INVITATION FOR BIDS

BLOOMFIELD PUBLIC SCHOOLS

BOARD OF EDUCATION OFFICES

1133 BLUE HILLS AVENUE

BLOOMFIELD, CONNECTICUT 06002

BLOOMFIELD HIGH SCHOOL

SPECIFICATIONS AND BID FORM FOR EXTERIOR DOOR REPLACEMENT

ANY INQUIRIES CONCERNING THE SPECIFICATIONS

SHOULD BE DIRECTED IN WRITING TO:

WAYNE CASPER, DIRECTOR OF FACILITIES

Email: wcasper@blmfld.org, Fax: 860-769-4235

SEALED BIDS WILL BE RECEIVED NO LATER THAN

10:00 AM, NOVEMBER 30, 2016

PRE-BID SITE VISIT WILL BE HELD ON NOVEMBER15, 2016 AT 1:30 PM

BLOOMFIELD PUBLIC SCHOOLS ADMINISTRATIVE OFFICE

MARK SEALED PROPOSAL ENVELOPE CLEARLY:

BHS EXTERIOR DOOR REPLACEMENT

INTRODUCTION

These specifications are for bids from firms or individuals (Contractor) for the following services at the Bloomfield School facilities in Bloomfield Connecticut:

EXTERIOR DOOR REPLACEMENT

All bids shall be submitted to Bloomfield Public Schools in accordance with these specifications and the conditions as set forth in the proposal request documents. The successful respondent will be required to sign a contract with the School District, which will comply with the terms and conditions hereof.

It is the intention of Bloomfield Public Schools to select a Contractor to provide these services based on factors which include the comprehensiveness and quality of the proposal, the experience of the Contractor, the costs submitted by the Contractor, and factors which, in the opinion of Bloomfield Public Schools, will lead to efficient, cost effective, and well maintained facilities. Price in and of itself will not necessarily be the deciding factor in awarding the contract.

SPECIFICATIONS AND INSTRUCTIONS

1. **Purpose:** The Contractor will efficiently provide its services at Bloomfield Public Schools, Bloomfield, CT. (a description of the work is attached as Exhibit A)

   Bloomfield remains responsible for insuring that the facilities are in conformance with state law and shall monitor the Contractor through periodic monitoring and reports. Bloomfield retains control of the quality, and general nature of its facilities. Bloomfield shall be assured by the Contractor that all federal, state and local regulations are being met in performing work under this contract.

2. **Contract:** A contract in the form of a Purchase Order will be issued to the Contractor. The contract shall include the Contractor's proposal and these specifications as finally accepted and the districts approved purchase order.

3. **Contractor Eligibility:** The Contractor must submit appropriate evidence demonstrating the ability and the resources to provide the specified services. Submittal of this information must include a list of school districts in Connecticut that the contractor has performed work at.

4. **Contractor Responsibility:** It is the responsibility of the Contractor to examine all provisions and visit each and every location where work is to be performed to become fully acquainted with the sites, problems, conditions, and other factors that pertain to the operation. No claim for relief due to mistakes or omissions will be entertained and each Contractor will be held to his proposal. Bloomfield reserves the right to waive errors in proposals, to accept other than the low bidder, and reject any or all proposals at its discretion.

5. **Facilities and Equipment:** The Contractor will be responsible to take proper care of all property, furniture, fixtures, equipment, and facilities of Bloomfield, as applicable, and shall leave them in the condition in which found.

6. **Fiscal Arrangements**: The Contractor shall keep and maintain accounting and billing records for the duration of the contract. Within fifteen (15) working days after the end of provision of services, Contractor will provide Bloomfield with detailed invoice for all of its costs.

7. **Personnel:** All personnel required to perform under the contract shall be the employees of the Contractor. Salaries and fringe benefits for such employees will be determined and provided solely by the Contractor unless otherwise stated in the bid specifications. The Contractor will make available, staff which, in the opinion of Bloomfield and the Contractor, is adequate for efficient management and to provide supervision.

8. **Social Security Taxes:** The Contractor and each Subcontractor shall pay the taxes measured by the wages of all their employees as required by the Federal Social Security Act and all amendments thereto, and accept the exclusive liability for said taxes. The Contractor and each Subcontractor shall also indemnify and hold the Owner harmless on account of any tax measured by the wages aforesaid of employees of the Contractor and

each Subcontractor, assessed against of the Owner under authority of said law.

9. **Unemployment Insurance:** The Contractor and each Subcontractor shall pay unemployment insurance measured by the wages of his employees as required by law and accept the exclusive liability for said contributions. The Contractor shall also indemnify and hold harmless the Owner on account of any contribution measured by the wages of aforesaid employees of the Contractor and each Subcontractor, assessed against the Owner under authority of law.

10. **Occupational Safety and Health Act:** The Contractor and each Subcontractor shall comply with the requirements of the Occupational Safety and Health Act of 1970 and the Construction Safety Act of 1969, including all standards and regulations which have been promulgated by the Governmental Authorities which administer such Acts and said requirements, standards and regulations are incorporated herein by reference.

    The Contractor and each Subcontractor shall comply with said regulations, requirements and standards and require and be directly responsible for compliance therewith on the part of his agents, employees, and material men and shall directly receive and be responsible for all citations, assessments, fines or penalties which may be incurred by reason of their agents, employees, or material men failing to so comply.

    The Contractor and each Subcontractor shall indemnify the Owner and save them harmless from any and all losses, costs and expenses, including fines and reasonable attorney's fees incurred by the Owner by reason of the real or alleged violation of such laws, ordinances, regulations and directives, Federal, State, and Local which are currently in effect or which become effective in the future, by the Contractor, or material suppliers.

11. **Discounts:** Buying and purchasing procedures will be according to state statutes and Bloomfield policy and the Contractor will make every effort to take advantage of all trade discounts and rebates which shall be credited to the cost of operations. The Contractor will practice all feasible economies in the operation of Bloomfield's facilities. No employee, official, manager, or representative of the Contractor shall accept gratuities or "kick-backs" of any sort. In the event of a violation, the personnel shall be immediately dismissed by the Contractor.

12. **Records, Certifications. Etc.:** The Contractor shall keep full and accurate accounts and records in connection with the services covered in this contract. All such records shall be retained by the Contractor for a period of six (6) years and shall be subject to audit by the Bloomfield Schools and by the representative of the Department of Education, at any time during regular working hours and any reasonable place. The records shall be kept in paper and electronic format. Both formats shall be accessible by Bloomfield.

    Breach or violation of the contract will be subject to available remedies prescribed by law. The Contractor will be totally and completely responsible for seeing that the operation is in complete conformity with all rules and regulations of the Connecticut Department of Education, Bloomfield, and all other applicable Federal, State, and Local laws, codes or regulations. All assessments to Bloomfield for noncompliance will be paid by the Contractor.

13. **General:** It will be strictly understood that the Contractor and its employees shall at no time bring upon the premises any alcoholic beverages for sale, gifts, or use in any manner whatsoever. No tobacco or drugs in any form are to be used by the Contractor or any of its employees on the premises.

14. **Award:** Award of contract will be to the Contractor that submits a proposal that is determined to be responsive to the invitation and most advantageous to Bloomfield. Such determination will be based upon, but not limited to, the following criteria:

    A. The demonstrated ability of the Contractor to successfully provide services in a school facilities program of similar size.
    B. The depth, extent, scope, and availability of support personnel, including the amount of personnel representation, visitation, and coverage by principals of the Contractor.
    C. The proposed personnel scheduled for the contractor and the proposed cost.
    D. The Contractor's demonstration of having a complete understanding of the district's facilities and its service requirements, as described in this proposal and all addenda.

    It is the responsibility of the Contractor to submit with their proposal, information regarding the above criteria.

15. **Insurance:** The successful Contractor will not commence work under the terms of the specifications until it has furnished a Certificate of Insurance to Bloomfield showing that it has Contractor's Public Liability, Property Damage, and Workmen's Compensation insurance providing and including full coverage for all subcontractors, the Bloomfield Schools, its agents, and employees. The minimum limits are: bodily injury, $500,000 - $1,000,000; property damage, $100,000. Insurance policies shall contain a day cancellation and/or modification clause with the requirements of a written notice by the insurance company to the Bloomfield Public Schools.

16. **Indemnity:** The Contractor assumes the entire responsibility and liability in and for any and all damages and/or injuries of any kind or nature whatsoever to all persons, whether employees or otherwise, and to property arising out of or resulting from the services provided as herein set forth and provided for in the contract, and for any and all damages and/or injuries of any kind which shall occur in connection therewith and said Contractor agrees to indemnify, defend and save harmless Bloomfield Public Schools, its agents, servants, and employees for and against any and all losses, expenses, including legal fees and disbursements, damages and/or injuries growing out of or resulting from or occurring in connection with the execution of the work herein provided for including, by way of example and not by way of limitation, any losses, expenses including legal fees and disbursements, damages or injuries occurring in connection with or resulting from the use by the Contractor, its agents or employees, of any equipment, stock, appliance, implements, works, tools or machinery, or any other property owned, rented, borrowed by or assigned to the aforesaid Bloomfield Public Schools arising under any law whatever, which may be in effect in the locality in which the work is situated or

otherwise.

16. **Subcontractors:** Bloomfield will recognize only the successful contractor for the proper execution of the entire work under the contract.

17. **Miscellaneous:**

A. The selection of the Contractor to serve the needs of Bloomfield is an important and complex task. It is recognized that there are probably many persons and/or entities that can provide the services and which would adequately meet these needs. Bloomfield will exercise both objective and subjective rationale in the selection process. The Request for Proposals is intended to provide interested parties with uniform information concerning the requirements for submitting proposals. In responding to this Request for Proposals, proposal requirements and content format indicated herein must be adhered to. Failure to respond to all of the information requested may result in the disqualification of the proposal. The Contractor is free to suggest alternative program variations that would achieve Bloomfield's objectives as stated above.

B. The submission of a proposal will be construed to mean that the respondent is fully informed as to the extent and character of Bloomfield's requirements, and the respondent represents that it is willing and able to furnish the services requested in a satisfactory manner in complete compliance with the specifications.

C. Once submitted, all proposals become the property of Bloomfield, which reserves the right to reject any and all proposals. Proposals must be firm and may not be withdrawn for 90 days, or until Bloomfield awards the contract, whichever comes first.

D. Bloomfield shall not be liable for any costs incurred by respondents in preparing or submitting proposals.

E. Bloomfield reserves the right to accept any item or group of items proposed in any proposal, unless the respondent qualifies its offer by specific limitation. Bloomfield reserves the right to select a respondent who is not the lowest priced respondent as it deems in its best interest.

F. Bloomfield reserves the right to reject any proposal, in whole or in part, and to waive technical defects, qualifications, irregularities, and omissions, if, in its sole judgment, the best interests of Bloomfield will be served. Each proposal received within the required time frame will be evaluated individually by Bloomfield. Each evaluation will come of necessity, consistent subjective judgments concerning each proposal.

G. Bloomfield reserves the right to negotiate with any respondent regarding changes to the original proposal which may be deemed to be in the best interests of Bloomfield.

H. Bloomfield shall consider the successful Contractor to be the sole point of contact with regard to contractual matters including payment to performance of service by the Contractor, its agents and employees.

I. If it becomes necessary to revise any part of this Request for Proposal or otherwise provide additional information, an addendum will be issued by Bloomfield and furnished to all prospective respondents who have received copies of this original Request for Proposal.

End of Section

BLOOMFIELD PUBLIC SCHOOLS
BLOOMFIELD, CONNECTICUT

LIST OF EXHIBITS

EXHIBIT A	General Specifications for BHS Exterior Door Replacement
ATTACHMENTS	Official Proposal Form
	Door Schedule
	Building Floor Plan

EXHIBIT A
General Specifications for BHS Exterior Door Replacement

Part 1—Special Provisions

1. The contract will be awarded within sixty (60) days of proposal opening.

2. The Board of Education reserves the right to accept or reject any and all bids or to award the contract in a manner that in its opinion best serves the interest of Bloomfield Public Schools.

3. No proposal will be entertained unless properly completed and signed by the Contractor(s).

4. Should a prospective Contractor(s) need clarification or interpretation of any item in the bid, he/she must request such in writing to the Director of Facilities, Bloomfield Schools, at least seventy-two (72) hours prior to bid opening. The questions of clarification or interpretation requested and the answer by the Director of Facilities shall be in writing and shall be posted to the DAS Bid Portal. It is the responsibility of the contractor to check the DAS Bid Portal for any addendum. The Board of Education or its agents will not be responsible for any alleged oral instructions or interpretations given to Contractor(s).

5. Should the successful Contractor(s) fail to perform at any time, the Board of Education reserves the right to contract with another company. All costs related to the Contractor(s) failure to perform shall be deducted from the Contract award.

6. A Certificate of Insurance with sixty (60) days prior written notice of cancellation naming Bloomfield Public Schools insured must be filed by the successful Contractor(s) with the Director of Business Affairs before the contract is awarded.

7. The successful Contractor(s) shall be liable for any damage to school property, including lawns, sidewalks, curbs, and building exteriors/interiors.

General Specifications for BHS Exterior Door Replacement

Part 2—Qualification Requirements

A. Qualifications of the BHS Exterior Door Replacement:

1. License: To conduct business within the State of CT.
2. Certification: N/A.
3. Supervisor Qualifications: 5 Years.
4. Experience: 5 Years.

B. Equipment, Materials, and Labor: The contractor shall possess and furnish all necessary equipment, materials, and labor to adequately perform the specified services.

1. The contractor shall provide, upon request, documentation which states that its employees have received personal protective equipment training, hazard communication training, and respiratory protection training. The employees must also have been provided the material safety data sheets (MSDS) of the products that they will use on this project.
2. The contractor shall maintain a copy of all current MSDS documentation and safety certifications at the site at all times, as well as comply with all other site documentation requirements of applicable OSHA programs and this specification.
3. The contractor shall submit to Bloomfield Schools all MSDS for all chemical products proposed to be used in the performance of the contract.

C. Licensing: The contractor shall provide proof of maintaining the proper license(s), if any, as required to do work in Connecticut. The contractor shall comply with all Federal, state, and local rules, regulations, and licensing agreements.

General Specifications for BHS Exterior Door Replacement

Part 3— Scope of Work

A. The Contractor shall remove all existing doors and hardware and dispose of all demoed material offsite. Costs for any and all disposal shall be included in the proposal.

B. Coordination of all work will be with the Director of Facilities.

C. Additional scope of work is detailed in the sections following.

SECTION 081113 - HOLLOW METAL DOORS AND FRAMES

PART I - GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Standard hollow metal doors and frames.

B. Related Sections:
   1. Division 08 Section "Door Hardware" for door hardware for hollow metal doors.

1.2 DEFINITIONS

A. Minimum Thickness: Minimum thickness of base metal without coatings.

B. Standard Hollow Metal Work: Hollow metal work fabricated according to ANSI/SDI A250.8.

1.3 SUBMITTALS

A. Product Data: For each type of product indicated. Include construction details, material descriptions, core descriptions, fire-resistance rating, and finishes.

1.4 QUALITY ASSURANCE

A. Source Limitations: Obtain hollow metal work from single source from single manufacturer.

B. Fire-Rated Door Assemblies: Assemblies complying with NFPA 80 that are listed and labeled by a qualified testing agency, for fire-protection ratings indicated, based on testing at as close to neutral pressure as possible according to NFPA 252.

C. Fire-Rated, Borrowed-Light Frame Assemblies: Assemblies complying with NFPA 80 that are listed and labeled, by a testing and inspecting agency acceptable to authorities having jurisdiction, for fire-protection ratings indicated, based on testing according to NFPA 257 or UL 9. Label each individual glazed lite.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Deliver hollow metal work palletized, wrapped, or crated to provide protection during transit and until installation. Do not use non-vented plastic.
   1. Provide additional protection to prevent damage to finish of factory-finished units.

B. Deliver welded frames if required with two removable spreader bars across bottom of frames, tack welded to jambs and mullions.

C. Storage is not available on site. The contractor should bring doors to be installed on a particular day with them to the site.

1.6 PROJECT CONDITIONS

A. Field Measurements: Verify actual dimensions of openings by field measurements before fabrication.

1.7 COORDINATION

A. Coordinate installation of lock cylinder removal and installation with the Owner a minimum of two days in advance.

PART 2- PRODUCTS

2.1 MANUFACTURERS

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
   1. Amweld Building Products, LLC.
   2. Benchmark; a division of Therma-Tru Corporation.
   3. Ceco Door Products; an Assa Abloy Group company.
   4. Curries Company; an Assa Abloy Group company.
   5. Fleming Door Products, Ltd.; an Assa Abloy Group company.

2.2 MATERIALS

A. Cold-Rolled Steel Sheet: ASTM A 1008/A 1008M, Commercial Steel (CS), Type B; suitable for exposed applications.

B. Hot-Rolled Steel Sheet: ASTM A l0ll/A l0llM, Commercial Steel (CS), Type B; free of scale, pitting, or surface defects; pickled and oiled.

C. Metallic-Coated Steel Sheet: ASTM A 653/A 653M, Commercial Steel (CS), Type B; with minimum A40 metallic coating.

D. Inserts, Bolts, and Fasteners: Hot-dip galvanized according to ASTM A 153/A 153M.

E. Grout: ASTM C 476, except with a maximum slump of 4 inches, as measured according to ASTM C 143/C 143M.

F. Mineral-Fiber Insulation: ASTM C 665, Type I (blankets without membrane facing); consisting of fibers manufactured from slag or rock wool with 6- to 12-

lb/cu. ft. density; with maximum flame-spread and smoke- development indexes of 25 and 50, respectively; passing ASTM E 136 for combustion characteristics.

G. Glazing: Comply with requirements in Section "Glazing."

I. Bituminous Coating: Cold-applied asphalt mastic, SSPC-Paint 12, compounded for 15-mil dry film thickness per coat. Provide inert-type noncorrosive compound free of asbestos fibers, sulfur components, and other deleterious impurities;

2.3 STANDARD HOLLOW METAL DOORS

A. General: Provide doors of design indicated, not less than thickness indicated; fabricated with smooth surfaces, without visible joints or seams on exposed faces unless otherwise indicated. Comply with ANSIISDI A250.8.
   1. Design: Flush panel.
   2. Core Construction: Manufacturer's standard kraft-paper honeycomb, polystyrene, polyurethane, polyisocyanurate, mineral-board, or vertical steel-stiffener core.
      a. Fire Door Core: As required to provide fire-protection ratings indicated.
      b. Thermal-Rated (Insulated) Doors: Where indicated, provide doors fabricated with thermal resistance value (R-value) of not less than 6.0 deg F x h x sq. ft./Btu when tested according to ASTMC 1363.
         1) Locations: Exterior doors.
   3. Vertical Edges for Single-Acting Doors: Beveled edge.
      a. Beveled Edge: 1/8 inch in 2 inches.
   4. Vertical Edges for Double-Acting Doors: Round vertical edges with 2-118-inch radius.
   5. Top and Bottom Edges: Closed with flush or inverted 0.042-inch- thick, end closures or channels of same material as face sheets
   6. Tolerances: Comply with SDI 1I7, "Manufacturing Tolerances for Standard Steel Doors and Frames."

B. Exterior Doors: Face sheets fabricated from metallic-coated steel sheet. Provide doors complying with requirements indicated below by referencing ANSI/SDI A250.8 for level and model and ANSI/SDI A250.4 for physical performance level:
   1. Level 2 and Physical Performance Level B (Heavy Duty), Model I (Full Flush).

C. Hardware Reinforcement: Fabricate according to ANSI/SDI A250.6 with reinforcing plates from same material as door face sheets.

D. Fabricate concealed stiffeners and hardware reinforcement from either cold- or hot-rolled steel sheet.

2.4 STANDARD HOLLOW METAL FRAMES

A. General: Comply with ANSIISDI A250.8 and with details indicated for type and profile.

B. Exterior Frames: Fabricated from metallic-coated steel sheet.
   1. Fabricate frames with mitered or coped comers.
   2. Fabricate frames as full profile welded unless otherwise indicated.
   3. Frames for Level2 Steel Doors: 0.053-inch- thick steel sheet.

C. Hardware Reinforcement: Fabricate according to ANSI/SDI A250.6 with reinforcement plates from same material as frames.

2.5 STOPS AND MOLDINGS

A. Moldings for Glazed Lites in Doors: Minimum 0.032 inch thick, fabricated from same material as door face sheet in which they are installed.

B. Fixed Frame Moldings: Formed integral with hollow metal frames, a minimum of 5/8 inch high unless otherwise indicated.

C. Loose Stops for Glazed Lites in Frames: Minimum 0.032 inch thick, fabricated from same material as frames in which they are installed.

2.6 FABRICATION

A. Fabricate hollow metal work to be rigid and free of defects, warp, or buckle. Accurately form metal to required sizes and profiles, with minimum radius for thickness of metal. Where practical, fit and assemble units in manufacturer's plant. To ensure proper assembly at Project site, clearly identify work that cannot be permanently factory assembled before shipment.

B. Tolerances: Fabricate hollow metal work to tolerances indicated in SDI 117.

C. Exterior Doors: Provide weep-hole openings in bottom of exterior doors to permit moisture to escape. Seal joints in top edges of doors against water penetration.

D. Glazed Lites: Factory cut openings in doors.

E. Hollow Metal Frames: Where replacement frames are required and are fabricated in sections due to shipping or handling limitations, provide alignment plates or angles at each joint, fabricated of same thickness metal as frames.
   1. Welded Frames: Weld flush face joints continuously; grind, fill, dress, and make smooth, flush, and invisible.
   2. Sidelight Frames: Provide closed tubular members with no visible face

seams or joints, fabricated from
same material as door frame. Fasten members at crossings and to jambs by butt welding.

3. Provide countersunk, flat- or oval-head exposed screws and bolts for exposed fasteners unless otherwise indicated.
4. Floor Anchors: Weld anchors to bottom of jambs and mullions with at least four spot welds per anchor.
5. Jamb Anchors: Provide number and spacing of anchors as follows:
    a. Stud-Wall Type: Locate anchors not more than 18 inches from top and bottom of frame. Space anchors not more than 32 inches o.c. and as follows:
        1) Three anchors per jamb up to 60 inches high.
        2) Four anchors per jamb from 60 to 90 inches high.
        3) Five anchors per jamb from 90 to 96 inches high.
        4) Five anchors per jamb plus I additional anchor per jamb for each 24 inches or fraction thereof above 96 inches high.
        5) Two anchors per head for frames above 42 inches wide and mounted in metal-stud partitions.
6. Door Silencers: Except on weather-stripped doors, drill stops to receive door silencers as follows. Keep holes clear during construction.
    a. Single-Door Frames: Drill stop in strike jamb to receive three door silencers.
    b. Double-Door Frames: Drill stop in head jamb to receive two door silencers.

F. Fabricate concealed stiffeners, edge channels, and hardware reinforcement from either cold- or hot-rolled steel sheet.

H. Hardware Preparation: Factory prepare hollow metal work to receive templated mortised hardware; include cutouts, reinforcement, mortising, drilling, and tapping according to the Door Hardware Schedule and templates furnished as specified in Division 08 Section "Door Hardware."
1. Locate hardware as indicated, or if not indicated, according to ANS/SDI A250.8.
2. Reinforce doors and frames to receive non-templated, mortised and surface-mounted door hardware.
3. Comply with applicable requirements in ANSI/SOl A250.6 and ANSI/DHI A115 Series specifications for preparation of hollow metal work for hardware.
4. Coordinate locations of conduit and wiring boxes for electrical connections with Division 26 Sections.

I. Stops and Moldings: Provide stops and moldings around glazed lites where indicated. Form comers of stops and moldings with butted or mitered hairline

joints.

1. Single Glazed Lites: Provide fixed stops and moldings welded on secure side of hollow metal work.
2. Multiple Glazed Lites: Provide fixed and removable stops and moldings so that each glazed lite are capable of being removed independently.
3. Provide fixed frame moldings on outside of exterior and on secure side of interior doors and frames.
4. Provide loose stops and moldings on inside of hollow metal work.
5. Coordinate rabbet width between fixed and removable stops with type of glazing and type of installation indicated.

2.7 STEEL FINISHES

A. Prime Finish: Apply manufacturer's standard primer immediately after cleaning and pretreating.

1. Shop Primer: Manufacturer's standard, fast-curing, lead- and chromate-free primer complying with ANSI/SDI A250.10 acceptance criteria; recommended by primer manufacturer for substrate; compatible with substrate and field-applied coatings despite prolonged exposure.

PART 3 – EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.

3.2 PREPARATION

A. Remove welded-in shipping spreaders installed at factory. Restore exposed finish by grinding, filling, and dressing, as required to make repaired area smooth, flush, and invisible on exposed faces.

B. Prior to installation, adjust and securely brace welded hollow metal frames for squareness, alignment, twist, and plumbness to the following tolerances:

1. Squareness: Plus or minus 1/16 inch, measured at door rabbet on a line 90 degrees from jamb perpendicular to frame head.
2. Alignment: Plus or minus 1/16 inch, measured at jambs on a horizontal line parallel to plane of wall.
3. Twist: Plus or minus 1/16 inch, measured at opposite face comers of jambs on parallel lines, and perpendicular to plane of wall.
4. Plumbness: Plus or minus 1/16 inch, measured at jambs on a perpendicular line from head to floor.

C. Drill and tap doors and frames to receive non-templated, mortised, and surface-mounted door hardware.

3.3 INSTALLATION

A. General: Install hollow metal work plumb, rigid, properly aligned, and securely fastened in place; comply with Drawings and manufacturer's written instructions.

B. Hollow Metal Frames: Install hollow metal frames of size and profile indicated. Comply with ANSVSDI A250.11.

1. Set frames accurately in position, plumbed, aligned, and braced securely until permanent anchors are set. After wall construction is complete, remove temporary braces, leaving surfaces smooth and undamaged.
    a. At fire-protection-rated openings, install frames according to NFPA 80.
    b. Where frames are fabricated in sections because of shipping or handling limitations, field splice at approved locations by welding face joint continuously; grind, fill, dress, and make splice smooth, flush, and invisible on exposed faces.
    c. Install frames with removable glazing stops located on secure side of opening.
    d. Install door silencers in frames before grouting.
    e. Remove temporary braces necessary for installation only after frames have been properly set and secured.
    f. Check plumbness, squareness, and twist of frames as walls are constructed. Shim as necessary to comply with installation tolerances.
    f. Field apply bituminous coating to backs of frames that are filled with grout containing anti freezing agents.
2. Floor Anchors: Provide floor anchors for each jamb and mullion that extends to floor, and secure with post installed expansion anchors.
3. In-Place Gypsum Board Partitions: Secure frames in place with post installed expansion anchors through floor anchors at each jamb. Countersink anchors, and fill and make smooth, flush, and invisible on exposed faces.
4. Ceiling Struts: Extend struts vertically from top of frame at each jamb to overhead structural supports or substrates above frame unless frame is anchored to masonry or to other structural support at each jamb. Bend top of struts to provide flush contact for securing to supporting construction. Provide adjustable wedged or bolted anchorage to frame jamb members.
5. Installation Tolerances: Adjust hollow metal door frames for squareness, alignment, twist, and plumb to the following tolerances:
    a. Squareness: Plus or minus 1/16 inch, measured at door rabbet on a line 90 degrees from jamb perpendicular to frame head.
    b. Alignment: Plus or minus 1/16 inch, measured at jambs on a

horizontal line parallel to plane of wall.

c. Twist: Plus or minus 1/16 inch, measured at opposite face comers of jambs on parallel lines, and perpendicular to plane of wall.

d. Plumbness: Plus or minus 1/16 inch, measured at jambs at floor.

C. Hollow Metal Doors: Fit hollow metal doors accurately in frames, within clearances specified below. Shim as necessary.

1. Non-Fire-Rated Standard Steel Doors:

a. Jambs and Head: 1/8 inch plus or minus 1/16 inch.

b. Between Edges of Pairs of Doors: 1/8 inch plus or minus 1/16 inch.

c. Between Bottom of Door and Top of Threshold: Maximum 3/8 inch.

d. Between Bottom of Door and Top of Finish Floor (No Threshold): Maximum 3/4 inch.

2. Fire-Rated Doors: Install doors with clearances according to NFPA 80.

3. Smoke-Control Doors: Install doors according to NFPA 105.

D. Glazing: Comply with installation requirements in Division 08 Section "Glazing" and with hollow metal manufacturer's written instructions.

1. Secure stops with countersunk flat- or oval-head machine screws spaced uniformly not more than 9 inches o.c. and not more than 2 inches o.c. from each comer.

3.4 ADJUSTING AND CLEANING

A. Final Adjustments: Check and readjust operating hardware items immediately before final inspection. Leave work in complete and proper operating condition. Remove and replace defective work, including hollow metal work that is warped, bowed, or otherwise unacceptable.

B. Remove grout and other bonding material from hollow metal work immediately after installation.

C. Prime-Coat Touchup: Immediately after erection, sand smooth rusted or damaged areas of prime coat and apply touchup of compatible air-drying, rust-inhibitive primer.

D. Metallic-Coated Surfaces: Clean abraded areas and repair with galvanizing repair paint according to manufacturer's written instructions.

END OF SECTION 081113

SECTION 087100- DOOR HARDWARE

PART I- GENERAL

1.1 SUMMARY

A. Section Includes
   1. The work in this section includes furnishing all items of finish hardware as hereinafter specified or obviously necessary for all swinging, sliding, folding and other doors. Except items, which are specifically excluded from this section of the specification or of unique hardware, specified in the same sections as the doors and frames on which they are installed.

B. Related Sections
   1. 081100 -Metal Doors and Frames

1.2 REFERENCES

A. Standards
   1. ANSI A 156.1 Butts and Hinges
   2. ANSI A156.3 Exit Devices
   3. ANSI A156.4 Door Controls- Door Closers
   4. ANSI Al56.5 Auxiliary Locks and Associated Products
   5. ANSI A156.6 Architectural Door Trim
   6. ANSI Al56.7 Template Hinge Dimensions
   7. ANSI Al56.13 Mortise Locks and Latches
   8. ANSI Al56.15 Closer Holder Release Devices
   9. ANSI A156.18 Material and Finishes
   10. AIA A20 I 1997 General Conditions of the Contract

B. Codes
   1. NFPA 101- Life Safety Code IBC 2003 - International Building Code
   2. ANSI A 117.I Accessible and Usable Buildings and Facilities
   3. ADA Americans with Disabilities Act

1.3 SUBMITTALS

A. General Requirements
   1. Submit copies of finish hardware schedule.

B. Schedules And Product Data
   1. Schedules to be in vertical format, listing each door opening, and organized into "hardware sets" indicating complete designations of every item required for each door opening to function as intended. Hardware schedule shall be submitted two (2) weeks prior to installation. Furnish two (2) copies of revised schedules after approval for field and file use. Note any special mounting instructions or requirements with the hardware schedule. Schedules to include

the following information:

a. Location of each hardware set cross-referenced to indications on drawings.
b. Handing and degree of swing of each door.
c. Door and frame sizes and materials.
d. Keying information.
e. Type, style, function, size, and finish of each hardware item.
f. Name and manufacturer of each hardware item.
g. Fastenings and other pertinent information.
i. Explanation of all abbreviations, symbols and codes contained in schedule
j. Mounting locations for hardware when varies from standard.

2. Submit catalog cuts and/or product data sheets for all scheduled finish hardware.

C. Operations And Maintenance Manuals

1. Upon completion of installation, furnish two (2) complete maintenance manuals to the Owner. Manuals shall include the following items:

a. Approved hardware schedule, catalog cuts and keying schedule.
b. Hardware installation and adjustment instructions.
c. Manufacturer's written warranty information.

1.4 QUALITY ASSURANCE

A. Supplier Qualifications

1. The contractor shall obtain materials from a recognized architectural door hardware supplier who has maintained an office and has been furnishing hardware in the project's vicinity for a period of at least five (5) years.
2. Hardware supplier must be an authorized factory distributor of all products specified herein.

1.5 FIRE-RATED OPENINGS

A. Provide door hardware for fire-rated openings that comply with NFPA 80 and requirements of authorities having jurisdiction. Provide only items of door hardware that are listed by Underwriter's Laboratories (UL) or Warnock Hersey (WH) for use on types and sizes of doors indicated.

1. Project requires door assemblies and components that are compliant with positive pressure and S-label requirements. Specifications must be cross-referenced and coordinated with door manufacturers to ensure that total opening engineering is compatible with ULIOC Standard for Positive Pressure Fire Tests of Door Assemblies.

a. Hardware required for fire doors shall be listed with Underwriters Laboratories for ratings specified.
b. Certification(s) of compliance shall be made available upon request by the Authority Having Jurisdiction.

1.6 DELIVERY, STORAGE AND HANDLING

A. Marking And Packaging
   1. All hardware shall come complete with necessary screws and accessories, instructions and installation templates for spotting mortising tools. Contractor is responsible for storage and care. Any shortage or damaged good shall be replaced without cost to the owner.

B. Delivery
   1. The supplier shall deliver all hardware to the project site; direct factory shipments are not allowed unless agreed upon beforehand. Hardware supplier shall coordinate delivery times and schedules with the contractor. The contractor is responsible to make sure all required hardware with necessary screws and accessories are provided.
   2. No keys, other than construction master keys and/or temporary keys are to be packed in boxes with the locks.

1.7 WARRANTY

A. All items, except as noted below, shall be warranted in writing by the manufacturer against failure due to defective materials and workmanship for a minimum period of one (1) year commencing on the date of final completion and acceptance. In the event of product failure, promptly repair or replace item with no additional cost to the owner.
   1. Mortise locksets: Five (5) years
   2. Exit Devices: Five (5) years
   3. Door closers: Ten (10) years

PART II- PRODUCTS

2.1 MANUFACTURERS

A. Only manufacturers as listed below shall be accepted. Obtain each type of finish hardware (hinges, latch and locksets, exit devices, door closers, etc.) from a single manufacturer.

2.2 MATERIALS

A. Screws And Fasteners
   1. All required screws shall be supplied as necessary for securing finish hardware in the appropriate manner. Thru-bolts shall be supplied for exit devices and door closers where required by code and the appropriate blocking or reinforcing is not present in the door to preclude their use.

B. Hanging Devices
   1. Hinges

a. Hinges shall conform to ANSI A 156.1 and have the number of knuckles as specified, oil-impregnated bearings as specified with NRP (non-removable pin) feature, at all exterior reverse bevel doors. Unless otherwise scheduled, supply one (1) hinge for every 30" of door height. Hinges shall be a minimum of 4 1/2" high and 4" wide; heavy weight hinges (.180) shall be supplied at all doors where specified.
   1) Specified Manufacturer: Stanley
   2) Acceptable Substitutes: McKinney

C. Flush Bolts And Accessories
   1. All manual and automatic flush bolts shall be furnished as specified.
      a. Specified Manufacturer: Stanley
      b. Acceptable Substitutes: Rockwood, Trimco

D. Cylinders And Keying
   1. Cylinders
      a. Where specified, high security cylinders shall be supplied. Provide Patented High security keys able to operate high security cylinder. The high security cylinder can be easily reconfigured by the Owner to void existing keys without disturbing the pinning of the master key system. Stamp all change keys with keyset symbol (VKC), but do not stamp with key section or bitting number.
         1) Specified Manufacturer: Sargent Keso F1
   2. Keying
      a. All locks and cylinders shall be removable core and shall be furnished with temporary cores for use during installation if required. Temporary cores shall be the responsibility of the contractor. All permanent cores to be supplied by the owner.

E. Locking Devices
   1. Rim Cylinder
      a. All cylinders and keys shall be Sargent Keso F1 series.
      b. Each cylinder shall contain at least tweleve key pins.
      c. Cylinders shall not contain splits or master key pins.
      d. Provide hi9gh security removeable core cylinders with patented key control.
         1) Specified Manufacturer: Sargent Keso F1 series
   2. Lockset Strikes
      a. Strikes hall be non-handed and available with curved lip, full lip or ASA type strikes as required. Provide strikes with lip length required to accommodate jamb and/or trim detail and projection.

F. Exit Devices
   1. Conventional Devices Push Rail
      a. All exit devices shall be ANSI A156.3, Grade I Certified and shall be listed by Underwriters Laboratories and bear the UL label for life safety in full compliance with NFPA 80 and NFPA 10I. Mounting rails shall be formed from a solid single piece of stainless steel, brass or bronze no less than 0.072" thick. Push rails shall be constructed of 0.062" thick material. Painted or

anodized aluminum shall not be considered heavy duty and is not acceptable. Lever trim shall be available in finishes and designs to match that of the specified locksets.

1) Specified Manufacturer: Sargent 8800 Series
2) Acceptable Substitutes: Corbin Russwin ED5000 Series, Von Duprin 98 Series, Yale 7100 Series

G. Door Closers

1. Surface Mounted Closers- Heavy Duty
   a. All door closers shall be ANSI 156.4, Grade 1 Certified. All closers shall have aluminum alloy bodies, forged steel arms, and separate valves for adjusting backcheck, closing and latching cycles and adjustable spring to provide up to 50% increase in spring power. Closers shall be furnished with parallel arms mounting on all doors opening into corridors or other public spaces and shall be mounted to permit 180 degrees door swing wherever wall conditions permit. Closers shall not be installed on exterior or corridor side of doors; where possible install closers on door for optimum aesthetics.
      1) Specified Manufacturer: LCN 4041 Series
      2) Acceptable Substitutes: Norton 7500 Series, Sargent 351 Series, Yale 4400 Series

H. Door Trim And Protective Plates

1. Kick plates shall be .050 gauges and two (2) inches less full width of door, or as specified. Push plates, pull plates,
2. Door pulls and miscellaneous door trim shall match Sargent 814-MSL.
   a. Specified Manufacturer: Sargent
   b. Acceptable Substitutes: Rockwood, Trimco

I. Door Stops And Holders

1. Floor Mounted Door Stops
   a. Where a door is indicated on the plans to strike flush against a wall, floor mounted bumpers shall be provided. Provide convex or concave design as indicated.
      1) Specified Manufacturers: McKinney
      2) Acceptable Substitutes: Rockwood, Trimco

2. Overhead Stops/Holders
   a. Where specified, overhead stops/holders as shown in the hardware sets are to be provided. Track, slide, arm and jamb bracket shall be constructed of extruded bronze and shock absorber spring shall be of heavy tempered steel. Overhead stops shall be of non-handed design.
      l) Specified Manufacturers: Sargent
      2) Acceptable Substitutes: Rixson, ABH

J. Gasketing And Thresholds

1. Provide continuous weather seal on exterior doors and smoke, light, or sound seals on interior doors where indicated or scheduled. Provide only those units where

resilient or flexible seal strip is easily replaceable and readily available from stocks maintained by manufacturer.

2. Provide threshold units not less than 4" wide, formed to accommodate change in floor elevation where indicated, fabricated to accommodate door hardware and to fit door frames. All threshold units shall comply with the Americans with Disabilities Act (ADA).
   a. Specified Manufacturers: McKinney
   b. Acceptable Substitutes: Pemko, Reese, Zero

K. Silencers
   1. Furnish rubber door silencers all hollow metal frames; two (2) per pair and three (3) per single door frame.

2.3 FINISHES

A. The designations used in schedules and elsewhere to indicate hardware finishes are those listed in ANSI/BHMA A156.18 or traditional U.S. finishes shown by certain manufacturers for their products.

B. Provide quality of finish, including thickness of plating or coating (if any), composition, hardness, and other qualities complying with manufacturer's standards, but in no case less than specified by referenced standards for the applicable units of hardware.

PART III EXECUTION

3.1 EXAMINATION

A. Contractor shall ensure that the building is secured and free from weather elements prior to installing interior door hardware. Examine hardware before installation to ensure it is free of defects.

3.2 INSTALLATION

A. Mount hardware units at heights indicated in the following applicable publications, except as specifically indicated or required to comply with the governing regulations.
   1. "Recommended Locations for Builders Hardware for Standard Steel Doors and Frames" by the Door and Hardware Institute (DHI.)

B. All hardware shall be applied and installed in accordance with best trade practice by an experienced hardware installer. Care shall be exercised not to mar or damage adjacent work.

C. Install each hardware item in compliance with the manufacturer's instructions and recommendations. Where cutting and fitting is required to install hardware onto or into surfaces that are later to be painted or finished in another way, coordinate removal, storage, and reinstallation or application of surface protection with

finishing work specified in the Division 9 Sections. Do not install surface-mounted items until finishes have been completed on the substrates involved.

D. Provide a secure lock up for hardware delivered to the project but not yet installed. Control the handling and installation of hardware items so that the completion of the work will not be delayed by hardware losses before and after installation.

3.3 FIELD QUALITY CONTROL

A. The Contractor shall be solely responsible for and have control over construction means, methods, techniques, sequences and procedures and for coordinating all portions of the Work under the Contract.

C. The owner shall do a final inspection prior to acceptance to ensure that all hardware was correctly installed and is in proper working order.

3.4 ADJUSTING, CLEANING, AND DEMONSTRATING

A. Adjust and check each operating item of hardware and each door to ensure proper operation or function of every unit. Replace units that cannot be adjusted to operate freely and smoothly or as intended for the application made.

B. Where door hardware is installed more than one month prior to acceptance, return to the installation during the week prior to acceptance or occupancy and make final check and adjustment of all hardware items in such space or area. Clean operating items as necessary to restore to proper function and finish of hardware and doors.

C. Instruct owner's personnel in the proper adjustment and maintenance of door hardware and hardware finishes.

3.5 HARDWARE SCHEDULE

A General: Provide hardware for each door to comply with all requirements including, but not limited to, Door Schedule Section 087100 "Door Hardware" and hardware set numbers indicated in door schedule.

B. The following schedule lists typical openings. It is the responsibility of the Finish Hardware Supplier to visit the site, examine the drawings and door schedule and provide all necessary hardware as shown. Where specified hardware is not indicated or scheduled for a particular opening, provide the same hardware required for similar doors, openings and conditions elsewhere in the building. It shall be the responsibility of the Contractor and finish hardware supplier to furnish and install all such hardware, whether or not indicated herein.

C. As part of the submittal process, the Contractor and Finish Hardware Supplier shall inspect all doors and frames to confirm that the specified hardware will work in

existing conditions. The initial hardware schedule submittal shall show components meeting the above requirements. If necessary, the Finish Hardware.

D. Supplier shall advise the Contractor of modifications necessary to accept new hardware. The Contractor shall be responsible for making all required modifications. Additional charges will not be accepted for material scheduled and shipped which is not compatible upon installation.

E. See Door Schedule for hardware sets.

END OF SECTION 087100

SECTION 088000 - GLAZING PART I – GENERAL

1.1 SUMMARY

A. This Section includes glazing for the following products and applications, including those specified in other Sections where glazing requirements are specified by reference to this Section:
   1. Doors.

1.2 DEFINITIONS

A. Manufacturers of Glass Products: Firms that produce primary glass, fabricated glass, or both, as defined in referenced glazing publications.

B. Glass Thicknesses: Indicated by thickness designations in millimeters according to ASTM C 1036.

C. Interspace: Space between lites of an insulating-glass unit that contains dehydrated air or a specified gas.

D. Deterioration of Coated Glass: Defects developed from normal use that is attributed to the manufacturing process and not to causes other than glass breakage and practices for maintaining and cleaning coated glass contrary to manufacturer's written instructions. Defects include peeling, cracking, and other indications of deterioration in metallic coating.

E. Deterioration of Insulating Glass: Failure of hermetic seal under normal use that is attributed to the manufacturing process and not to causes other than glass breakage and practices for maintaining and cleaning insulating glass contrary to manufacturer's written instructions. Evidence of failure is the obstruction of vision by dust, moisture, or film on interior surfaces of glass.

F. Deterioration of Laminated Glass: Defects developed from normal use that are attributed to the manufacturing process and not to causes other than glass breakage and practices for maintaining and cleaning laminated glass contrary to manufacturer's written instructions. Defects include edge separation, delamination materially obstructing vision through glass, and blemishes exceeding those allowed by referenced laminated-glass standard.

1.3 PERFORMANCE REQUIREMENTS

A. General: Provide glazing systems capable of withstanding normal thermal movement and wind and impact loads (where applicable) without failure, including loss or glass breakage attributable to the following: defective manufacture, fabrication, and installation; failure of sealants or gaskets to remain

watertight and airtight; deterioration of glazing materials; or other defects in construction.

B. Glass Design: Glass thickness designations indicated are minimums and are for detailing only. Confirm glass thicknesses by analyzing Project loads and in-service conditions. Provide glass lites in the thickness designations indicated for various size openings, but not less than thicknesses and in strengths (annealed or heat treated) required to meet or exceed the following criteria:
   1. Glass Thicknesses: Select minimum glass thicknesses to comply with ASTM E 1300, according to the following requirements:
      a. Specified Design Wind Loads: As indicated on structural drawings.
      b. Probability of Breakage for Vertical Glazing: 8 lites per 1000 for lites set vertically or not more than 15 degrees off vertical and under wind action.
   2. Load Duration: 3 seconds.
      a. Maximum Lateral Deflection: For the following types of glass supported on all 4 edges, provide thickness required that limits center deflection at design wind pressure to 1150 times the short side length or 1 inch, whichever is less.
         1) For monolithic-glass lites heat treated to resist wind loads.
         2) For insulating glass.
         3) For laminated-glass lites.
      b. Minimum Glass Thickness for Exterior Lites: Not less than 6.0 mm.

C. Thermal Movements: Provide glazing that allows for thermal movements resulting from the following maximum change (range) in ambient and surface temperatures acting on glass framing members and glazing components. Base engineering calculation on surface temperatures of materials due to both solar heat gain and nighttime-sky heat loss.
   1. Temperature Change (Range): 120 deg F, ambient; 180 deg F, material surfaces.

D. Thermal and Optical Performance Properties: Provide glass with performance properties specified based on manufacturer's published test data, as determined according to procedures indicated below:
   1. For monolithic-glass lites, properties are based on units with lites 6.0 mm thick.
   2. For laminated-glass lites, properties are based on products of construction indicated.
   3. For insulating-glass units, properties are based on units of thickness indicated for overall unit and for each lite.
   4. Center-of-Glass Values: Based on using LBL-44789 WINDOW 5.0 computer program for the following methodologies:
      a. U-Factors: NFRC 100 expressed as Btu/ sq. ft. x h x deg F.
      b. Solar Heat Gain Coefficient: NFRC 200.
      c. Solar Optical Properties: NFRC 300.

1.4 SUBMITTALS

A. Product Data: For each glass product and glazing material indicated.

B. Product Certificates: Signed by manufacturers of glass and glazing products certifying that products furnished comply with requirements.
   1. For solar-control low-e-coated glass, provide documentation demonstrating that manufacturer of coated glass is certified by coating manufacturer.

C. Preconstruction Adhesion and Compatibility Test Report: From glazing sealant manufacturer indicating glazing sealants were tested for adhesion to glass and glazing channel substrates and for compatibility with glass and other glazing materials.

D. Warranties: Special warranties specified in this Section.

1.5 QUALITY ASSURANCE

A. Installer Qualifications: An experienced installer who has completed glazing similar in material, design, and extent to that indicated for this Project; whose work has resulted in glass installations with a record of successful in-service performance; and who employs glass installers for this Project who are certified under the National Glass Association's Certified Glass Installer Program.

B. Source Limitations for Glass: Obtain the following through one source from a single manufacturer for each glass type: clear float glass, laminated glass and insulating glass.

C. Source Limitations for Glazing Accessories: Obtain glazing accessories through one source from a single manufacturer for each product and installation method indicated.

D. Elastomeric Glazing Sealant Product Testing: Obtain sealant test results for product test reports in "Submittals" Article from a qualified testing agency based on testing current sealant formulations within a 36-month period.
   1. Sealant Testing Agency Qualifications: An independent testing agency qualified according to ASTM C 1021 to conduct the testing indicated, as documented according to ASTM E 548.
   2. Test elastomeric glazing sealants for compliance with requirements specified by reference to ASTM C 920, and where applicable, to other standard test methods.

E. Glazing for Fire-Rated Door Assemblies: Glazing for assemblies that comply with NFPA 80 and that are listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction, for fire-protection ratings indicated, based on testing according to NFPA 252.

F. Safety Glazing Products: Comply with testing requirements in 16 CFR 1201 and, for wired glass, ANSI Z97.l.
   1. Subject to compliance with requirements, obtain safety glazing products permanently marked with certification label of the Safety Glazing Certification Council or another certification agency acceptable to authorities having jurisdiction.
   2. Where glazing units, including Kind FT glass and laminated glass, are specified in Part 2 articles for glazing lites more than 9 sq. ft. in exposed surface area of one side, provide glazing products that comply with Category II materials, for lites 9 sq. ft. or less in exposed surface area of one side, provide glazing products that comply with Category I or II materials, except for hazardous locations where Category II materials are required by 16 CFR 1201 and regulations of authorities having jurisdiction.

G. Glazing Publications: Comply with published recommendations of glass product manufacturers and organizations below, unless more stringent requirements are indicated. Refer to these publications for glazing terms not otherwise defined in this Section or in referenced standards.

   1. GANA Publications: GANA Laminated Division's "Laminated Glass Design guide" and GANA's "Glazing Manual."
   2. AAMA Publications: AAMA GDSG-1, "Glass Design for Sloped Glazing," and AAMA TIR-A7, "Sloped Glazing Guidelines."
   3. IGMA Publication for Sloped Glazing: IGMA TB-3001, "Sloped Glazing Guidelines."
   4. IGMA Publication for Insulating Glass: SIGMA TM-3000, "Glazing Guidelines for Sealed Insulating Glass Units."

J. Insulating-Glass Certification Program: Permanently marked either on spacers or on at least one component lite of units with appropriate certification label of the following testing and inspecting agency:
   1. Insulating Glass Certification Council.

1.8 DELIVERY, STORAGE, AND HANDLING

A. Protect glazing materials according to manufacturer's written instructions and as needed to prevent damage to glass and glazing materials from condensation, temperature changes, direct exposure to sun, or other causes.

1.9 PROJECT CONDITIONS

A. Environmental Limitations: Do not proceed with glazing when ambient and substrate temperature conditions are outside limits permitted by glazing material manufacturers and when glazing channel substrates are wet from rain, frost, condensation, or other causes.

1.10 WARRANTY

A. Manufacturer's Special Warranty on Insulating Glass: Manufacturer's standard form, made out to Owner and signed by insulating-glass manufacturer agreeing to replace insulating-glass units that deteriorate as defined in "Definitions" Article, f.o.b. the nearest shipping point to Project site, within specified warranty period indicated below.
   a. Warranty Period: Ten (10) years from date of Substantial Completion.

PART 2- PRODUCTS

2.1 MANUFACTURERS

A. In other Part 2 articles where titles below introduce lists, the following requirements apply to product selection:
   1. Products: Subject to compliance with requirements, provide one of the products specified.

2.2 GLASS PRODUCTS

A. Insulating-Glass Units, General: Factory-assembled units consisting of sealed lites of glass separated by a dehydrated interspace and complying with ASTM E 774 for Class CBA units.
   a. Glass shall be I" triple-silver-coated, MSVD, solar control low-E insulated glass clear and deep tinted and consist of (3116") at exterior, (5/8") air space and (3116") interior, equal to AFG Comfort E2, Pilkington Energy Advantage Low-E. Provide tempered or laminated glass where required by code.
   2. Provide Kind FT (fully tempered) glass lites where safety glass is required by code.
   3. Overall Unit Thickness and Thickness of Each Lite: Dimensions indicated for insulating-glass units are nominal and the overall thicknesses of units are measured perpendicularly from outer surfaces of glass lites at unit's edge; 3/16" inner and outer layers with 5/8" air space, total thickness 1".
   4. Sealing System: Dual seal, with primary and secondary sealants as follows:
      a. Manufacturer's standard sealants.
   5. Spacer Specifications: Manufacturer's standard spacer material and construction complying with the following requirements:
      a. Spacer Material: Aluminum with black, color anodic finish.
      b. Desiccant: Molecular sieve or silica gel, or blend of both.
      c. Comer Construction: Manufacturer's standard comer construction.
   6. Location: Exterior entrances.

2.3 FIRE-PROTECTION-RATED GLAZING

A. Fire-Protection-Rated Glazing, General: Listed and labeled by a testing agency acceptable to authorities having jurisdiction, for fire-protection ratings indicated,

based on testing according to NFPA 252 for door assemblies.

B. Monolithic Ceramic Glazing: Clear, ceramic flat glass; 3116-inch nominal thickness. Both faces shall be polished.
   1. Products: Subject to compliance with requirements, provide one of the following:
      a. Nippon Electric Glass Co., Ltd. (distributed by Technical Glass Products); Standard FireLite.
      b. Safti First; SuperLite C/P.
      c. Schott North America, Inc.; Pyran Star.
      d. Vetrotech Saint-Gobain; SGG Keralite FR-R.
   2. Location: Fire rated doors and frames.

2.4 GLAZING GASKETS

A. Dense Compression Gaskets: Molded or extruded gaskets of material indicated below, complying with standards referenced with name of elastomer indicated below, and of profile and hardness required to maintain watertight seal:
   1. EPDM, ASTM C 864.
   2. Silicone, ASTM C 11I5.

B. Soft Compression Gaskets: Extruded or molded, closed-cell, integral-skinned gaskets of material indicated below; complying with ASTM C 509, Type II, black; and of profile and hardness required to maintain watertight seal:
   1. EPDM.
   2. Silicone.
   3. Thermoplastic polyolefin rubber.

2.5 GLAZING SEALANTS

A. General: Provide products of type indicated, complying with the following requirements:
   1. Compatibility: Select glazing sealants that are compatible with one another and with other materials they will contact, including glass products, seals of insulating-glass units, and glazing channel substrates, under conditions of service and application, as demonstrated by sealant manufacturer based on testing and field experience.
   2. Suitability: Comply with sealant and glass manufacturers' written instructions for selecting glazing sealants suitable for applications indicated and for conditions existing at time of installation.
   3. Colors of Exposed Glazing Sealants: As selected by Architect from manufacturer's full range.
   4. Neutral-Curing Silicone Glazing Sealants:
      a. Products:
         1) Dow Corning Corporation; 791.
         2) Dow Corning Corporation; 795.
         3) GE Silicones; SilPrufNB SCS9000.

4) GE Silicones; UltraPrufii SCS2900.
5) Pecora Corporation; 865.
6) Pecora Corporation; 895.
7) Pecora Corporation; 898.

b. Type and Grade: S (single component).
c. Class: 50.
d. Use Related to Exposure: NT (nontraffic).
e. Uses Related to Glazing Substrates: M, G, A, and, as applicable to glazing substrates indicated, 0.

B. Glazing Sealants for Fire-Resistive Glazing Products: Identical to products used in test assemblies to obtain fire- protection rating.

2.6 GLAZING TAPES

A. Back-Bedding Mastic Glazing Tapes: Preformed, butyl-based elastomeric tape with a solids content of 100 percent; nonstaining and nonmigrating in contact with nonporous surfaces; with or without spacer rod as recommended in writing by tape and glass manufacturers for application indicated; packaged on rolls with a release paper backing; and complying with ASTM C 1281 and AAMA 800 for products indicated below:

a. AAMA 806.3 tape, for glazing applications in which tape is subject to continuous pressure.

2.7 MISCELLANEOUS GLAZING MATERIALS

A. General: Provide products of material, size, and shape complying with referenced glazing standard, requirements of manufacturers of glass and other glazing materials for application indicated, and with a proven record of compatibility with surfaces contacted in installation.

B. Cleaners, Primers, and Sealers: Types recommended by sealant or gasket manufacturer.

C. Setting Blocks: Elastomeric material with a Shore, Type A durometer hardness of 85, plus or minus 5.

D. Spacers: Elastomeric blocks or continuous extrusions with a Shore, Type A durometer hardness required by glass manufacturer to maintain glass lites in place for installation indicated.

E. Edge Blocks: Elastomeric material of hardness needed to limit glass lateral movement (side walking).

F. Perimeter Insulation for Fire-Resistive Glazing: Identical to product used in test assembly to obtain fire- resistance rating.

2.8 FABRICATION OF GLAZING UNITS

A. Fabricate glazing units in sizes required to glaze openings indicated for Project, with edge and face clearances, edge and surface conditions, and bite complying with written instructions of product manufacturer and referenced glazing publications, to comply with system performance requirements.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine framing glazing, with Installer present, for compliance with the following:
   1. Manufacturing and installation tolerances, including those for size, squareness, and offsets at comers.
   2. Presence and functioning of weep system.
   3. Minimum required face or edge clearances.
   4. Effective sealing between joints of glass-framing members.

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

3.2 PREPARATION

A. Clean glazing channels and other framing members receiving glass immediately before glazing. Remove coatings not firmly bonded to substrates.

3.3 GLAZING, GENERAL

A. Comply with combined written instructions of manufacturers of glass, sealants, gaskets, and other glazing materials, unless more stringent requirements are indicated, including those in referenced glazing publications.

B. Protect glass edges from damage during handling and installation. Remove damaged glass from Project site and legally dispose of off Project site. Damaged glass is glass with edge damage or other imperfections that, when installed, could weaken glass and impair performance and appearance.

C. Apply primers to joint surfaces where required for adhesion of sealants, as determined by preconstruction sealant-substrate testing.

D. Install setting blocks in sill rabbets, sized and located to comply with referenced glazing publications, unless otherwise required by glass manufacturer. Set blocks in thin course of compatible sealant suitable for heel bead.

E. Do not exceed edge pressures stipulated by glass manufacturers for installing glass lites.

F. Provide spacers for glass lites where length plus width is larger than 50 inches as follows:

a. Locate spacers directly opposite each other on both inside and outside faces of glass. Install correct size and spacing to preserve required face clearances, unless gaskets and glazing tapes are used that have demonstrated ability to maintain required face clearances and to comply with system performance requirements.

b. Provide 1/8-inch minimum bite of spacers on glass and use thickness equal to sealant width. With glazing tape, use thickness slightly less than final compressed thickness of tape.

H. Provide edge blocking where indicated or needed to prevent glass lites from moving sideways in glazing channel, as recommended in writing by glass manufacturer and according to requirements in referenced glazing publications.

3.4 GASKET GLAZING (DRY)

A. Fabricate compression gaskets in lengths recommended by gasket manufacturer to fit openings exactly, with allowance for stretch during installation.

B. Insert soft compression gasket between glass and frame or fixed stop so it is securely in place with joints miter cut and bonded together at comers.

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

D. Install gaskets so they protrude past face of glazing stops.

3.5 CLEANING AND PROTECTION

A. Protect exterior glass from damage immediately after installation by attaching crossed streamers to framing held away from glass. Do not apply markers to glass surface. Remove nonpermanent labels, and clean surfaces.

B. Protect glass from contact with contaminating substances resulting from construction operations, including weld splatter. If, despite such protection, contaminating substances do come into contact with glass, remove substances immediately as recommended by glass manufacturer.

C. Examine glass surfaces adjacent to or below exterior concrete and other masonry surfaces at frequent intervals during construction, but not less than once a month, for

buildup of dirt, scum, alkaline deposits, or stains; remove as recommended in writing by glass manufacturer.

D. Remove and replace glass that is broken, chipped, cracked, or abraded or that is damaged from natural causes, accidents, and vandalism, during construction period.

E. Wash glass on both exposed surfaces in each area of Project not more than four days before date scheduled for inspections that establish date of Substantial Completion. Wash glass as recommended in writing by glass manufacturer.

END OF SECTION 088000

BLOOMFIELD PUBLIC SCHOOLS
BLOOMFIELD, CONNECTICUT

OFFICIAL PROPOSAL FORM
BHS Exterior Door Replacement

To be delivered by a representative of the Bidder to the Facilities Office, Bloomfield Public Schools, 1133 Blue Hills Avenue, Bloomfield, Connecticut, 06002 before 10:00 AM on November 30, 2016.

The undersigned hereby proposes to perform the services specified as defined in the "**General Specifications for BHS Exterior Door Replacement**" attached hereto. The acceptance of this proposal by Bloomfield Public Schools, in writing, shall constitute the basis for a written contract between the two (2) parties for BHS Exterior Door Replacement. **The contract shall be awarded based on the "contractors" qualifications and their demonstrated ability to perform the specified services.**

BHS Exterior Door Replacement
Bloomfield High School
5 Huckleberry Lane
Bloomfield, CT 06002

Pricing: Lump Sum $ _____

Name of Bidder _____ Date _____

Name of Company_____ Telephone_____

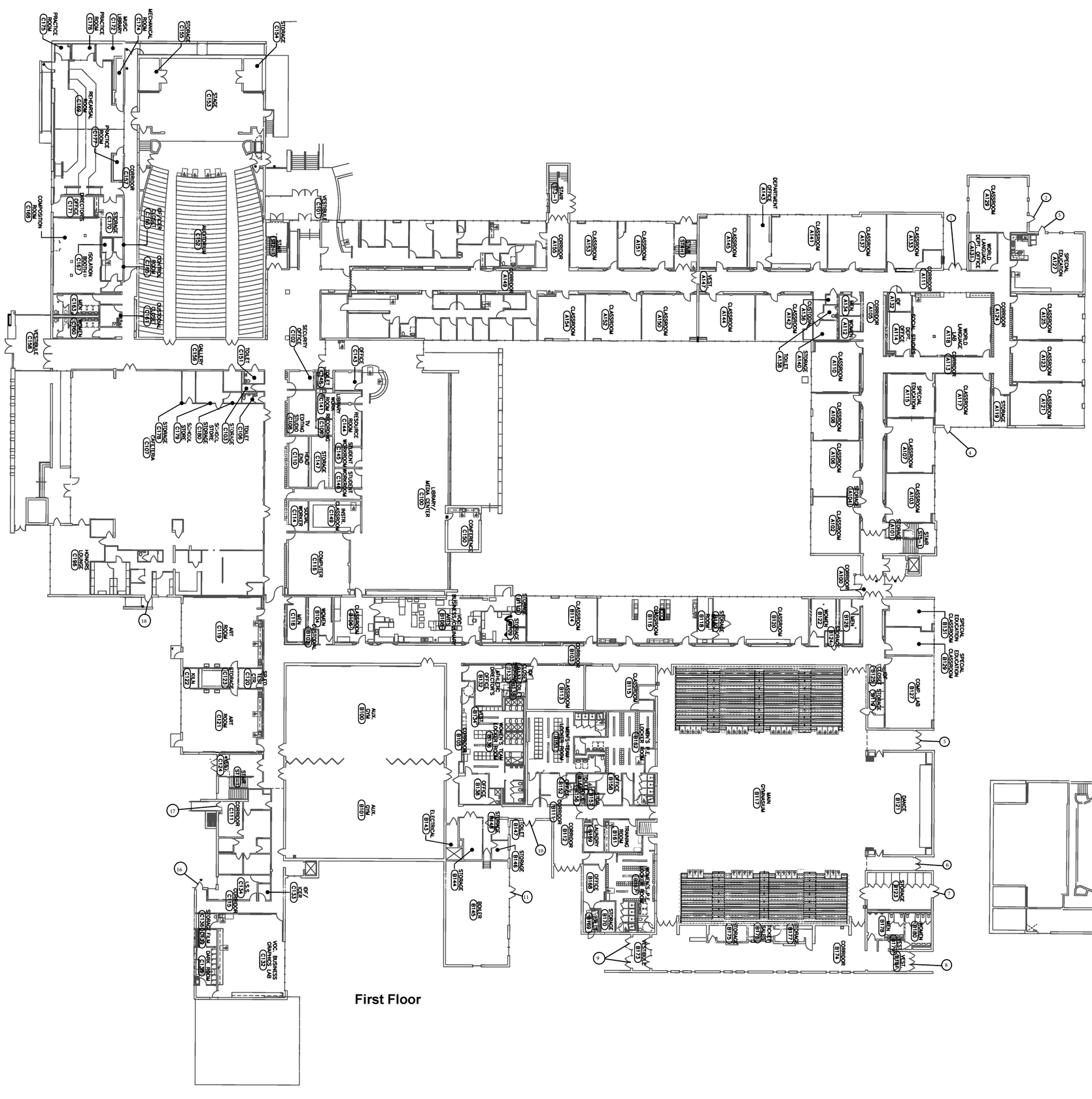
Address _____ Fax _____

_____

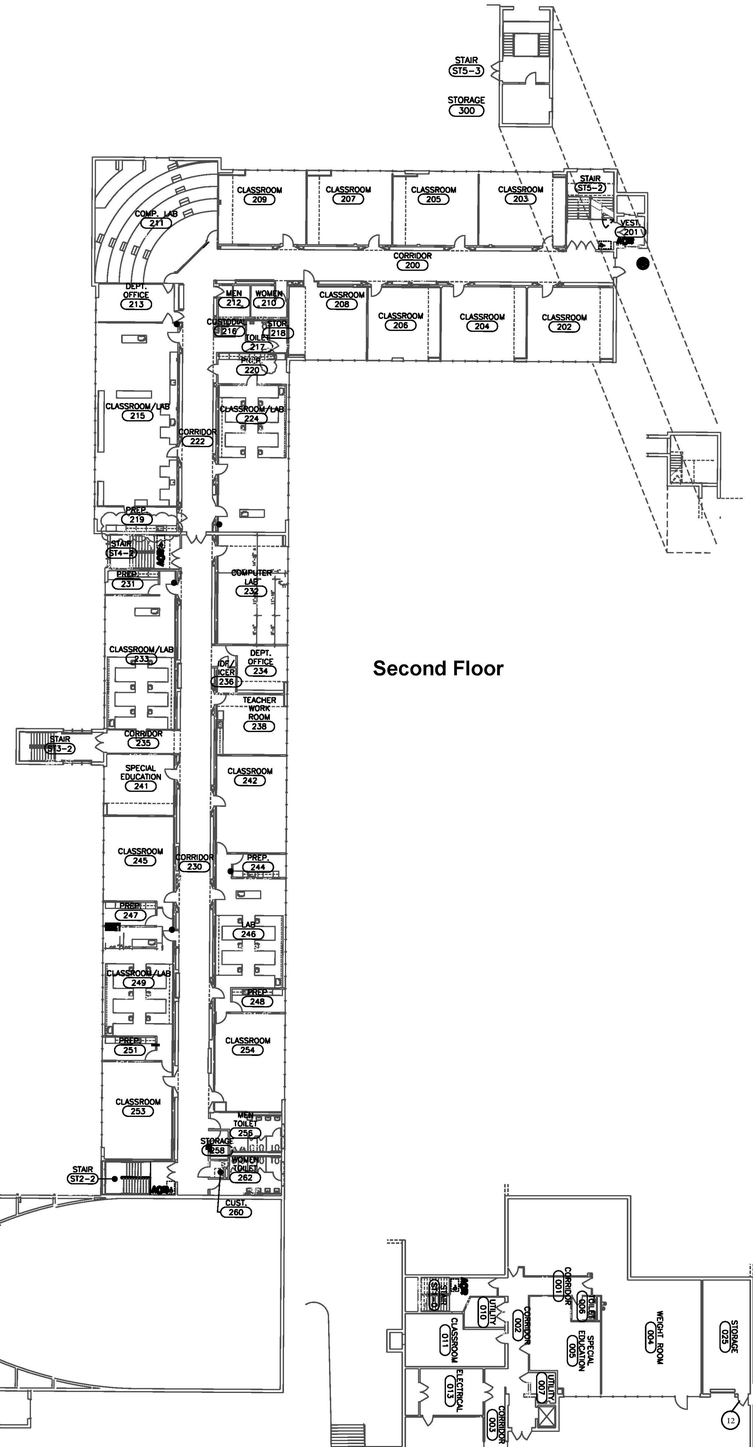
Signature of Authorized Agent _____

DOOR SCHEDULE

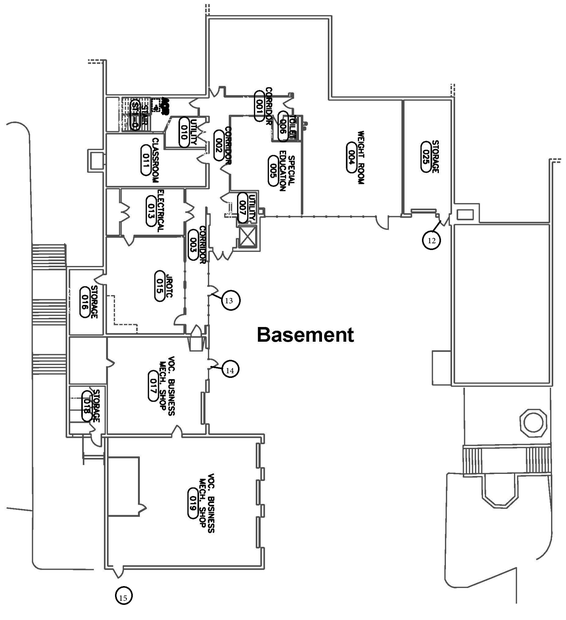
OPENING NUMBER	DOOR					HARDWARE									
	DOOR TYPE	DOUBLE LEAF DOOR	3'-0" W X 7'0" H	MATERIAL HM = HOLLOW METAL	FINISH PT = PAINT	PANIC EXIT DEVICE	NEW MULION REQUIRED	POSITIVE LATCHING	HOLD OPEN CLOSER	AUTOMATIC CLOSER	LEVER, U-HANDLE	KICK PLATES	LOCKSET REQUIRED	TACTILE WARNING	HARDWARE SET NUMBER
1	C	1		X	PT	X	X	X		X	X	X	X		
2	C		1	X	PT	X		X		X		X			
3	E		1	X	PT	X		X		X		X			
4	C		1	X	PT	X		X		X		X			
5	C	1	1	X	PT	X	X	X		X	X	X	X		
6	C	1		X	PT	X	X	X		X		X			
7	E	1		X	PT	X	X	X		X		X			
8	C	1	1	X	PT	X	X	X		X	X	X	X		
9	C	2		X	PT	X	X	X		X	X	X			
10	C	1		X	PT	X	X	X	X	X		X			
11	E	1		X	PT	X	X	X	X	X	X	X	X	X	
12	E		1	X	PT	X		X		X	X	X	X		
13	C		1	X	PT	X		X		X		X			
14	C		1	X	PT	X		X		X		X			
15	E		1	X	PT	X		X		X		X			
16	C		1	X	PT	X		X		X		X			
17	E		1	X	PT	X		X		X		X			
18	C		1	X	PT	X		X	X	X	X	X	X		



First Floor



Second Floor



Basement

Bloomfiled High School