner.

3.3 INSTALLATION

A Install doors in accordance with manufacturer's instructions
B Install doors plumb, level, square, true to line, and without warp or rack.
C Anchor frames securely in place.
D Separate aluminum from other metal surfaces with bituminous coatings or other means approved by Architect.
E Set thresholds in bed of mastic and backseal
F Install exterior doors to be weathertight in closed position.
G Repair minor damages to finish in accordance with manufacturer's instructions and as approved by Architect
H Remove and replace damaged components that cannot be successfully repaired as determined by Architect.

3.4 FIELD QUALITY CONTROL

A Manufacturer's Field Services: Manufacturer's representative shall provide technical assistance and guidance for installation of doors.

3.5 ADJUSTING

A Adjust doors, hinges, and locksets for smooth operation without binding.
B Provide up to 180 days of adjustment service of doors and hardware for proper operation from date of substantial completion.

3.6 CLEANING

A Clean doors promptly after installation in accordance with manufacturer's instructions
B Do not use harsh cleaning materials or methods that would damage finish.

3.7 PROTECTION

A Protect installed doors to ensure that, except for normal weathering, doors will be without damage or deterioration at time of substantial completion.

END OF SECTION

SECTION 08 71 00

DOOR HARDWARE

(2)

PART 1 GENERAL

1.1 SUMMARY

A Section includes hardware for:
1 Fiberglass reinforced plastic (FRP) doors and aluminum frames
2 Hollow metal steel doors and frames
3 Provide all hardware and prep for Access Control System by others.
4 Coordinate all hardware with Owner and Access Control System contractor as directed by Owner

B Furnish and install all finish hardware necessary for all doors, and hardware as specified herein and as enumerated in hardware sets and as indicated on the drawings and required by actual conditions at the building.
C Provide all necessary screws, bolts, expansion shields, drop plates, and all other devices necessary for the proper application of the hardware.
D Include field modification and preparation of existing doors and/or frames for new hardware being installed. Provide necessary fillers, Dutchmen, reinforcements, and fasteners for mounting new hardware and to cover existing door/frame preps

1.2 REFERENCES

A ADA - Americans with Disabilities Act
B Massachusetts Architectural Access Board Regulation - 521 CMR
C DHI - Door and Hardware Institute
1 Sequence and Format for the Hardware Schedule
2 Recommended Locations for Builders Hardware
D ANSI - American National Standards Institute
1 ANSI/BHMA A156.1 - A156.29, and ANSI A156.31 - Standards for Hardware and Specialties
E Builders Hardware Manufacturers Association (BHMA)

1.3 SUBMITTALS

A Product Data: Provide manufacturers' data sheets for each hardware item including all features, options, and finishes.
B Hardware Schedule: Submit schedule with complete designations of each item required for each door or opening.
C Key Schedule: Provide a keying schedule, listing the levels of keying, as well as an explanation of the key system's function, the key symbols used, and the door numbers controlled to coordinate with the Owner's existing system.
D Samples: Submit product samples as requested by the Owner of each type of exposed hardware unit in the finish indicated
E Templates: After final approval of the hardware schedule, provide templates for doors, frames, and other work specified to be factory prepared for the installation of door hardware

1.4 CLOSEOUT SUBMITTALS

A Operation and Maintenance Data: Submit data on operating hardware, lubrication requirements, and inspection procedures related to preventative maintenance
B Deliver to Owner's maintenance staff any special tools required for specific items
C Provide written, executed warranty specifically for this project

1.5 QUALITY ASSURANCE

A Perform Work in accordance with the following requirements
1 ANSI A156 series
2 521 CMR Architectural Access Board
B Coordination: Coordinate work of this section with other directly affected sections requiring integral reinforcement for door hardware
C Supplier: Company specializing in supplying commercial and institutional door hardware with minimum three years documented experience.
D Single Source Responsibility: Obtain each type of hardware (latch, cores, and locksets, hinges, exit devices, closers, etc.) from a single manufacturer

1.6 WARRANTY

A Furnish the followings manufacturer's warranties
1 Closers: 10 years
2 Exit Devices: 7 years
3 Locksets: Limited Lifetime
4 Hinges: Limited Lifetime
5 Other hardware: 5 years

1.7 MAINTENANCE SERVICE

A Provide service and adjustment of door hardware to ensure smooth and proper operation for 180 days from date of Substantial Completion.
B Provide special wrenches and tools applicable to each different or special hardware component.

PART 2 PRODUCTS

2.1 DOOR HARDWARE COMPONENTS

A General Hardware Requirements: Where not specifically indicated, comply with applicable ANSI A156 standard for type of hardware required. Furnish each type of hardware with accessories as required for applications indicated and for complete, finished, operational doors
1 To establish a level of quality, manufacturers and models listed are acceptable. Other manufacturers are also acceptable if they meet the requirements of the specification
2 All hardware shall conform to the requirements of the Architectural Access Board 521 CMR.
3 Templates: Furnish templates or physical hardware items to door and frame manufacturers sufficiently in advance to avoid delay in Work
4 Reinforcing Units: Furnished by door and frame manufacturers, coordinated by hardware supplier or hardware manufacturer
5 Fasteners: Furnish as recommended by hardware manufacturer and as required to secure hardware.
a Finish: Match hardware item being fastened

B Butt Hinges: ANSI A156, complying with following general requirements unless otherwise scheduled.
1 Widths: Sufficient to clear trim projection when door swings 180 degrees, 4 1/2 inches by 4 1/2 inches
2 Number: Furnish minimum three hinges per door leaf
3 Acceptable manufacturers: Hager, Stanley, or equal

C Continuous Geared Hinges:
1 Type: Concealed leaf, full mortise
2 Material: Aluminum 6063-T6
3 Use Grade: Heavy duty, high frequency.
4 Electric Function: Provide electric hinge or prep for electric power transfer as required for electric hardware (Access Control System)
a Von Duprin EPT-10 or equal
5 Finish: Clear anodized
6 Acceptable manufacturers:
a Hager-Roton, Pemko, Stanley, or equal
b For FRP doors: Door manufacturer's standard heavy duty, high frequency continuous geared hinge or equal.

D Exit Devices:
1 Provide exit devices tested to ANSI/BHMA A156.3 Grade 1, and UL listed for Panic Exit and/or Fire Exit Hardware.
2 Provide rim devices for single doors or pairs of doors with removable mullion. Provide surface vertical rod devices for double doors
3 Provide touchpad type exit devices, fabricated of stainless steel, or aluminum, plated to the standard architectural finishes to match the balance of the door hardware
4 Touchpad shall extend full width of the door. End-cap will have two-point attachment to door. Touch-pad shall match exit device finish. Only compression springs will be used in devices, latches, and outside trims or controls.
5 Devices to incorporate a deadlatching feature
6 Provide manufacturer's standard strikes
7 Non-fire-rated exit devices shall have cylinder dogging
8 Exit devices for fire rated openings shall be UL labeled fire exit hardware
9 Provide push pad monitor switch and electric latch retraction for doors with Access Control System.
10 Acceptable manufacturers:
a Von Duprin 99 Series
b Stanley Precision Apex 2100-2200 Series
c Sargent 80 Series
d or equal

E Trim: Provide ADA compliant recessed trim of extruded aluminum, solid brass, bronze, or stainless steel
1 Acceptable manufacturers:
a Don Jo 1850 Flush Pull or equal
b For FRP doors: Manufacturer's standard recessed ADA compliant pull.

F Locksets: Furnish locksets compatible with specified cylinders. Furnish standard strikes with extended lips to protect trim from being marred by latch bolt. Verify type of cutouts provided in metal frames. Provide mortise locksets or bored cylinder locksets as scheduled on the drawings.
1 Provide mortise locks certified as ANSI A156.13, Grade 1 Operational, Grade 2 Security. Lock case shall be multi-function and field reversible for handing without opening the case.
2 Provide locks with a standard 2-3/4 inches backset with a full 3/4 inch throw stainless steel mechanical anti-friction latchbolt. Deadbolt shall be a full 1 inch throw, constructed of stainless steel.
3 Acceptable manufacturers:
a Best 45H series.
b Schlage L9000 series
c Sargent 8200 series.

G Cylinders: ANSI A156.5, Grade 1, 6 pin type interchangeable core type cylinders. Match Owner's existing system cylinders.
1 Keying: Key to existing keying system as directed by Owner; Master keyed
2 Supply keys in the following minimum quantities:
a 2 master keys.
b 2 change keys for each lock
3 Provide temporary construction cores.
4 Acceptable manufacturers
a Best
b Schlage
c Winkhaus
d Or equal

H Closers: ANSI A156.4 Grade 1surface mounted closers; full rack and pinion type with steel spring, high strength aluminum alloy or cast iron cylinder, and non-freezing hydraulic fluid and with metal cover.
1 Adjustability: Spring power shall be continuously adjustable over the full range of closer sizes, and allow for reduced opening force as required by accessibility codes and standards. Hydraulic regulation shall be by tamper-proof, non-critical valves. Closers shall have separate adjustment for latch speed, general speed, and backcheck. Provide hydraulic fluid requiring no seasonal closer adjustment.
2 Arms: Solid forged steel main arms and factory assembled heavy-duty forged forearms for parallel arm closers.
3 Location: Mount closers on inside of exterior doors.
4 Operating Pressure: Maximum operating pressure as required for proper operation, but not to exceed that required for accessibility
5 Provide special templates, drop plates, mounting brackets, or adapters for arms as required for details, overhead stops, and other finish hardware items interfering with closer mounting.
6 To establish a level of quality the following manufacturers and models are acceptable. Other manufacturers are also acceptable if they meet the requirements of the specification.
a Stanley D-4550/D-4551 series
b LCN 4011/4111 series
c Sargent 351 series.

I Overhead Holder and Stops: Furnish with accessories as required for complete operational installation.
1 Provide heavy duty concealed mounted overhead stop or overhead stop/holder, ANSI A156.8, Grade 1.

J Weatherstripping: Provide full perimeter (head and jamb) continuous neoprene weatherstripping at exterior doors in extruded aluminum channels, surface mounted, clear anodized finish.
1 Acceptable manufacturers:
a NGP: 706E
b Pemko
c Sealeze
d Or equal

K Bottom Sweep: Neoprene sweep in extruded aluminum channels, surface mounted, clear anodized finish.
1 Acceptable manufacturers
a NGP: C627A
b Pemko
c Sealeze
d Or equal

L Thresholds: Extruded aluminum, maximum 1/2 inch height; requirements to ensure accessibility for persons with disabilities.
1 Acceptable manufacturers
a Pemko: 1715 HD
b NGP
c Burns
d Or equal

2.2 ACCESSORIES

A Lock Trim: Furnish with rose for bored sets and escutcheon plate for mortised sets as selected from manufacturer's full range of trim.
B Through Bolts: Through bolts and grommet nuts are not permitted on door faces in occupied areas unless no alternative is possible
C Removable Center Mullions: Provide removable mullions as shown and scheduled. Provide keyed removable option with mortise lock.
1 Acceptable manufacturers:
a Von Duprin: 09954 KR
b Stanley Precision Apex.
c Sargent
d or equal

D Power Supply: Provide power supplies and wiring for all electric hardware. Coordinate requirements with Access Control contractor. Location to be determined in field.
1 Power wiring from existing panel to power supply by others.
2 Power supplies shall be UL 294 certified
3 Provide battery backup
4 Voltage: 12 or 24 VDC field selectable or as required by hardware and Access Control System
a Acceptable manufacturers:
b Von Duprin: PS 914 x 900-2RS-FA
c Stanley Precision Apex
d Sargent
e or equal

E Door Contacts: Provide door contacts for each door (1 for single doors, 2 for double doors). Sentrol 1076 or equal. Provide concealed wiring back to location determined in field in coordination with Access Control contractor and Owner.

2.3 FINISHING

A Finishes: ANSI A156.18, with following finishes except where otherwise indicated in Schedule at end of section
1 Hinges:
a BHMA 630 and 626, satin finish
2 Typical Exterior and Interior Door Hardware
a BHMA 630, satin finished stainless steel
b. BHMA 626, satin chromium plated brass or bronze
3 Closers:
a BHMA 628, satin aluminum, clear anodized
4 Thresholds:
a BHMA 628, satin aluminum, clear anodized.
5 Other Items: Provide manufacturer's standard finishes to match similar hardware types on same door, and maintain acceptable finish considering anticipated use and BHMA category of finish

PART 3 EXECUTION

3.1 EXAMINATION

A Verify doors and frames are ready to receive work and dimensions are as indicated.
B Coordinate all electric components including wiring and power supplies with Owner and Access Control System contractor as directed by Owner prior to ordering materials and prior to installation

3.2 INSTALLATION

A Coordinate mounting heights with door and frame manufacturers. Use templates provided by hardware item manufacturer.
B Mounting Heights From Finished Floor to Center Line of Hardware Item: Comply with manufacturer recommendations and applicable codes.

3.3 ADJUSTING, CLEANING, AND DEMONSTRATING

A Adjust and check each operating item of hardware and each door, to insure proper operation or function of every unit. Replace units which cannot be adjusted to operate freely and smoothly.
B Clean operating items as necessary to restore proper function and finish of hardware and doors. Adjust door control devices to compensate for final operation of heating and ventilating equipment.
C Clean adjacent surfaces soiled by hardware installation.
D Instruct Owner's personnel in the proper adjustment, lubrication, and maintenance of door hardware and hardware finishes.

3.4 CLOSE OUT

A Remove construction cores and install permanent cores or deliver cores to Owner at Owner's discretion. Deliver keys to owner.
B Deliver all installation and maintenance information, spare parts, special tools, and warranty to Owner.

END OF SECTION

City of Lowell Public Schools

Watermark
175 Cabot Street • Lowell, MA 01854
Phone: 978.452.9696 • Fax: 978.453.9988

LAURA LEE THERAPEUTIC DAY SCHOOL
225 POWELL STREET
LOWELL, MA
PREPARED FOR:
LOWELL PUBLIC SCHOOLS

MARK	DATE	DESCRIPTION
0	09/10/14	ISSUED FOR BID
2	09/18/14	ADDENDUM # 2

PROJECT NO: 14401-06
MODEL FILE: A2.dwg
DRAWN BY: LSP
CHK'D BY: POB
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SHEET TITLE
SPECIFICATION

A-2
SHEET 2 OF 3

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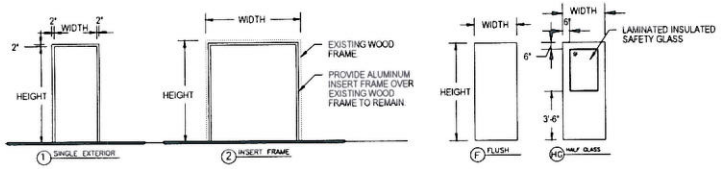


DOOR AND FRAME SCHEDULE

NO.	DOOR SIZE W	DOOR SIZE HT	DOOR SIZE THK	DOOR TYPE	DOOR MAT'L	DOOR FINISH	FIRE RATING	FRAME TYPE	FRAME MAT'L	FRAME FINISH	HARDWARE SET NO.	NOTES
01	(2) 3'-0"	7'-6"	0'-1 3/4"	HG	FRP	---	---	2	AL	AN	1A, 2	
02	(2) 2'-10"	7'-6"	0'-1 3/4"	HG	FRP	---	---	2	AL	AN	1	
03	3'-6"	7'-0"	0'-1 3/4"	F	HM	PT	---	1	HM	PT	2	INSTALL NEW CASING TRIM AROUND DOOR FRAME ON INTERIOR & EXTERIOR
04	3'-0"	4'-2"	0'-1 3/4"	F	HM	PT	---	1	HM	PT	3	INSTALL NEW CASING TRIM AROUND DOOR FRAME ON INTERIOR & EXTERIOR
05	(2) 2'-10"	7'-6"	0'-1 3/4"	HG	FRP	---	---	2	AL	AN	1	

ABBREVIATIONS:
HM = HOLLOW METAL
PT = PAINT
FRP = FIBERGLASS REINFORCED POLYESTER
F = FLUSH
HG = HALF GLASS
AL = ALUMINUM
ETR = EXISTING TO REMAIN
AN = ANODIZED

NOTES:

1. ALL DOOR DIMENSIONS SHALL BE FIELD VERIFIED.
2. PAINT ALL FRAMES SCHEDULED TO REMAIN.
3. PATCH AND/OR REPAIR ANY DAMAGE TO ADJACENT SURFACES, PRIME & PAINT.

HARDWARE SCHEDULE: 2

SET #1 DOUBLE DOORS WITH NO MULLION; NO ACCESS CONTROL

2 CONTINUOUS MORTISED GEARED HINGES.
2 VERTICAL ROD EXIT DEVICES, WITH RECESSED FLUSH PULLS
LOCKSETS WITH REMOVABLE CORES
2 HEAVY DUTY CLOSERS WITH HOLD OPEN AND STOP
FULL PERIMETER WEATHERSTRIPPING, ASTRAGAL
2 BOTTOM SWEEPS.
EXTRUDED ALUMINUM ADA CONFORMING THRESHOLD.
2 DOOR CONTACTS.

SET #1A DOUBLE DOORS WITH NO MULLION & ACCESS CONTROL

2 CONTINUOUS MORTISED GEARED ELECTRIC HINGES OR WITH ELECTRIC POWER TRANSFER DEVICE.
2 VERTICAL ROD EXIT DEVICES, WITH RECESSED FLUSH PULLS AND PUSHPAD MONITOR SWITCH & ELECTRIC LATCH RETRACTION
LOCKSETS WITH REMOVABLE CORES.
2 HEAVY DUTY CLOSERS WITH HOLD OPEN AND STOP
FULL PERIMETER WEATHERSTRIPPING, ASTRAGAL
2 BOTTOM SWEEPS.
EXTRUDED ALUMINUM ADA CONFORMING THRESHOLD.
2 DOOR CONTACTS.
POWER SUPPLY FOR ELECTRIC HARDWARE

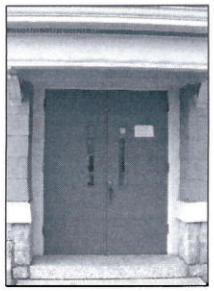
SET #2 SINGLE EGRESS DOOR

1 1/2 PAIR BALL BEARING BUTT HINGES.
RIM EXIT DEVICE: EXIT ONLY FUNCTION, EXTERIOR FLUSH PULL
HEAVY DUTY CLOSER WITH STOP.
FULL PERIMETER WEATHERSTRIPPING.
EXTRUDED ALUMINUM THRESHOLD.
1 DOOR CONTACT.

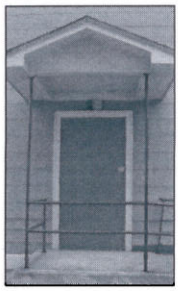
SET #3 SINGLE UTILITY DOOR

1 1/2 PAIR BUTT HINGES.
DEADBOLT LOCK WITH REMOVABLE CORE; KEY OUTSIDE
THUMBTURN INSIDE, EXTERIOR FLUSH PULL.
FULL PERIMETER WEATHERSTRIPPING.
EXTRUDED ALUMINUM THRESHOLD.
1 DOOR CONTACT.

DOOR 01
NOT TO SCALE

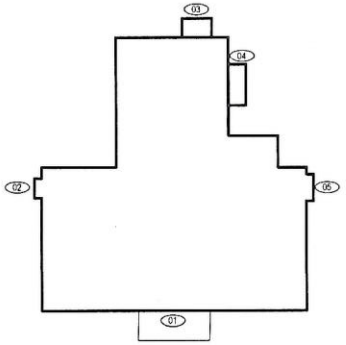


DOORS 02 & 05
NOT TO SCALE



DOOR 03
NOT TO SCALE

DOOR 04
NOT TO SCALE



BUILDING FRONT

FLOOR PLAN

SCALE: NTS

PLAN NORTH

City of Lowell
Public Schools

Watermark
171 Lakeview Street • Lowell, MA 01854
Phone: 978.452.9696 • Fax: 978.453.9498

LAURA LEE THERAPEUTIC DAY SCHOOL
235 POWELL STREET
LOWELL MA

PREPARED FOR:
LOWELL PUBLIC SCHOOLS

MARK	DATE	DESCRIPTION
2	09/19/14	ADDENDUM # 2
0	08/19/14	ISSUED FOR BID

PROJECT NO: 14401-06
MODEL FILE: A-3.dwg
DRAWN BY: LSP
CHK'D BY: POB
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SHEET TITLE
PLAN, SCHEDULE, AND DETAILS

A-3
SHEET 3 OF 3

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