Westhope Public School
Addendum #2
08/01/2014

BID DATE / TIME= 08/05/2014 at 2:00 PM CST
LOCATION = Construction Engineers, 200 North 69th Street, Grand Forks, ND 58203

THIS ADDENDUM SHALL BECOME A PART OF THE PLANS AND SPECIFICATIONS AND ITS RECEIPT SHALL BE NOTED ON THE BID FORM. (54 pages total)

GENERAL

SPECIFICATIONS:

Add Section 005000– Form of Agreement

1. Labor and Material Contract
2. Project Safety Requirements

ARCHITECTURAL

GENERAL CLARIFICATION:

SPECIFICATIONS:

087100 | DOOR HARDWARE

1. Specification Section shall be added to the Construction Documents. See attached.

DRAWINGS:

A001 | SITE PLAN

1. ADA Parking Signs shall be new. There are 3 ADA parking stalls requiring signs.

A011A | FIRST FLOOR DEMOLITION PLAN – SEGMENT A

1. See attached sheet for clarification.

A011B | FIRST FLOOR DEMOLITION PLAN – SEGMENT B

1. See attached sheet for clarification.

A011C | FIRST FLOOR DEMOLITION PLAN – SEGMENT C

1. See attached sheet for clarification.

A012 | SECOND FLOOR DEMOLITION PLAN – OVERALL

1. See attached sheet for clarification.

A012A | SECOND FLOOR DEMOLITION PLAN – SEGMENT A

1. See attached sheet for clarification.

A111B | FIRST FLOOR REFLECTED CEILING PLAN – SEGMENT B

1. Concessions B103: Ceiling shall be ACT-1 at 8’-0” AFF.

A202 | EXTERIOR ELEVATIONS

1. Material Legend: See specifications for Masonry #1 and Masonry #2 information.

A311 | WALL SECTIONS

1. Sheet A311 shall be added to the Construction Documents. See attached.

A421 | INTERIOR ELEVATIONS

1. 14/A421: Interior elevation title shall be changed from English A203 to English A205.

A601 | DOOR SCHEDULE

1. Door B109: Base bid shall have door as HM door and HM Frame (Type 2). Alternate G-2 has calls for more glass around door with HM Frame being changed to Type 6, with side relites at 1'-6" wide with tempered glass on each side.

A611 | ROOM FINISH SCHEDULE

1. RAF: Abbreviation stands for Resilient Athletic Flooring. Floor finish is located in Wellness C116 and Lockers C117

2. Room Finish Schedule: Information updated on the following:
    a. Finish Remarks Note Box has been updated
    b. General Notes Box has been updated
    c. Interior Room Signage Mounting Heights note box has been added
    d. Alcove B105B has been added to the Room Finish Schedule
    e. Hall B118E finish information has been added to the Room Finish Schedule.
    f. RAF: Abbreviation and description has been added to the Abbreviations box.
    g. Sheet A611 has been attached to reflect current updates.

A612 | ROOM FINISH SCHEDULE

1. 2/A612: Plaque information shall be updated.
2. Type 7 signs are 2" x 4" in size.
3. Sheet A612 has been attached to reflect current updates.

PRIOR APPROVALS:

None per Addendum #2

STRUCTURAL

GENERAL CLARIFICATION:

1. S101A, S101B, & S101C: Foundation Plans – All interior pad footings shall have a top of footing elevation of 94'-4", with a "P3" pier.

2. S101B: Foundation Plan Segment B – Footings labeled as "CF" at the entry vestibule between Grids 4 & 8 should be labeled "CF2.6".

3. S103: Roof Framing Plan Segment A – Revise beam size along Grid 20. W10x12 shall be W12x14 with moment connections at each end. See Detail 5/S501 for moment connection requirements.

4. S301: Foundation Details – Revise elevator pit depth to 4'-8" on Detail 16/S301.

SPECIFICATIONS:

DRAWINGS:

1. **AS01: Detail 5/S502 – Eliminated angle connection to existing brick. Added angle connection to existing CMU wall.**

2. **AS02: Detail 6/S502 – Eliminate angle connection to existing brick. Added angle connection to existing CMU wall.**

FOOD SERVICE

SPECIFICATIONS:

SECTION 114000 | FOOD SERVICE

1. Item# K39 Solid Top Serving Counter
   Line 39.3 Model # 316-25SS should be changed to 310-25SS.

MECHANICAL

GENERAL CLARIFICATIONS:

Fire Protection System clarifications

A. The fire riser room is located north of remodeled gym vestibule. It will require a new 4" service to the building. This is shown on 4/M201-R of Addendum 1.

B. There are no attic spaces requiring a dry pipe system. There is an overhang located on the south addition entrance that will require a freeze proof sprinkler head. The dry pipe valve and spec can be ignored. The overhang can be seen on drawing 1/M401. It is called out via the dotted line south of Vestibule A150.

C. The First Sprinkler Riser detail shown on 9/M501; the 6" service provided and stubbed out by MC is to be 4". G.C. is to connect from where MC stubs out to the main.

CONTINGENT UPON MEETING ALL SPECIFICATIONS, FOLLOWING ITEMS ARE ACCEPTABLE FOR BIDDING:

Paragraph	Item
G&R Controls	Siemens Industries, Inc; Siemens Apogee: HVAC Controls and Sequences
G&R Controls	Yaskawa VFD
G&R Controls	Evo Boiler
G&R Controls	Wheeler Potable Water Storage Tank
G&R Controls	ProHydronics Valves
G&R Controls	Twin City Hose Flexible Connectors
UHL	Controls – Schneider Electric-IA
Soderholm	American Standard
Mulcahy	RBI Futera Boilers – RBI Storage Tanks – RBI Water Heaters
VE Systems	AJAX boilers
Thermair	Sterling Cabinet Unit Heaters

ELECTRICAL

ITEM #1 Sheet E400 and E401 – Power Plan – Area A & B

A. Provide and install handicapped door operators (HDO) as shown on attached sheet ADE2. Verify exact location of push buttons with the owner prior to installation.

ATTACHMENTS:

1. Material and Labor Contract Form
2. Project Safety Requirements
3. Specification Section 087100 – Door Hardware
4. A011A – First Floor Demolition Plan – Segment A
5. A011B – First Floor Demolition Plan – Segment B
6. A011C – First Floor Demolition Plan – Segment C
7. A012 – Second Floor Demolition Plan – Overall
8. A012A – Second Floor Demolition Plan – Segment A
9. A311 – Wall Sections
10. A611 – Room Finish Schedule
11. A612 – Room Finish Schedule
12. AS01 – Deck Bearing at Existing
13. AS02 – Joist Bearing at Existing
14. ADE2 - Electrical

END OF ADDENDUM 02

CONSTRUCTION ENGINEERS

200 North 69th Street
Grand Forks, ND 58203
Ph: 701-746-0472
Fax: 701-772-1808
Alt Fax: 701-780-8775
constructionengineers.com

Attachment A
PROJECT SAFETY REQUIREMENTS

All subcontractors are required to comply with Construction Engineers Safety Management Plan. The safety policies and procedures are to include, but not limited to the following:

1. A copy of your company safety manual will be required along with job specific MSDS sheets **prior** to work beginning on-site. Submit via email to Construction Engineers Project Manager.
2. Subcontractors will be required to meet the safety requirements of OSHA, the Project Owner and Construction Engineers.
3. Provide a list of the on-site personnel that are certified in CPR and first aid. Submit via email to Construction Engineers Project Manager.
4. All subcontractors are required to provide their own Personal Protection Equipment (PPE). Any employee's of the subcontractor that do not have the proper PPE will be asked to leave the site and allowed to return when they have the proper PPE. The minimum PPE to be provided by each subcontractor shall include:
   A. Hardhats 100% of the time.
   B. Safety glasses 100% of the time.
   C. High visibility shirts/vests are required 100% of the time.
   D. Safety toed boots as required.
   E. Dust masks as required by the task or determined by CEL's Safety Official.
   F. Fall protection equipment.
   G. Hearing protection as required by the task or determined by CEL's Safety Official.
   H. Appropriate clothing (no sleeveless shirts, tennis shoes, or shorts to be worn).
5. When safety equipment is supplied by Construction Engineers to subcontractor's employees to meet the safety policies, full reimbursement for costs of these items will be due upon receipt of the invoice.
6. All on-site personnel will be required to attend or conduct daily safety meetings prior to commencing work.
7. All companies on-site will be required to fill out daily Job Safety Analysis (JSA's) and turn in to Construction Engineers. If your company does not have these forms, Construction Engineers will provide a copy of this form upon request.
8. A copy of the Emergency Response Plan which indicates the emergency contacts and phone numbers will be located in the On-Site Project Manager or Superintendents trailer.
9. Each trade is required for **DAILY** clean-up of their work area. If this is not completed, Construction Engineers will conduct this clean-up the following day and deduct the costs incurred from your contract at a cost of $ 80.00/hour plus any equipment.
10. All trades are required to provide their own tools and equipment to complete their work to include unloading of materials.
11. All personnel driving on the job-site will be required to have a valid driver's license on their person and to have safety belt worn.
12. Any personnel operating any equipment (i.e. bobcats, forklifts, etc.) shall be properly trained and certified for that particular equipment. Copies of these certificates are to be provided to Construction Engineers' Safety Official upon request.

13. It is the responsibility of the contractor to replace construction barriers/barricades that they needed to remove to complete their work.
14. When a subcontractor's employee is involved in an accident that results in personal injury or property damage, no matter how minor, the accident must be reported to Construction Engineers On-Site Project Manager or Superintendent immediately. Also to provide and complete the proper accident reporting paper work.
15. All "Near Misses" need to be reported to Construction Engineers On-Site Project Manager or Superintendent immediately.
16. Firearms, explosives, drugs and/or alcohol are not allowed on-site, anyone in possession of these items will be asked to leave the job-site.
17. Smoking will be in designated areas only; there is NO SMOKING within the building at any stage of construction. All cigarettes butts are to be placed in trash receptacles and not thrown on the ground. Violators will be asked to permanently leave the site.
18. Fighting, verbal abuse and/or argumentative posturing is not allow on-site, both parties will be asked to leave the site.
19. The subcontractor will be required to provide additional staffing or additional hours at their cost to make up time lost as a result of their failure to follow the required safety procedures. No additional costs will be accepted for these reasons.
20. Radios will be allowed on the job site at the discretion of the On-Site Project Manager or Superintendent.
21. Vulgar or offensive language, actions and/or clothing will not be tolerated. Violators will be asked to leave the job-site.
22. At the discretion of the Construction Engineers Project Manager, weekly project coordination meetings will be held at a designated day and time, each company who is currently on-site or will be on-site within the next week are required to have a representative in attendance.

It is our intent to ensure that everyone involved in this project has a successful and safe project. Please make sure that your field staff is aware of these requirements.

I, _____, have read and understand these Project Safety Requirements and agree to submit all required documents, adhere to all safety policies and procedures stated above, and to brief the field personnel prior to sending them to the project site to begin work.

_____
Signature

_____
Title

_____
Company Name

_____
Date

STANDARD SUBCONTRACT AGREEMENT

LABOR AND MATERIALS

Prepared by Construction Engineers, Ltd.

THIS SUB-CONTRACT, made this **xx**th day of **Month 2012**, by and between **CONSTRUCTION ENGINEERS, LTD, PO BOX 13378, 200 NORTH 69th STREET (58203), GRAND FORKS, ND 58208-3378,** hereinafter called the Construction Manager, and **COMPANY NAME, ADDRESS, CITY, STATE ZIP CODE**, hereinafter called the Sub-Contractor.

WHEREAS, the Construction Manager has heretofore entered into a contract with **OWNER, ADDRESS, CITY, STATE ZIP CODE**, hereinafter called the Owner, to perform Construction Management services, perform certain labor and furnish certain material for the erection and completion of **PROJECT NAME, ADDRESS, CITY, STATE ZIP CODE**, hereinafter called the Project, pursuant to plans and specifications prepared by **ARCHITECT/ENGINEER, ADDRESS, CITY, STATE ZIP CODE**, Architect which contract consisting of the proposal, the contract, the **Plans dated Month Date Year**, the general conditions, the special conditions, the bond, if any, **Attachment A – Project Safety Requirements,** and **Addenda No. N/A** and **Alternates No. N/A** or amendments to any of the foregoing, is hereinafter collectively referred to as the General Contract; and

WHEREAS, the Construction Manager has made available to the Sub-Contractor all of the above documents, except that a blank proposal form and a blank contract form have been made available in lieu of completed forms; and

WHEREAS, the above have been carefully examined by the Sub-Contractor.

THE SUB-CONTRACTOR AGREES AS FOLLOWS:

I. To furnish all labor, material, and equipment necessary or required to perform all the work necessary or incidentally required for that part of the construction of the Project, as follows:

SECTION XXXXX - DESCRIPTION

TOTAL $ XX,XXX.XX

II. To pay for all materials, skill, labor and instrumentalities used in, or in connection with the performance of this Sub-Contract, when and as bills or claims therefore become due, and to save and protect the Project, the Owner, and the Construction Manager from all claims and mechanics' liens on account thereof, and to furnish satisfactory evidence to the Construction Manager when and if required, that he has complied with the above requirements. This provision shall not be construed as a waiver of the right of the Sub-Contractor to file and enforce a lien claim against the Owner in the event of the Construction Manager's failure to pay the Sub-Contractor.

III. To begin the work herewith contracted for as soon as the Project upon which the work is to be done is ready for such work or, in any event, within **3** calendar days after being notified by the Construction Manager to do so, and to complete the several portions of the whole thereof within the time or times following, namely:

Schedule

- **Coordinate and complete work in accordance with the attached project schedule dated Month DD, YYYY.**

Shop Drawings / Submittals - ELECTRONIC COPIES ARE PREFERRED

- **Within calendar days of receipt of this contract, submit shop drawings and/or product data (1 electronic copy) and samples and/or color charts (2 each) for all portions of work.**

- **If Shop Drawings/Product Data Submittals are not submitted in the specified format and/or the required number of copies, a charge of $100 per hour (1 hour minimum) plus cost of miscellaneous materials will be deducted from your contract.**

- **Submit shop drawings/product data for only materials that comply with the plans, specifications and addendums. Your company shall be held liable for products that are not compliant. In addition, our administrative time for dealing with submittals that are non-compliant or incomplete will be charged to your company at a rate of $100/hour.**

Pay Requests

- **Pay Requests are due in the CEL main office (sent to the attention of CE Project Manager) by the 25th of each month. Pay Requests received after this date will be processed in the following month. No future reminders will be issued regarding the timely submission of Pay Requests.**

Liquidated Damages: It is hereby agreed that damages arising from the non-fulfillment of this contract in the required time, shall be deducted from the contract price, and be as liquidated damages and not in the nature of a penalty and shall be **$0** dollars per calendar day.

IV. To proceed with the work in the sequence directed by the Construction Manager and to abide by the Construction Manager's decision as to the allotment of all storage and working space on the Project.

V. That no extension of time of performance of this Sub-Contract shall be recognized by the Construction Manager without the written consent of the Construction Manager.

VI. To save harmless the Construction Manager and all other sub-contractors from any and all loss or damage (including without limiting the generality of the foregoing, legal fees and disbursements paid or incurred by the Construction Manager to enforce the provisions of this paragraph) occasioned by the failure of the Sub-Contractor to carry out the provisions of this Sub-Contract unless such failure results from causes beyond the control of the Sub Contractor.

VII. To obtain, maintain, and pay for such workmen's compensation insurance as may be required by the General Contract or by law; comprehensive general liability insurance and comprehensive automobile liability insurance, protecting the Sub-Contractor against claims for bodily injury or death or for damage to property occurring upon, in or about the Project with limits in amounts at least equal to the greater of those specified in the General Contract or those specified below: and builders risk or installation floater or patent infringement insurance.

THIS AREA INTENTIONALLY LEFT BLANK

ACORD

CERTIFICATE OF INSURANCE

DATE (MM/DD/YY)

PRODUCER	THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW.
SAMPLE CERTIFICATE Insurance Agency Name & Address	COMPANIES AFFORDING COVERAGE
	COMPANY **A** A Insurance Company
INSURED *SAMPLE CERTIFICATE* Subcontractor name & complete address	COMPANY **B** B Insurance Company
	COMPANY **C**
	COMPANY **D**

COVERAGES

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED, NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN. THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED TO PAY CLAIMS.

CO LTR	TYPE OF INSURANCE	POLICY NUMBER	POLICY EFFECTIVE DATE (MM/DD/YY)	POLICY EXPIRATION DATE (MM/DD/YY)	LIMITS	
A	GENERAL LIABILITY	######	**MM/DD/YYYY**	**MM/DD/YYYY**	GENERAL AGGREGATE	$ 2,000,000
	X COMMERCIAL GENERAL LIABILITY				PRODUCTS-COMP/OP AGG	$ 2,000,000
	CLAIMS MADE X OCCUR				PERSONAL & ADV INJURY	$ 1,000,000
	OWNER'S & CONT PROFIT				EACH OCCURRENCE	$ 1,000,000
					FIRE DAMAGE (Any One Fire)	$ 50,000
					MED EXP (Any One Person)	$ 5,000
A	AUTOMOBILE LIABILITY	######	**MM/DD/YYYY**	**MM/DD/YYYY**	COMBINED SINGLE LIMIT	$ 1,000,000
	X ANY AUTO					
	ALL OWNED AUTOS				BODILY INJURY (Per Person)	$
	SCHEDULED AUTOS					
	X HIRED AUTOS				BODILY INJURY (Per Accident)	$
	X NON-OWNED AUTO					
					PROPERTY DAMAGE	$
A	EXCESS LIABILITY	######	**MM/DD/YYYY**	**MM/DD/YYYY**	EACH OCCURRENCE	$ 1,000,000
	X UMBRELLA FORM				AGGREGATE	$ 1,000,000
	OTHER THAN UMBRELLA FORM					
B	WORKMAN'S COMPENSATION AND EMPLOYER'S LIABILITY	######	**MM/DD/YYYY**	**MM/DD/YYYY**	STATUTORY LIMITS	
	THE PROPRIETOR/ PARTNERS/EXECUTIVE OFFICERS ARE: X INCL				EACH ACCIDENT	$ 100,000
	EXCL				DISEASE – POLICY LIMIT	$ 500,000
					DISEASE – EACH EMPLOYEE	$ 100,000

DESCRIPTION OF OPERATIONS/LOCATIONS/VEHICLE/SPECIAL ITEMS

Per project aggregate applies to General Liability Policy. CONSTRUCTION ENGINEERS, LTD.; _____, THE OWNER; _____ _____, ARCHITEST; AND ALL OTHER PARTIES AS REQUIRED BY CONTRACT ARE NAMED AS ADDITIONAL INSURED ON A PRIMARY AND NONCONTRIBUTING BASIS. (Please attach a copy of Additional Insured form or indicate form number). A 30-day written notice of cancellation applies. Project: _____.

IMPORTANT

CERTIFICATE HOLDER	CANCELLATION
CONSTRUCTION ENGINEERS, LTD. PO BOX 13378 GRAND FORKS, ND 58208-3378	SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, THE ISSUING COMPANY WILL ENDEAVOR TO MAIL 30 DAYS WRITTEN NOTICE TO THE CERTIFICATE HOLDER NAMED TO THE LEFT BUT FAILURE TO MAIL SUCH NOTICE SHALL IMPOSE NO OBLIGATION OR LIABILITY OF ANY KIND UPON THE COMPANY, ITS AGENTS OR REPRESENTATIVES. AUTHORIZED REPRESENTATIVE

Said insurance to be in form and issued by a company or companies satisfactory to the Construction Manager; to furnish to the Construction Manager satisfactory evidence that it has complied with this paragraph and to obtain and furnish to the Construction Manager an undertaking by the insurance company issuing each such policy, that such policy will not be canceled except after thirty (30) days' notice to the Construction Manager of its intention to do so. The form of certificate of insurance shall be in exact accordance with the format illustrated previously in section VII.

The Sub-Contractor agrees to assume entire responsibility and liability for all damages or injury to all persons, whether employees or otherwise, and to all property, arising out of, resulting from or in any manner connected with, the execution of the work provided for in this Sub-Contract or occurring or resulting from the use by the Sub-Contractor, his agents or employees, of materials, equipment, instrumentalities or other property, whether the same be owned by the Construction Manager, the Sub-Contractor or third parties and the Sub-Contractor agrees to indemnity and save harmless the Construction Manager, his agents and employees from all such claims including, without limiting the generality of the foregoing, claims for which the Construction Manager may be, or may be claimed to be liable, and legal fees and disbursements paid or incurred to enforce the provisions of this paragraph, and the Sub-Contractor further agrees to obtain, maintain and pay for such general liability insurance coverage as will insure the provisions of this paragraph.

VIII. To accept responsibility for all damage caused by the Sub-Contractor which shall be deemed to include, without limiting the generality of the foregoing, the following: cleaning up of rubbish and debris resulting from the Sub-Contractor's work and removal of same from the Project; cleaning of walls, floors and other surfaces soiled by the Sub-Contractor; patching plaster damaged by the Sub-Contractor's work or required to be patched as an immediate part of such work; and replacing all glass broken by the Sub-Contractor; provided, however, that the Sub-Contractor shall not be responsible for any plaster damage or glass breakage existing at the time the Sub-Contractor begins work of which the Sub-Contractor notifies the Construction Manager in writing prior to commencing work hereunder. If any dispute arises between the Sub-Contractor and another sub-contractor as to which is responsible for any item of damage, the dispute shall be submitted to the Construction Manager for decision and his determination as to responsibility shall be final and binding on the Sub-Contractor.

IX. To adequately and properly protect the work to be performed by it hereunder, to be responsible for damages to persons and property occasioned by its failure so to do and to be responsible for any defective or improper work or material caused by its failure so to do, it being understood that the standards of protection shall not be less than those specified in the General Contract or required by law.

X. Not to assign or sub-let this Sub-Contract or any part thereof and not to assign any money due or to become due hereunder without first obtaining the written consent of the Construction Manager thereto.

XI. To be bound to the Construction Manager by the terms of the General Contract, to conform to and comply with the provisions of the General Contract, to furnish such shop drawings or samples as may be required, and to assume toward the Construction Manager all the obligations and responsibilities that the Construction Manager assumes in and by the General Contract toward the Owner, insofar as they are applicable to this Sub-Contract

XII. To employ no person whose employment on or in connection with this Sub-Contract may be objectionable to the Construction Manager, and to remove any such person when objected to by the Construction Manager when permissible under state law.

XIII. That the Construction Manager or his authorized representative shall have the right to order in writing the omission or addition of any parts of the work or materials as omitted from or added to the General Contract by the Architect and/or Owner; that fair deductions or increases shall be made in the contract price for such omitted or added work or materials; and that no extra work shall be allowed or changes made by the Sub-Contractor, or paid for by the Construction Manager UNLESS AND UNTIL AUTHORIZED BY THE CONSTRUCTION MANAGER OR HIS AUTHORIZED REPRESENTATIVE IN WRITING BEFORE THE WORK AND/OR CHANGES ARE BEGUN.

XIV. To obtain and furnish to the Construction Manager and maintain in effect during the life of this Sub-Contract, if requested so to do in the space provided below, a surety bond in form and with sureties acceptable to the Construction Manager and in an amount equal to the Sub-Contract price, conditioned upon and covering the faithful performance of and compliance with all the terms, provisions and conditions of this Sub-Contract, the premium therefore to be paid by the Sub-Contractor.

Bond Required_____ ☐ Bond Not Required_____ ☐

XV. To guarantee its work to the same extent that the Construction Manager is obligated to guarantee its work under the General Contract, but in any event to guarantee its work against all defects in materials or workmanship for a period of one year from the date of final acceptance of the Project by the Owner.

XVI. That in case the Sub-Contractor shall fail to correct, replace and/or re-execute faulty or defective work done and/or materials furnished under this Sub-Contract, when and as required by the Construction Manager, or shall fail to complete or diligently proceed with this Sub-Contract within the time herein provided for, or if the Construction Manager or any other sub-contractor shall be unable to proceed with the work because of any action by one or more employees of the Sub-Contractor or by a person or labor organization purporting or attempting to represent any employee of the Sub-Contractor, the Construction Manager upon three days notice to the Sub-Contractor shall have the right to correct, replace and/or re-execute such faulty or defective work, or to take over this Sub-Contract and complete same either through its own employees or through a contractor or sub-contractor of its choice, and to charge the cost thereof to the Sub-Contractor, together with any liquidated damages caused by a delay in the performance of this Sub-Contract. For all disputes or controversies, which may arise in connection with this Contract, the Construction Manager and Sub-Contractor consent to the jurisdiction of the courts of the State of North Dakota and to the venue in Grand Forks County. The Construction Manager and the Sub-Contractor also agree that the laws of the State of North Dakota shall govern this Contract in so much as they are not preempted by Federal Law.

XVII. That in case of default on the part of the Sub-Contractor under the terms of this Sub-Contract, the material and equipment of the Sub-Contractor shall be left on the job for the use of the Construction Manager in completing the work covered by this Sub-Contract.

XVIII. To comply with all Federal and State laws, codes and regulations and all municipal ordinances and regulations effective where the work under this Sub-Contract is to be performed, and to pay all costs and expenses connected with such compliance, to pay all fees and taxes, including sales and use taxes, and also to pay all taxes imposed by any State or Federal Law for any employment insurance, pensions, old age retirement funds or any similar purpose and to furnish all necessary reports and information to the appropriate federal, state and municipal agencies with respect to all of the foregoing, the same as though the Sub-Contractor was in fact the Construction Manager, and to hold the Construction Manager, each other subcontractor and the Owner harmless from any and all loss or damage occasioned by the failure of the Sub-Contractor to comply with the terms of this paragraph.

XIX. The Construction Manager's equipment shall be available to the Sub-Contractor only at the Construction Manager's discretion and on mutually satisfactory terms.

XX. To pay all royalties and license fees; to defend all suits or claims for infringement of any patent rights involved in the work of the Sub-Contractor under this Sub-Contract: and to save the Construction Manager harmless from loss, cost or expense on account of such use or infringement by the Sub-Contractor.

XXI. If the proper performance of any item of work to be performed hereunder by the Sub-Contractor depends upon the proper performance of any item of work by the Construction Manager or another sub-contractor whose work precedes in time the work of the Sub-Contractor, to admit by commencing the item of work to be performed hereunder that the work which precedes such item of work to be done hereunder by the Sub-Contractor has been done in a proper manner.

XXII. Sub-contractors and suppliers will meet the requirements of the Occupational Safety & Health Act.

XXIII. You will be required to clean up after your work daily. If you fail to do this Construction Engineers, Ltd will clean up the following day and deduct from your contract all costs incurred. Those responsible for generating debris will be responsible for hauling and disposal of it.

XXIV. Your Project Manager or Job Superintendent who is authorized to act for the company shall attend weekly progress meetings, starting one week before you are scheduled to start and ending one week after you have finished work on the site.

XXV. Construction Engineers, Ltd. has a written Hazard Communications Program in compliance with OSHA 1926.59, a copy of which is in our office. You are required to adhere to the provisions of the Hazard Communication Standards. Information on hazardous chemicals, used by Construction Engineers, Ltd., or known to be present, will be exchanged with you. You will be responsible for providing necessary information, (MSDS) Material Safety Data Sheets, to our office and to your employees. Our project Supervisor will hold weekly safety meetings where employees will be informed of the hazardous chemicals in accordance with our written program. If you have any questions regarding this program, contact our office.

XXVI. Construction Engineers, Ltd. has adopted an Affirmative Action Policy in compliance with HUD Directive 907, Executive Order 11246 (Equal Employment Opportunity), which our company will abide by during the construction of all federal or federally assisted projects. A copy of our policy is available to you upon request.

XXVII. Construction Engineers, Ltd. adopted a Drug-Free Workplace Policy in compliance with FAR clause 52.223-623.505(C), March 1989 "Drug-Free Workplace Act." A copy of our policy is also in our office.

THE CONSTRUCTION MANAGER AGREES AS FOLLOWS:

A. To employ, and does hereby employ the Sub-Contractor to do the work described in paragraph I hereof, subject to the provisions of this Sub-Contract.

B. To pay the Sub-Contractor for the full, faithful and prompt performance of this Sub-Contract, subject to all the terms and conditions hereof, the sum of **XXXXXXXXXX DOLLARS AND XX CENTS ($XX,XXX.XX).**

C. To include in his monthly estimate to the Owner the value of all work, labor, and materials of the Sub-Contractor incorporated into the Project in accordance with the provisions of this Sub-Contract for which estimates have been furnished by the Sub-Contractor and approved by the Construction Manager, and so long as the Sub-Contractor is not in default hereunder, to pay the Sub-Contractor, promptly upon receipt thereof from the Owner, the amount received by the Construction Manager on account of the Sub-Contractor's work to the extent of the Sub-Contractor's interest therein.

Percent of retention until final payment by owner, **10** percent.

D. If arbitration of disputes is provided for in the General Contract, any disputes arising between the Construction Manager and the Sub-Contractor under this Sub-Contract shall be settled by arbitration in the manner provided for in the General Contract.

E. If notification of any claims have been made against the Sub-Contractor or the Construction Manager arising out of labor or materials furnished the Project or otherwise on account of any actions or failures to act by the Sub-Contractor in the performance of this Sub-Contract, the Construction Manager may, at his discretion, withhold such amounts otherwise due or to become due hereunder to cover said claims and any costs or expenses arising or to arise in connection therewith pending legal settlement thereof. This right of the Construction Manager shall not be exclusive of any other rights of the Construction Manager herein or by law provided.

F. The failure of the Construction Manager to make payments as and when herein provided shall, in addition to all other rights, entitle the Sub-Contractor to suspend all work and shipments during the continuance of such default on the part of the Construction Manager, and shall further entitle the Sub-Contractor to an extension of time for the performance of the work covered by this Sub-Contract for the period for which the work was so suspended.

G. This Sub-Contract constitutes the entire understanding of the parties and supersedes any prior proposals or agreements.

IN WITNESS WHEREOF, the Construction Manager and Sub-Contractor have hereunto set their hands and seals in duplicate the day and year first above written.

_____ (SEAL)	**CONSTRUCTION ENGINEERS, LTD.** (SEAL)
Sub-Contractor	Contractor
License No. _____	License No. 2304 Class A
Current Renewal No. _____	Current Renewal No. _____
Sales or Use Tax Permit No. _____	Sales or Use Tax Permit No. 86800
State of _____	State of North Dakota
By _____	By _____
	NAME / PROJECT MANAGER or ENGINEER
In presence of _____	In presence of _____

SECTION 087100 – DOOR HARDWARE

PART 1 - GENERAL

1.1 CONDITIONS

A. Conditions of the contract (General and Supplementary Conditions) and Division One General Requirements, govern the work of this section.

B. This section includes all material, and related service necessary to furnish all finish hardware indicated on the drawings, or specified herein.

C. Furnish UL listed hardware for all labeled and 20 min. openings in conformance with the requirements for the class of opening scheduled. Underwriters' requirements shall have precedence over specification where conflicts exist.

D. All work shall be in accordance with all applicable state and local building codes. Code requirements shall have precedence over this specification where conflicts exist.

1.2 WORK INCLUDED

A. This section includes the following:

1. Furnish door hardware (for hollow metal, wood and aluminum doors) specified herein, listed in the hardware schedule, and/or required by the drawings.
2. Cylinders for Aluminum Doors
3. Thresholds and Weather-stripping (Aluminum frame seals to be provided by aluminum door supplier)
4. Electro-Mechanical Devices
5. Access Control components and or systems specified within this section.

B. Where items of hardware are not definitely or correctly specified and is required for the intended service, such omission, error or other discrepancy should be directed to the Architect prior to the bid date for clarification by addendum. Otherwise furnish such items in the type and quantity established by this specification for the appropriate service intended.

1.3 RELATED WORK IN OTHER SECTIONS

A. This section includes coordination with related work in the following sections:

1. Division 6 Section "Finish Carpentry".
2. Division 6 Section "Cabinet Hardware"
3. Division 8 Section "Hollow Metal Doors and Frames".
4. Division 8 Section "Wood Doors"
5. Division 8 Section "Aluminum Entrances and Storefronts"
6. Division 28 Sections "Electrical".

1.4 REFERENCES

A. Publications of agencies and organizations listed below form a part of this specification section to the extent referenced.

1. DHI - Recommended Locations for Builders' Hardware.
2. NFPA 80 - Standards for Fire Doors and Windows.
3. NFPA 101 - Code for Safety to Life from Fire in Buildings and Structures.
4. UL - Building Material Directory.
5. DHI - Door and Hardware Institute
6. WHI - Warnock Hersey
7. BHMA - Builders Hardware Manufacturers Association
8. IBC 2009 - International Building Code 2009 Edition (as amended by local building code)

1.5 SUBMITTALS

A. Within ten days after award of contract, submit detailed hardware schedule in quantities as required by Division 1 - General Conditions.

B. Schedule format shall be consistent with recommendations for a vertical format as set forth in the Door & Hardware Institute's (DHI) publication "Sequence and Format for the Hardware Schedule". Hardware sets shall be consolidated to group multiple door openings which share similar hardware requirements. Schedule shall include the following information:

1. Door number, location, size, handing, and rating.
2. Door and frame material, handing.
3. Degree of swing.
4. Manufacturer
5. Product name and catalog number
6. Function, type and style
7. Size and finish of each item
8. Mounting heights
9. Explanation of abbreviations, symbols, etc.
10. Numerical door index, indicating the hardware set/ group number for each door.

C. The schedule will be prepared under the direct supervision of a certified Architectural Hardware Consultant (AHC) employed by the hardware distributor. The hardware schedule shall be signed and embossed with the DHI certification seal of the supervising AHC. The supervising AHC shall attend any meetings related to the project when requested by the architect.

D. Check the specified hardware for suitability and adaptability to the details and surrounding conditions.

E. Review drawings from related trades as required to verify compatibility with specified hardware. Indicate unsuitable or in compatible items, and proposed substitutions in the hardware schedule.

F. Provide documentation for all hardware to be furnished on labeled fire doors indicating compliance with positive pressure fire testing UL 10C.

G. Furnish manufacturers' catalog data for each item of hardware in quantities as required by Division 1 - General Conditions.

H. Submit a sample of each type of hardware requested by the architect. Samples shall be of the same finish, style, and function as specified herein. Tag each sample with its permanent location so that it may be used in the final work.

I. Furnish with first submittal, a list of required lead times for all hardware items.

J. After final approved schedule is returned, transmit corrected copies for distribution and field use in quantities as required by Division 1 - General Conditions.

K. Furnish approved hardware schedules, template lists, and pertinent templates as requested by related trades.

L. Furnish necessary diagrams, schematics, voltage and amperage requirements for all electro-mechanical devices or systems as required by related trades. Wiring diagrams shall be opening specific and include both a riser diagram and point to point diagram showing all wiring terminations.

M. After receipt of approved hardware schedule, Hardware supplier shall initiate a meeting including the owner's representative to determine keying requirements. Upon completion of the initial key meeting, hardware supplier shall prepare a proposed key schedule with symbols and abbreviations as set forth in the door and hardware institute's publication "Keying Procedures,

Systems, and Nomenclature". Submit copies of owner approved key schedule for review and field use in quantities as required by Division 1 - General Conditions. Wiring diagrams shall be included in final submittals transmitted for distribution and field use.

1.6 QUALITY ASSURANCE

A. Manufacturers and model numbers listed are to establish a standard of function and quality. Similar items by approved manufacturers that are equal in design, function, and quality, may be considered for prior approval of the architect, provided the required data and physical samples are submitted for approval as set forth in Division One General Requirements.

B. Obtain each type of hardware (hinges, latch & locksets, exit devices, closers, etc.) from a single manufacturer, although several may be indicated as offering products complying with requirements.

C. All hardware items shall be manufactured no earlier than 6 months prior to delivery to site.

D. Hardware supplier shall be factory trained and certified by the manufacture to provide and support all computer managed locks and system components.

E. Installation of hardware shall be installed or directly supervised and inspected by a skilled installer certified by the manufacturer of locksets, door closers, and exit devices used on the project, or with not less than 3 years' experience in successful completion of projects similar in size and scope.

F. Provide hardware for all labeled fire doors, which complies with positive pressure fire testing UL 10C.

G. Comply with all applicable provisions of the standards referenced within section 1.4 of this specification.

H. Hardware supplier shall participate when reasonably requested to meet with the contractor and or architect to inspect any claim for incorrect or non-functioning materials; following such inspection, the hardware supplier shall provide a written statement documenting the cause and proposed remedy of any unresolved items.

1.7 DELIVERY, STORAGE AND HANDLING

A. Hardware supplier shall deliver hardware to the job site unless otherwise specified.

B. All hardware shall be delivered in manufacturers' original cartons and shall be clearly marked with set and door number.

C. Coordinate with contractor prior to hardware delivery and recommend secure storage and protection against loss and damage at job site.

D. Contractor shall receive all hardware and provide secure and proper protection of all hardware items to avoid delays caused by lost or damaged hardware. Contractor shall report shortages to the Architect and hardware supplier immediately after receipt of material at the job site.

E. Coordinate with related trades under the direction of the contractor for delivery of hardware items necessary for factory installation.

1.8 PRE-INSTALLATION MEETING

A. Schedule a hardware pre-installation meeting on site to review and discuss the installation of continuous hinges, locksets, door closers, exit devices, overhead stops, and electromechanical door hardware.

B. Meeting attendees shall be notified 7 days in advance and shall include: Architect, Contractor, Door Hardware Installers (including low voltage hardware), Manufacturers representatives for above hardware items, and any other effected subcontractors or suppliers.

C. All attendees shall be prepared to distribute installation manuals, hardware schedules, templates, and physical hardware samples.

1.9 WARRANTY

A. All hardware items shall be warranted against defects in material and workmanship as set forth in Division One General Requirements.

B. Repair, replace, or otherwise correct deficient materials and workmanship without additional cost to owner.

PART 2 - PRODUCTS

2.1 FASTENERS

A. All exposed fasteners shall be Phillips head or as otherwise specified, and shall match the finish of the adjacent hardware. All fasteners ex-posed to the weather shall be non-ferrous or stainless steel. Furnish correct fasteners to accommodate surrounding conditions.

B. Coordinate required reinforcements for doors and frames. Seek approval of the architect prior to furnishing through-bolts. Furnish through-bolts as required for materials not readily reinforced.

2.2 BUTT HINGES

A. Acceptable manufacturers and respective catalog numbers:

	Ives	Stanley	Hager	McKinney
1. Standard Weight, Plain Bearing	5PB1	F179	1279	T2714
2. Standard Weight, Ball Bearing	5BB1	BB179	BB1279	TB2714
3. Standard Weight, Ball Bearing, Non-Ferrous	5BB1	FBB191	BB1191	TB2314
4. Heavy Weight, Ball Bearing	5BB1HW	FBB168	BB1168	T4B3786
5. Heavy Weight, Ball Bearing, Non-Ferrous	5BB1HW	FBB199	BB1199	T4B3386

B. Unless otherwise specified, furnish the following hinge quantities for each door leaf.
   1. 3 hinges for doors up to 90 inches.
   2. 1 additional hinge for every 30 inch on doors over 90 inches.
   3. 4 hinges for Dutch door applications.

C. Unless otherwise specified, top and bottom hinges shall be located as specified in division 8 Section "Hollow Metal Doors and Frames". Intermediate hinges shall be located equidistant from others.

D. Unless otherwise specified, furnish hinge weight and type as follows:
   1. Standard weight: plain bearing hinge 5PB1 for interior openings through 36 inches wide without a door closer.
   2. Standard weight: ball bearing hinge 5BB1 for interior opening over 36 through 40 inches wide without a door closer, and for interior openings through 40 inches wide with a door closer.
   3. Heavyweight: 4 ball bearing hinge 5BB1HW for interior openings over 40 inches wide, and for all vestibule doors.
   4. Heavyweight: 4 ball bearing hinge 5BB1HWss for exterior openings unless otherwise listed in groups.

E. Unless otherwise specified, furnish hinges for exterior doors, fabricated from brass, bronze, or stainless steel. Unless otherwise specified, hinges for interior doors may be fabricated from steel.

F. Unless otherwise specified, furnish hinges in the following sizes:

1. 5" x 5" 2-1/4" thick doors
2. 4-1/2" x 4-1/2" 1-3/4" thick doors
3. 3-1/2" x 3-1/2" 1-3/8" thick doors

G. Furnish hinges with sufficient width to accommodate trim and allow for 180-degree swing.

H. Unless otherwise specified, furnish hinges with flat button tips with non-rising pins at interior doors, non-removable loose pins (NRP) at exterior and out-swinging interior doors.

I. Unless otherwise specified, furnish all hinges to template standards.

2.3 CONTINUOUS PIN AND BARREL HINGES

A. Acceptable manufacturers and respective catalog numbers:

	Ives	Marker	Stanley
1. Edge Mount Pin & Barrel Stainless Steel Continuous Hinge	700 Series	300 Series	650 Series

B. Continuous hinges shall be full height pin and barrel type hinge providing full height door support up to 600 lbs. Edge mount (unless noted otherwise).

C. Construct hinges of heavy-duty 14-gauge material. The stainless internal pin shall have a diameter of 0.25 and the exterior barrel diameter of 0.438.

D. Hinge shall be non-handed with symmetrical template hole pattern and factory drilled. Hinge must accept a minimum of 21 fasteners on the door and 21 fasteners on the frame.

E. Each knuckle to be 2 inch, including split nylon bearing at each separation for quiet, smooth, self-lubricating operation.

F. Hinge to be able to carry Warnock Hersey Int. or UL for fire rated doors and frames up to 3 hours.

G. Provide machine screws for doors which have been reinforced to accept machine screws.

H. Note: Fire label for doors and frames should be placed on the header and top rail of fire rated doors and frames.

2.4 POWER TRANSFERS

A. Acceptable manufacturers and respective catalog numbers:

	Von Duprin	ASSA
1. Concealed Two Wire	EPT-2	CEPT-10
2. Concealed Ten Wire	EPT-10	CEPT-10

B. Concealed power transfers shall be concealed in the door and frame when the door is closed.

C. Concealed power transfers shall have a steel tube to protect wires from being cut.

D. Concealed power transfers with spring tubes shall be rejected.

E. Concealed power transfers shall be supplied with a mud box to house all terminations.

2.5 FLUSH BOLTS AND DUST PROOF STRIKES

A. Acceptable manufacturers and respective catalog numbers:

	Ives	Door Controls	Hager

1.	Dust Proof Strike	DP2	80	280X
2.	Auto Flush Bolt (Metal Door)	FB31P	842	292D
3.	Auto Flush Bolt (Wood Door)	FB41P	942	291D
4.	Manual Flush Bolt	FB458	780	282D

B. Unless otherwise specified, provide 12" rods for manual flush bolts for door 7'6" or less, 24" top rods for doors over 7'6" to 8'6".

C. Unless otherwise specified, provide doors over 8'6" with automatic top bolts.

D. Provide automatic flush bolts where required to maintain fire door listing and or egress requirements on pairs of doors.

E. All flush-bolt applications shall be UL listed to be installed with top flush-bolt only. Provide auxiliary fire bolt as required for fire rated openings where less bottom bolt has been specified.

F. Provide all bottom flush bolts with non-locking dust proof strikes.

2.6 EXIT DEVICES

A. Acceptable manufacturers and respective catalog numbers:

		Von Duprin	Falcon	Corbin
1.	Wide Stile, Push Pad	99 Series	25 Series	ED5000-M110 Series
2.	Lever Trim	996 Series	510L / 511L Series	900 Series
3.	Pull Trim	990 Series	512 Series	1300 Series

B. Obtain exit devices from a single manufacturer, although several may be indicated as offering products complying with requirements.

C. All exit devices shall be provided with flush end caps to reduce potential damage from impact.

D. All exit devices shall be provided with dead-locking latch bolts to insure security.

E. All exit devices shall be U.L. listed for accident hazard. Exit device for use on fire doors shall also be U.L. listed for fire exit hardware.

F. Provide optional strikes, special length rods, and adapter plates to accommodate door and frame conditions. Provide narrow style series devices in lieu of wide stile series devices where optional strikes will not accommodate door and frame conditions.

G. Coordinate with related trades to insure adequate clearance and reinforcement is provided in doors and frames. Provide thru bolts as required.

H. Refer to hardware groups for exit device applications utilizing the option of: "less bottom rod and floor strike" (LBR)

I. All exit devices shall be provided with optional trim designs to match other lever and pull designs used on the project.

J. Unless specific exit device dogging options are noted within hardware sets, provide dogging options as follows:

K. Fire Rated devices: Dogging not permitted.

L. Non-Rated Exit Only functions not equipped with outside trim or pull: Less Dogging.

M. Non-Rated Classroom functions: Less Dogging.

N. Non-Rated devices utilizing electric latch retraction or electrified outside trim: Less Dogging.

O. All Other Non-Rated devices: Cylinder Dogging utilizing interchangeable core cylinders. Cylinder keyway shall match locksets furnished on this project.

P. Provide glass bead kits as required to accommodate door conditions. Screws shall not be visible through full glass doors.

Q. Where specified, provide compatible keyed mullions with cylinder for pairs of doors.

R. Provide reinforced crossbars for all traditional style exit devices applied to doors over 36" wide.

2.7 LOCKS AND LATCHES

A. Acceptable manufacturers and respective catalog numbers:

	Schlage	Sargent	Corbin
1. Grade 1 Mortise	L Series 17A	8200 LNP	ML2000 PSA
2. Grade 1 Cylindrical	ND Series SPA	10 Line LP	CL3300 PZD

B. Unless otherwise specified, all locks and latches to have:

1. 2-3/4" Backset
2. 1/2" minimum throw latchbolt
3. 1" throw deadbolt
4. 6 pin cylinders
5. ANSI A115.2 strikes

C. Provide guarded latch bolts for all locksets, and latch bolts with sufficient throw to maintain fire rating of both single and paired door assemblies.

D. Length of strike lip shall be sufficient to clear surrounding trim.

E. Provide wrought boxes for strikes at inactive doors, wood frames, and metal frames without integral mortar covers.

2.8 PULLS, PUSH BARS, PUSH/PULL PLATES

A. Acceptable manufacturers and respective catalog numbers:

	Burns	Hager	Ives
1. Straight Pull (1" dia., 10" ctc)	26C	4J	8103-0
2. Straight Pull (3/4” dia., 8” ctc)	25B	3G	8102-8
3. Offset Door Pull (1" dia., 10" ctc)	39C	12J	8190-0
4. Pull / Push-Bar (1" dia., 10" ctc Pull)	422 x 26C	153	9103-0
5. Offset Pull / Push-Bar (1" dia., 10" ctc Pull)	422 x 39C	157	9190-0
6. Push Plate (.050 4"X 16")	54	30S 4 x 16	8200 4 x 16
7. Push Plate (.050 6"X 16")	56	30S 6 x 16	8200 6" X 16"
8. Pull Plate (1" dia., 10" ctc - .050" X 4" X 16")	5426C	34J 4 x 16	8303-0 4" X 16"

A. Adjust dimensions of push plates to accommodate stile and rail dimensions, lite and louver cutouts, and adjacent hardware. Where required by adjacent hardware, push plates shall be factory drilled for cylinders or other mortised hardware. All push plates shall be beveled 4 sides and counter sunk.

B. Where possible, provide back-to-back, and concealed mounting for pulls and push bars. Push bar length shall be 3" less door width, or center of stile to center of stile for stile & rail or full glass doors.

2.9 COORDINATORS

A. Acceptable manufacturers and respective catalog numbers:

	Ives	Door Controls	Hager
1. Bar Coordinator	COR x FL	600 x Filler	297D x 297F
2. Mounting Bracket	MB Series	AB, C Series	297 Series

B. Provide coordinators at all pairs of doors having automatic flush bolts and closers on the inactive leaf, and for pairs of doors having vertical rod/mortise exit device combinations with overlapping astragals.

C. Provide appropriate filler bars, closer mounting brackets, carry bars, and special top latch preparations as required by adjacent hardware.

2.10 CLOSERS

A. Acceptable manufacturers and respective catalog numbers:

	LCN	Falcon	Norton
1.	4011 /4111 EDA	SC70 FA / SC70 FA HD	R7500 / PR7500

B. Obtain door closers from a single manufacturer, although several may be indicated as offering products complying with requirements.

C. Provide extra heavy duty arm (EDA / HD) when closer is to be installed using parallel arm mounting.

D. Closers for fire-rated doors shall be provided with temperature stabilizing fluid that complies with standards UL10C.

E. Unless otherwise specified, all door closers shall have full covers and separate adjusting valves for sweeps, latch, and backcheck.

F. Provide closers for all labeled doors. Provide closer series and type consistent with other closers for similar doors specified elsewhere on the project.

G. Provide closers with adjustable spring power. Size closers to insure exterior and fire rated doors will consistently close and latch doors under existing conditions. Size all other door closers to allow for reduced opening force not to exceed 5 lbs.

H. Install closers on the room side of corridor doors, stair side of stairways and interior side of exterior doors.

I. Closers shall be furnished complete with all mounting brackets and cover plates as required by door and frame conditions, and by adjacent hardware.

2.11 LOW ENERGY ELECTRO-HYDRAULIC AUTOMATIC OPERATORS

A. Acceptable manufacturers and respective catalog numbers:

	LCN
1. Electro-Hydraulic Operator	4640

B. Where low kinetic energy, as defined by ANSI/BHMA Standard A156.19, power operators are indicated for doors required to be accessible to the disabled, provide electrically powered operators complying with the ADA for opening force and time to close standards.

C. The closing action shall be controlled by modern type cast iron door closer cylinder filled with a flat viscosity fluid, stable from +120F to -30F that would require no seasonal adjustments. The closer shall have field adjustable spring power; have two independent closing speed adjustment valves, and hydraulic back-check.

D. Full closing force shall be provided when the power or assist cycle ends.

E. All power operator systems shall include the following features and functions:

1. Provisions for separate conduits to carry high and low voltage wiring in compliance with the National Electrical Code, section 725-31.
2. The operator will be designed with an electronically controlled mechanical clutching mechanism to prevent damage to the operator if the system is actuated while the door is latched or if the door is forced closed during the opening cycle.
3. All covers, mounting plates and arm systems shall be powder coated and successfully pass a minimum of 100 hours testing as outlined in ANSI/BHMA Standard A156.18.
4. UL listed for use on labeled doors.
5. All operators shall be non-handed with spring power over a range of at least four sizes; either 1 through 4 or 2 through 5.
6. The power operator shall incorporate microprocessor controlled digital controls including: factory default memory settings, on-board diagnostics, non-volatile memory, and integrated delay and relay for controlling door release devices.
7. Provisions in the control box or module shall provide control {inputs and outputs) for; electric strike delay, auxiliary contacts, sequential operation, fire alarms systems, actuators, swing side sensors, and stop side sensors.
8. Wall mounted actuators shall consist of a 4-1/2 inch diameter stainless steel touch plate with a blue filled handicapped symbol. Switches shall be weather resistant and mount on a single gang electrical box furnished by Division 16.

F. All electrically powered operators shall include the following features or functions:
1. When an obstruction or resistance to the opening swing is encountered, the operator will pause at that point, then attempt to continue opening the door. If the obstruction or resistance remains, the operator will again pause the door.
2. Easily accessible main power and maintain hold open switches will be provided on the operator.
3. An electronically controlled clutch to provide adjustable opening force.
4. A microprocessor to control all motor and clutch functions.
5. An on-board power supply capable of delivering both 12V and 24V outputs up to a maximum of 1.0 ampere combined load.
6. All input and output power wiring shall be protected by slow blow fuses. These fuses shall be easily replaceable without special tools or component replacement.
7. If electrical failure occurs, the unit shall operate as a standard door closer.

G. Power Operators shall be warranted by the manufacture to be free from defects in material and workmanship for a period of two years.

2.12 KICK PLATES AND MOP PLATES

A. Furnish protective plates as specified in hardware groups.

B. Where specified, provide 10" kick plates, 34" armor plates, and 4" mop plates. Unless otherwise specified, metal protective plates shall be .050" thick; plastic plates shall be 1/8" thick.

C. Protective plates shall be 2" less door width, or 1" less door width at pairs. All protective plates shall be beveled 4 sides and counter sunk. Protection plates over 16" shall not be provided for labeled doors unless specifically approved by door manufacturers listing.

D. Where specified, provide surface mounted door edges. Edges shall butt to protective plates. Provide edges with cutouts as required adjacent hardware.

E. Adjust dimensions of protection plates to accommodate stile and rail dimensions, lite and louver cutouts, and adjacent hardware. Where required by adjacent hardware, protection plates shall be factory drilled for cylinders or other mortised hardware.

2.13 OVERHEAD STOPS

A. Acceptable manufacturers and respective catalog numbers:

	Glynn-Johnson	Rixson	Sargent
1. Heavy Duty Surface Mount	GJ900 Series	9 Series	590
2. Heavy Duty Concealed Mount	GJ100 Series	1 Series	690

B. Unless otherwise specified, furnish GJ900 series overhead stop for hollow metal or 1-3/4" solid core doors equipped with regular arm surface type closers that swing more than 140 degrees before striking a wall, for hollow metal or 1-3/4" solid core doors that open against equipment, casework, sidelights, or other objects that would make wall bumpers inappropriate, and as specified in hardware groups.

C. Furnish sex bolt attachments for wood and mineral core doors unless doors are supplied with proper reinforcing blocks.

D. Provide special stop only ("SE" suffix) overhead stops when used in conjunction with electronic hold open closers.

E. Do not provide holder function for labeled doors.

2.14 WALL STOPS AND HOLDERS

A. Acceptable manufacturers and respective catalog numbers:

	Ives	Hager	Burns
1. Wrought Convex Wall Bumper	WS406CVX	232W	570
2. Wrought Concave Wall Bumper	WS406CCV	236W	575
3. Automatic Wall Holder	WS40	326W	533

B. Furnish a stop or holder for all doors. Furnish floor stops or hinge pin stops only where specifically specified.

C. Where wall stops are not applicable, furnish overhead stops.

D. Do not provide holder function for labeled doors.

2.15 WEATHERSTRIP, GASKETING

A. Acceptable manufacturers and respective catalog numbers:

	Zero	Pemko	NGP	Reese
1. Weatherstrip	429	2891_PK	700NA	755
2. Adhesive Gasket	188	S88	5050	797
3. Mullion Seal/Silencer	8780	5110	5100N	
4. Meeting Edge Seals	8193	18041	9605	959
5. Automatic Door Bottom (HD Concealed) (When Sealing Against A Solid Surface)	360	434_RL	423N	430
6. Automatic Door Bottom (HD Concealed) (When Sealing Against Carpet)	360	434_NBL	683	943
7. Automatic Door Bottom	355	420APKL	320N	372A
8. Sweeps	8192	18061_NB	B606	964
9. Sweep w/ drip	8198	345_N	C627	354
10. Drip Cap	142	346	16	R201

B. Where specified in the hardware groups, furnish the above products unless otherwise detailed in groups.

C. Provide weatherstripping all exterior doors and where specified.

D. Provide intumescent and other required edge sealing systems as required by individual fire door listings to comply with positive pressure standards UL 10C.

E. Provide Zero 188 smoke gaskets at all fire rated doors and smoke and draft control assemblies.

F. Provide gasketing for all meeting edges on pairs of fire doors. Gasketing shall be compatible with astragal design provided by door supplier as required for specific fire door listings.

2.16 SOUND SEALS

A. Acceptable manufacturers and respective catalog numbers:

	Zero	Pemko	NGP	Reese
1. Adjustable Perimeter Sound Seals (used with 2-1/8" mortise lock rose trim)	475AA	29310_PK	172NA	****
2. Automatic Door Bottom (HD Concealed) (When Sealing Against A Solid Surface)	360	434_RL	423N	430
3. Automatic Door Bottom (HD Concealed) (When Sealing Against Carpet)	360	434_NBL	683	943
4. Automatic Door bottom (HD Concealed with Magnet used to hold seal up)	369A	******	******	******

B. Where specified in the hardware groups, furnish the above products unless otherwise detailed in groups.

C. Provide intumescent and other required edge sealing systems as required by individual fire door listings to comply with positive pressure standards UL 10C.

2.17 THRESHOLDS

A. Acceptable manufacturers and respective catalog numbers:

	Zero	Pemko	NGP	Reese
1. Saddle Thresholds	8655	171	425	S205

B. Hardware supplier shall verify all finish floor conditions and coordinate proper threshold as required to insure a smooth transition between threshold and interior floor finish.

C. Threshold Types:

1. Unless otherwise specified, provide saddle threshold similar to Zero 8655 for all exterior openings with an interior floor finish less than or equal to 1/4" in height.
2. Unless otherwise specified, provide half saddle threshold similar to Zero 1674 for all exterior openings with an interior floor finish greater than 1/4" in height. Threshold height shall match thickness of interior floor finish.

2.18 POWER SUPPLIES

A. Provide quantities and types as specified in hardware sets. Shared power supplies will not be accepted without prior approval from the owner.

B. All power supplies shall have the following features:

1. 12/24 VDC Output, field selectable.
2. Class 2 Rated power limited output.
3. Universal 120-240 VAC input.
4. Low voltage DC, regulated and filtered.

5. Polarized connector for distribution boards.
6. Fused primary input.
7. AC input and DC output monitoring circuit w/LED indicators.
8. Cover mounted AC Input indication.
9. Tested and certified to meet UL294.
10. NEMA 1 enclosure.
11. Hinged cover w/lock down screws.
12. High voltage protective cover.

C. All power supplies shall incorporate fused distribution boards.

D. All electro-mechanical systems requiring fail safe circuits shall be capable of interfacing with the fire alarm system to cut power to appropriate system components. Unless already provided in another system component, all power supplies utilized in fail safe circuits shall include an integral relay which when connected to the N/C fire alarm contact will cut power to all openings connected to the individual power supply. Power supply, unless otherwise specified, will automatically reset itself when fire alarm relay returns to normal state following a fire alarm.

2.19 FINISHES AND BASE MATERIALS

A. Unless otherwise indicated in the hardware groups or herein, hardware finishes shall be applied over base metals as specified in the following finish schedule:

	HARDWARE ITEM	BHMA FINISH AND BASE MATERIAL
1.	Butt Hinges: Exterior, or Non-Ferrous	630 (US32D - Satin Stainless Steel)
2.	Butt Hinges: Interior	652 (US26D - Satin Chromium)
3.	Continuous Hinges	630 (US32D - Satin Stainless Steel)
4.	Flush Bolts	626 (US26D - Satin Chromium)
5.	Exit Devices	626 (US26D - Satin Chromium)
6.	Locks and Latches	626 (US26D - Satin Chromium)
7.	Pulls and Push Plates/Bars	630 (US32D - Satin Stainless Steel)
8.	Coordinators	600 (Prime painted or mill alum.)
9.	Closers	689 (Aluminum)
10.	Protective Plates	630 (US32D - Satin Stainless Steel)
11.	Overhead Stops	630 (US32D - Satin Stainless Steel)
12.	Wall Stops and Holders	630 (US32D - Satin Stainless Steel)
13.	Thresholds	628 (Mill Aluminum)
14.	Weather-strip, Sweeps Drip Caps	Aluminum Anodized
15.	Miscellaneous	626 (US26D - Satin Chromium)

2.20 KEYING

A. Acceptable manufacturers and respective catalog numbers:

	Schlage	Sargent	Corbin
1.	Everest	Signature	Pyramid

B. Provide all locks and cylinders utilizing a patented keyway to prevent manufacturing and distribution of aftermarket key blanks by anyone other than factory authorized dealers.

C. All locks under this section shall be keyed as directed by the owner to a new Patented Master Key System.

D. Keying shall be by lock manufacturer where permanent records shall be kept.

E. Furnish a total of 2 keys per cylinder. Actual cut keys to be determined by owner.

F. Master keys and control keys to be delivered by registered mail to the owner. Change keys shall be delivered in a set up key cabinet. Construction keys shall be delivered to the contractor.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Prior to installation of hardware, installer shall examine door frame installation to insure frames have been set square and plumb. Installer shall examine doors, door frames, and adjacent wall, floor, and ceiling for conditions, which would adversely affect proper operation and function of door assemblies. Do not proceed with hardware installation until such deficiencies have been corrected.

3.2 INSTALLATION

A. Before hardware installation, general contractor/construction manager shall coordinate a hardware installation seminar with a 1 week notice to all parties involved. The seminar is to be conducted on the installation of hardware, specifically of locksets, closers, exit devices, continuous hinges and overhead stops. Manufacturer's representative of the above products to present seminar. Seminar to be held at the job site and attended by installers of hardware (including low voltage hardware) for aluminum, hollow metal and wood doors. Training to include use of installation manuals, hardware schedule, templates and physical products samples.

B. Install all hardware in accordance with the approved hardware schedule and manufacturers instructions for installation and adjustment.

C. Set units level, plumb and true to the line and location. Adjust and reinforce the attachment substrate as necessary for proper installation and operation.

D. Drill and countersink units which are not factory-prepared for anchorage fasteners. Space fasteners and anchors in accord with industry standards.

E. Drill appropriate size pilot holes for all hardware attached to wood doors and frames.

F. Shim doors as required to maintain proper operating clearance between door and frame.

G. Unless otherwise specified, locate all hardware in accordance with the recommended locations for builders hardware for standard doors and frames as published by the Door and Hardware Institute.

H. Use only fasteners supplied by or approved by the manufacturer for each respective item of hardware.

I. Mortise and cut to close tolerance and conceal evidence of cutting in the finished work.

J. Conceal push and pull bar fasteners where possible. Do not install through bolts through push plates.

K. Install hardware on UL labeled openings in accordance with manufacturer's requirements to maintain the label.

L. Apply self-adhesive gasketing on frame stop at head & latch side and on rabbet of frame at hinge side.

M. Install hardware in accordance with supplemental "S" label instructions on all fire rated openings.

N. Install wall stops to contact lever handles or pulls. Do not mount wall stops on casework, or equipment.

O. Where necessary, adjust doors and hardware as required to eliminate binding between strike and latchbolt. Doors should not rattle.

P. Overhead stops used in conjunction with electrified hold open closers shall be templated and installed to coincide with engagement of closer hold open position.

Q. Install door closers on corridor side of lobby doors, room side of corridor doors, and stair side of stairways.

R. Adjust spring power of door closers to the minimum force required to insure exterior and fire rated doors will consistently close and latch doors under existing conditions. Adjust all other door closers to insure opening force does not to exceed 5 lbs.

S. Adjust "sweep", "latch", & "back check" valves on all door closers to properly control door throughout the opening and closing cycle. Adjust total closing speed as required to comply with all applicable state and local building codes.

T. Install "hardware compatible" (bar stock) type weatherstripping continuously for an uninterrupted seal. Adjust templating for parallel arm door closers, exit devices, etc., as required to accommodate weatherstripping.

U. Unless otherwise specified or detailed, install thresholds with the bevel in vertical alignment with the outside door face. Notch and closely fit thresholds to frame profile. Set thresholds in full bed of sealant.

V. Compress sweep during installation as recommended by sweep manufacturer to facilitate a water resistant seal.

W. Deliver to the owner 1 complete set of installation and adjustment instructions, and tools as furnished with the hardware.

3.3 FIELD QUALITY CONTROL

A. After installation has been completed, the hardware supplier and manufacturers representative for locksets, door closers, exit devices, and overhead stops shall check the project and verify compliance with installation instructions, adjustment of all hardware items, and proper application according to the approved hardware schedule. Hardware supplier shall submit a list of all hardware that has not been installed correctly.

B. After installation has been completed, the hardware supplier and manufacturers representative shall meet with the owner to explain the functions, uses, adjustment, and maintenance of each item of hardware. Hardware supplier shall provide the owner with a copy of all wiring diagrams. Wiring diagrams shall be opening specific and include both a riser diagram and point to point diagram showing all wiring terminations.

3.4 ADJUSTMENT AND CLEANING

A. At final completion, and when H.V.A.C. equipment is in operation, installer shall make final adjustments to and verify proper operation of all door closers and other items of hardware. . Lubricate moving parts with type lubrication recommended by the manufacturer.

B. All hardware shall be left clean and in good operation. Hardware found to be disfigured, defective, or inoperative shall be repaired or replaced.

3.5 HARDWARE SCHEDULE

A. The following schedule of hardware groups are intended to describe opening function. The hardware supplier is cautioned to refer to the preamble of this specification for a complete description of all materials and services to be furnished under this section.

HW SET #: 01

QTY		DESCRIPTION	CATALOG NUMBER	MFR
	EA	HINGE	AS REQUIRED	IVE
1	EA	PASSAGE SET	ND10S	SCH
1	EA	WALL STOP	WS406	IVE

FUNCTION: ND10 (F75) PASSAGE LATCH
BOTH LEVERS ALWAYS UNLOCKED.

HW SET #: 02

QTY		DESCRIPTION	CATALOG NUMBER	MFR
	EA	HINGE	AS REQUIRED	IVE
1	EA	HOSPITAL PRIVACY	ND44	SCH
1	EA	WALL STOP	WS406	IVE

FUNCTION: ND44 HOSPITAL PRIVACY LOCK
PUSH-BUTTON LOCKING. UNLOCKED FROM OUTSIDE BY TURNING EMERGENCY TURN-BUTTON. TURNING INSIDE LEVER OR CLOSING DOOR RELEASES BUTTON.

NOTE: MATCH EXISTING HINGE PREPS SIZE, WEIGHT AND QUANTITY AS NECESSARY FOR EXISTING FRAME CONDITIONS.

HW SET #: 03

QTY		DESCRIPTION	CATALOG NUMBER	MFR
	EA	HINGE	AS REQUIRED	IVE
1	EA	PRIVACY LOCK	ND40	SCH
1	EA	WALL STOP	WS406	IVE

FUNCTION: ND40 (F76) BATH/BEDROOM PRIVACY LOCK
PUSH-BUTTON LOCKING. CAN BE OPENED FROM OUTSIDE WITH SMALL SCREWDRIVER. TURNING INSIDE LEVER OR CLOSING DOOR RELEASES BUTTON.

HW SET #: 04

QTY		DESCRIPTION	CATALOG NUMBER	MFR
	EA	HINGE	AS REQUIRED	IVE
1	EA	CLASSROOM LOCK	ND70	SCH
1	EA	WALL STOP	WS406	IVE

FUNCTION: ND70 (F84) CLASSROOM LOCK
OUTSIDE LEVER LOCKED AND UNLOCKED BY KEY. INSIDE LEVER ALWAYS UNLOCKED.

HW SET #: 05

QTY		DESCRIPTION	CATALOG NUMBER	MFR
	EA	HINGE	AS REQUIRED	IVE
1	EA	STOREROOM LOCK	ND80	SCH
1	EA	WALL STOP	WS406	IVE

FUNCTION: ND80 (F86) STOREROOM LOCK
OUTSIDE LEVER FIXED. ENTRANCE BY KEY ONLY. INSIDE LEVER ALWAYS UNLOCKED.

HW SET #: 06

QTY		DESCRIPTION	CATALOG NUMBER	MFR
	EA	HINGE	AS REQUIRED	IVE
1	EA	STOREROOM LOCK	ND80	SCH
1	EA	OH STOP	90S	GLY

FUNCTION: ND80 (F86) STOREROOM LOCK
OUTSIDE LEVER FIXED. ENTRANCE BY KEY ONLY. INSIDE LEVER ALWAYS UNLOCKED.

NOTE: MATCH EXISTING HINGE PREPS SIZE, WEIGHT AND QUANTITY AS NECESSARY FOR EXISTING FRAME CONDITIONS.

HW SET #: 07

QTY		DESCRIPTION	CATALOG NUMBER	MFR
	EA	HINGE	AS REQUIRED	IVE
1	EA	PASSAGE SET	ND10S	SCH
1	EA	SURFACE CLOSER	4111 SCUSH	LCN

1	EA	KICK PLATE	8400 10" X 2" LDW B4E	IVE

FUNCTION: ND10 (F75) PASSAGE LATCH
BOTH LEVERS ALWAYS UNLOCKED.

HW SET #: 08

QTY		DESCRIPTION	CATALOG NUMBER	MFR
	EA	HINGE	AS REQUIRED	IVE
1	EA	CLASSROOM LOCK	ND70	SCH
1	EA	SURFACE CLOSER	4011 H	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B4E	IVE
1	EA	WALL STOP	WS406	IVE

FUNCTION: ND70 (F84) CLASSROOM LOCK
OUTSIDE LEVER LOCKED AND UNLOCKED BY KEY. INSIDE LEVER ALWAYS UNLOCKED.

HW SET #: 09

QTY		DESCRIPTION	CATALOG NUMBER	MFR
	EA	HINGE	AS REQUIRED	IVE
1	EA	CLASSROOM SECURITY	ND75	SCH
1	EA	SURFACE CLOSER	4011/4111 EDA	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B4E	IVE
1	EA	WALL STOP	WS406	IVE

FUNCTION: ND75 CLASSROOM SECURITY
KEY IN EITHER LEVER LOCKS OR UNLOCKS OUTSIDE LEVER. INSIDE LEVER IS ALWAYS UNLOCKED.

HW SET #: 10

QTY		DESCRIPTION	CATALOG NUMBER	MFR
	EA	HINGE	AS REQUIRED	IVE
1	EA	CLASSROOM SECURITY	ND75	SCH
1	EA	SURFACE CLOSER	4111 SCUSH	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B4E	IVE

FUNCTION: ND75 CLASSROOM SECURITY
KEY IN EITHER LEVER LOCKS OR UNLOCKS OUTSIDE LEVER. INSIDE LEVER IS ALWAYS UNLOCKED.

HW SET #: 11

QTY		DESCRIPTION	CATALOG NUMBER	MFR
	EA	HINGE	AS REQUIRED	IVE
1	EA	CLASSROOM SECURITY	ND75	SCH
1	EA	SURFACE CLOSER	4011 H	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B4E	IVE
1	EA	WALL STOP	WS406	IVE

FUNCTION: ND75 CLASSROOM SECURITY
KEY IN EITHER LEVER LOCKS OR UNLOCKS OUTSIDE LEVER. INSIDE LEVER IS ALWAYS UNLOCKED.

HW SET #: 12

QTY		DESCRIPTION	CATALOG NUMBER	MFR
	EA	HINGE	AS REQUIRED	IVE
1	EA	CLASSROOM SECURITY	ND75	SCH
1	EA	SURFACE CLOSER	4111 HEDA	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B4E	IVE
1	EA	WALL STOP	WS406	IVE

FUNCTION: ND75 CLASSROOM SECURITY
KEY IN EITHER LEVER LOCKS OR UNLOCKS OUTSIDE LEVER. INSIDE LEVER IS ALWAYS UNLOCKED.

NOTE: MATCH EXISTING HINGE PREPS SIZE, WEIGHT AND QUANTITY AS NECESSARY FOR EXISTING FRAME CONDITIONS.

HW SET #: 13

QTY	DESCRIPTION	CATALOG NUMBER	MFR

	EA	HINGE	AS REQUIRED	IVE
1	EA	CLASSROOM SECURITY	ND75	SCH
1	EA	SURFACE CLOSER	4111 SHCUSH	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B4E	IVE

FUNCTION: ND75 CLASSROOM SECURITY
KEY IN EITHER LEVER LOCKS OR UNLOCKS OUTSIDE LEVER. INSIDE LEVER IS ALWAYS UNLOCKED.

NOTE: MATCH EXISTING HINGE PREPS SIZE, WEIGHT AND QUANTITY AS NECESSARY FOR EXISTING FRAME CONDITIONS.

HW SET #: 14

QTY		DESCRIPTION	CATALOG NUMBER	MFR
	EA	HINGE	AS REQUIRED	IVE
1	EA	CLASSROOM SECURITY	ND75	SCH
1	EA	OH STOP	90S	GLY
1	EA	SURFACE CLOSER	4011 H	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B4E	IVE

FUNCTION: ND75 CLASSROOM SECURITY
KEY IN EITHER LEVER LOCKS OR UNLOCKS OUTSIDE LEVER. INSIDE LEVER IS ALWAYS UNLOCKED.

HW SET #: 15

QTY		DESCRIPTION	CATALOG NUMBER	MFR
	EA	HINGE	AS REQUIRED	IVE
1	EA	CLASSROOM SECURITY	ND75	SCH
1	EA	SURFACE CLOSER	4111 HEDA	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B4E	IVE
1	EA	WALL STOP	WS406	IVE
1	EA	HEAD SEAL	429	ZER
1	SET	JAMB SEALS	475AA	ZER
	EA	MORTISE DOOR BOTTOM	360	ZER

FUNCTION: ND75 CLASSROOM SECURITY
KEY IN EITHER LEVER LOCKS OR UNLOCKS OUTSIDE LEVER. INSIDE LEVER IS ALWAYS

UNLOCKED.

NOTE: MATCH EXISTING HINGE PREPS SIZE, WEIGHT AND QUANTITY AS NECESSARY FOR EXISTING FRAME CONDITIONS.

HW SET #: 16

QTY		DESCRIPTION	CATALOG NUMBER	MFR
	EA	HINGE	AS REQUIRED	IVE
1	EA	STOREROOM LOCK	ND80	SCH
1	EA	SURFACE CLOSER	4011/4111 EDA	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B4E	IVE
1	EA	WALL STOP	WS406	IVE
1	SET	SEALS	188S	ZER

FUNCTION: ND80 (F86) STOREROOM LOCK
OUTSIDE LEVER FIXED. ENTRANCE BY KEY ONLY. INSIDE LEVER ALWAYS UNLOCKED.

HW SET #: 17

QTY		DESCRIPTION	CATALOG NUMBER	MFR
	EA	HINGE	AS REQUIRED	IVE
1	EA	STOREROOM W/DEADBOLT	L9480	SCH
1	EA	SURFACE CLOSER	4111 SCUSH	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B4E	IVE
1	EA	RAIN DRIP	142	ZER
1	SET	WEATHERSTRIPPING	429	ZER
1	EA	DOOR SWEEP W/DRIP	8198	ZER
1	EA	THRESHOLD	8655	ZER

FUNCTION: L9480 STOREROOM LOCK WITH DEADBOLT
LATCHBOLT RETRACTED BY KEY OUTSIDE OR BY LEVER OR KNOB INSIDE. OUTSIDE LEVER ALWAYS FIXED. DEADBOLT THROWN OR RETRACTED BY KEY OUTSIDE OR THUMBTURN INSIDE. TURNING INSIDE LEVER SIMULTANEOUSLY RETRACTS BOTH DEADBOLT AND LATCHBOLT. AUXILIARY LATCH DEADLOCKS LATCHBOLT WHEN DOOR IS CLOSED.

HW SET #: 18

QTY		DESCRIPTION	CATALOG NUMBER	MFR
	EA	HINGE	AS REQUIRED	IVE
1	EA	STOREROOM W/DEADBOLT	L9480	SCH
1	EA	SURFACE CLOSER	4111 SHCUSH	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B4E	IVE
1	EA	RAIN DRIP	142	ZER
1	SET	WEATHERSTRIPPING	429	ZER
1	EA	DOOR SWEEP W/DRIP	8198	ZER
1	EA	THRESHOLD	8655	ZER

FUNCTION: L9480 STOREROOM LOCK WITH DEADBOLT
LATCHBOLT RETRACTED BY KEY OUTSIDE OR BY LEVER OR KNOB INSIDE. OUTSIDE LEVER ALWAYS FIXED. DEADBOLT THROWN OR RETRACTED BY KEY OUTSIDE OR THUMBTURN INSIDE. TURNING INSIDE LEVER SIMULTANEOUSLY RETRACTS BOTH DEADBOLT AND LATCHBOLT. AUXILIARY LATCH DEADLOCKS LATCHBOLT WHEN DOOR IS CLOSED.

HW SET #: 19

QTY		DESCRIPTION	CATALOG NUMBER	MFR
	EA	HINGE	AS REQUIRED	IVE
1	SET	AUTO FLUSH BOLT	AUTOMATIC	IVE
1	EA	DUST PROOF STRIKE	DP2	IVE
1	EA	CLASSROOM LOCK	ND70	SCH
1	EA	COORDINATOR	COR X FL	IVE
2	EA	SURFACE CLOSER	4111 HEDA	LCN
2	EA	KICK PLATE	8400 10" X 1" LDW B4E	IVE
2	EA	WALL STOP	WS406	IVE

FUNCTION: ND70 (F84) CLASSROOM LOCK
OUTSIDE LEVER LOCKED AND UNLOCKED BY KEY. INSIDE LEVER ALWAYS UNLOCKED.

HW SET #: 20

QTY		DESCRIPTION	CATALOG NUMBER	MFR
	EA	HINGE	AS REQUIRED	IVE
2	EA	IC CYLINDER	AS REQUIRED	SCH
1	EA	PANIC HARDWARE	CD-99-L	VON
1	EA	SURFACE CLOSER	4111 EDA	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B4E	IVE

1	EA	WALL STOP	WS406	IVE

FUNCTION: (ANSI/BHMA 08) LATCHBOLT RETRACTED BY DEPRESSING THE ACTUATION BAR. ENTRANCE BY LEVER. KEY LOCKS OR UNLOCKS LEVER.

HW SET #: 21

QTY		DESCRIPTION	CATALOG NUMBER	MFR
	EA	HINGE	AS REQUIRED	IVE
1	EA	POWER TRANSFER	EPT2	VON
1	EA	KEYED REMOVABLE MULLION	KR4954	VON
4	EA	IC CYLINDER	AS REQUIRED	SCH
1	EA	PANIC HARDWARE	CD-99-DT	VON
1	EA	ELEC PANIC HARDWARE	LX-CD-99-NL	VON
1	EA	SURFACE CLOSER	4011/4111 EDA	LCN
1	EA	SURF. AUTO OPERATOR	4642	LCN
2	EA	ACTUATOR, WALL MOUNT	8310-853	LCN
1	EA	ELEVATION DRAWING		
1	EA	WIRE DIAGRAM	POINT TO POINT	

FUNCTION: (ANSI/BHMA 04) LATCHBOLT RETRACTED BY DEPRESSING THE ACTUATION BAR. ENTRANCE BY TRIM WHEN LATCH IS RELEASED BY KEY OR SET IN A RETRACTED POSITION BY KEY. COMMON WIRE FROM BOTH WALL PLATE ACTUATORS WIRED THROUGH THE LATCHBOLT MONITOR SWITCH IN PANIC DEVICE. DOOR LOCKED - ACTUATORS DEACTIVATED. DOOR UNLOCKED - ACTUATORS ACTIVE.

HW SET #: 22

QTY		DESCRIPTION	CATALOG NUMBER	MFR
	EA	HINGE	AS REQUIRED	IVE
2	EA	IC CYLINDER	AS REQUIRED	SCH
2	EA	PANIC HARDWARE	CD-9927-L-LBR	VON
2	EA	SURFACE CLOSER	4111 EDA	LCN
2	EA	KICK PLATE	8400 10" X 1" LDW B4E	IVE
2	EA	WALL STOP/HOLDER	WS40	IVE

FUNCTION: LATCHBOLT RETRACTED INSIDE BY EXIT DEVICE PUSH PAD AND OUTSIDE BY LEVER. KEY IN EXTERIOR CYLINDER LOCKS OR UNLOCKS LEVER.

HW SET #: 23

QTY		DESCRIPTION	CATALOG NUMBER	MFR
	EA	HINGE	AS REQUIRED	IVE
4	EA	IC CYLINDER	AS REQUIRED	SCH
2	EA	PANIC HARDWARE	CD-9927-L-LBR	VON
2	EA	SURFACE CLOSER	4111 HEDA	LCN
2	EA	KICK PLATE	8400 10" X 1" LDW B4E	IVE
2	EA	WALL STOP	WS406	IVE

FUNCTION: LATCHBOLT RETRACTED INSIDE BY EXIT DEVICE PUSH PAD AND OUTSIDE BY LEVER. KEY IN EXTERIOR CYLINDER LOCKS OR UNLOCKS LEVER.

HW SET #: 24

QTY		DESCRIPTION	CATALOG NUMBER	MFR
	EA	HINGE	AS REQUIRED	IVE
1	EA	PUSH PLATE	8200 6" X 16"	IVE
1	EA	PULL PLATE	8302 10" 4" X 16"	IVE
1	EA	SURFACE CLOSER	4011/4111 EDA	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B4E	IVE
1	EA	WALL STOP	WS406	IVE

PUSH/PULL

HW SET #: 25

QTY		DESCRIPTION	CATALOG NUMBER	MFR
	EA	HINGE	AS REQUIRED	IVE
1	EA	PUSH PLATE	8200 6" X 16"	IVE
1	EA	PULL PLATE	8302 10" 4" X 16"	IVE
1	EA	SURFACE CLOSER	4111 SCUSH	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B4E	IVE

PUSH/PULL

HW SET #: 26

QTY		DESCRIPTION	CATALOG NUMBER	MFR
	EA	HINGE	AS REQUIRED	IVE
1	EA	PUSH PLATE	8200 6" X 16"	IVE
1	EA	PULL PLATE	8302 10" 4" X 16"	IVE
1	EA	OH STOP	90S	GLY
1	EA	SURFACE CLOSER	4011/4111 EDA	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B4E	IVE

PUSH/PULL

HW SET #: 27

QTY		DESCRIPTION	CATALOG NUMBER	MFR
	EA	HINGE	AS REQUIRED	IVE
2	EA	PUSH PLATE	8200 6" X 16"	IVE
2	EA	PULL PLATE	8302 10" 4" X 16"	IVE
2	EA	SURFACE CLOSER	4011/4111 EDA	LCN
2	EA	KICK PLATE	8400 10" X 1" LDW B4E	IVE
2	EA	WALL STOP	WS406	IVE

PUSH PULL

HW SET #: 28

QTY		DESCRIPTION	CATALOG NUMBER	MFR
2	EA	CONT. HINGE	700	IVE
1	EA	KEYED REMOVABLE MULLION	KR4954	VON
3	EA	IC CYLINDER	AS REQUIRED	SCH
2	EA	PANIC HARDWARE	CD-99-EO	VON
2	EA	DOOR PULL, 1" ROUND	8103 10"	IVE
2	EA	OH STOP	100S	GLY
2	EA	SURFACE CLOSER	4021	LCN
1	EA	MULLION SEAL	8780	ZER

FUNCTION: LATCH-BOLT RETRACTED INSIDE BY EXIT DEVICE PUSH PAD. ACCESS FROM EXTERIOR WHEN EXIT DEVICE PUSH PAD IS DOGGED DOWN.

HW SET #: 29

QTY		DESCRIPTION	CATALOG NUMBER	MFR
1	EA	CONT. HINGE	700	IVE
1	EA	CONTINUOUS HINGE	700 X EPT	IVE
1	EA	POWER TRANSFER	EPT2	VON
1	EA	KEYED REMOVABLE MULLION	KR4954	VON
3	EA	IC CYLINDER	AS REQUIRED	SCH
1	EA	PANIC HARDWARE	CD-99-EO	VON
1	EA	ELEC PANIC HARDWARE	QEL+-99-NL-OP	VON
2	EA	DOOR PULL, 1" ROUND	8103 10"	IVE
2	EA	OH STOP	100S	GLY
1	EA	SURFACE CLOSER	4021	LCN
1	EA	SURF. AUTO OPERATOR	4642	LCN
2	EA	ACTUATOR, WALL MOUNT	8310-853	LCN
1	EA	MULLION SEAL	8780	ZER
1	EA	CARD READER	BY SECURITY SUPPLIER	
1	EA	POWER SUPPLY	PS902 900-2RS	VON
1	EA	JUNCTION BOX	JB7 R2	VON
1	EA	ELEVATION DRAWING		
1	EA	WIRE DIAGRAM	POINT TO POINT	

FUNCTION: LATCHBOLT RETRACTED INSIDE BY EXIT DEVICE PUSH PAD AND OUTSIDE BY KEY IN CYLINDER. DOOR LOCKS WHEN KEY IS REMOVED AND DOOR IS CLOSED. THIS DOOR HAS A POWER OPERATOR. INTERIOR ACTUATOR ALWAYS ACTIVE TO UNLOCK AND OPEN THE DOOR. A VALID CREDENTIAL WILL UNLOCK THE DOOR AND MAKE THE EXTERIOR ACTUATOR ACTIVE.

HW SET #: 30

QTY		DESCRIPTION	CATALOG NUMBER	MFR
2	EA	CONT. HINGE	700	IVE
1	EA	KEYED REMOVABLE MULLION	KR4954	VON
2	EA	IC CYLINDER	AS REQUIRED	SCH
1	EA	PANIC HARDWARE	CD-99-DT	VON
1	EA	PANIC HARDWARE	CD-99-NL	VON
2	EA	OH STOP	100S	GLY

2	EA	SURFACE CLOSER	4021	LCN
1	EA	RAIN DRIP	142	ZER
1	EA	WEATHERSTRIP	BY DR/FR SUPPLIER	ZER
1	EA	MULLION SEAL	8780	ZER
2	EA	DOOR SWEEP W/DRIP	8198	ZER
1	EA	THRESHOLD	8655	ZER

FUNCTION: LATCHBOLT RETRACTED INSIDE BY EXIT DEVICE PUSH PAD AND OUTSIDE BY KEY IN CYLINDER. DOOR LOCKS WHEN KEY IS REMOVED AND DOOR IS CLOSED.

HW SET #: 31

QTY		DESCRIPTION	CATALOG NUMBER	MFR
2	EA	CONTINUOUS HINGE	700 X EPT	IVE
2	EA	POWER TRANSFER	EPT2	VON
1	EA	KEYED REMOVABLE MULLION	KR4954	VON
2	EA	IC CYLINDER	AS REQUIRED	SCH
1	EA	ELEC PANIC HARDWARE	QEL+-99-EO	VON
1	EA	ELEC PANIC HARDWARE	QEL+-99-NL-OP	VON
2	EA	DOOR PULL, 1" ROUND	8103 10"	IVE
2	EA	OH STOP	100S	GLY
1	EA	SURFACE CLOSER	4021	LCN
1	EA	SURF. AUTO OPERATOR	4642	LCN
2	EA	ACTUATOR, WALL MOUNT	8310-853	LCN
1	EA	RAIN DRIP	142	ZER
1	EA	WEATHERSTRIP	BY DR/FR SUPPLIER	ZER
1	EA	MULLION SEAL	8780	ZER
2	EA	DOOR SWEEP W/DRIP	8198	ZER
1	EA	THRESHOLD	8655	ZER
1	EA	CARD READER	BY SECURITY SUPPLIER	
1	EA	POWER SUPPLY	PS902 900-2RS	VON
1	EA	JUNCTION BOX	JB7 R2	VON
1	EA	ELEVATION DRAWING		
1	EA	WIRE DIAGRAM	POINT TO POINT	

FUNCTION: LATCHBOLT RETRACTED INSIDE BY EXIT DEVICE PUSH PAD AND OUTSIDE BY KEY IN CYLINDER. DOOR LOCKS WHEN KEY IS REMOVED AND DOOR IS CLOSED. THIS DOOR HAS A POWER OPERATOR. INTERIOR ACTUATOR ALWAYS ACTIVE TO UNLOCK AND OPEN THE DOOR. A VALID CREDENTIAL WILL UNLOCK THE DOOR AND MAKE THE EXTERIOR ACTUATOR ACTIVE.

HW SET #: 32

QTY		DESCRIPTION	CATALOG NUMBER	MFR
1	EA	CONT. HINGE	700	IVE
1	EA	CONTINUOUS HINGE	700 X EPT	IVE
1	EA	POWER TRANSFER	EPT2	VON
1	EA	KEYED REMOVABLE MULLION	KR4954	VON
2	EA	IC CYLINDER	AS REQUIRED	SCH
1	EA	PANIC HARDWARE	LD-99-EO	VON
1	EA	ELEC PANIC HARDWARE	QEL-99-NL	VON
2	EA	OH STOP	100S	GLY
2	EA	SURFACE CLOSER	4021	LCN
1	EA	RAIN DRIP	142	ZER
1	EA	WEATHERSTRIP	BY DR/FR SUPPLIER	ZER
1	EA	MULLION SEAL	8780	ZER
2	EA	DOOR SWEEP W/DRIP	8198	ZER
1	EA	THRESHOLD	8655	ZER
1	EA	CARD READER	BY SECURITY SUPPLIER	
1	EA	POWER SUPPLY	PS902 900-2RS	VON
1	EA	ELEVATION DRAWING		
1	EA	WIRE DIAGRAM	POINT TO POINT	

FUNCTION: LATCHBOLT RETRACTED INSIDE BY EXIT DEVICE PUSH PAD AND OUTSIDE BY KEY IN CYLINDER. DOOR LOCKS WHEN KEY IS REMOVED AND DOOR IS CLOSED. A VALID CREDENTIAL WILL UNLOCK THE DOOR.

HW SET #: 33

QTY		DESCRIPTION	CATALOG NUMBER	MFR
2	EA	CONTINUOUS HINGE	700 X EPT	IVE
2	EA	POWER TRANSFER	EPT2	VON
1	EA	KEYED REMOVABLE MULLION	KR4954	VON
1	EA	IC CYLINDER	AS REQUIRED	SCH
2	EA	ELEC PANIC HARDWARE	QEL+-99-EO	VON
2	EA	DOOR PULL, 1" ROUND	8103 10"	IVE
2	EA	OH STOP	100S	GLY

2	EA	SURFACE CLOSER	4021	LCN
1	EA	RAIN DRIP	142	ZER
1	EA	WEATHERSTRIP	BY DR/FR SUPPLIER	ZER
	EA	MULLION SEAL	8780	ZER
2	EA	DOOR SWEEP W/DRIP	8198	ZER
1	EA	THRESHOLD	8655	ZER
1	EA	POWER SUPPLY	PS902 900-2RS	VON
1	EA	ELEVATION DRAWING		
1	EA	WIRE DIAGRAM	POINT TO POINT	

FUNCTION: LATCHBOLT RETRACTED INSIDE BY EXIT DEVICE PUSH PAD AND OUTSIDE BY KEY IN CYLINDER. DOOR LOCKS WHEN KEY IS REMOVED AND DOOR IS CLOSED.

HW SET #: 34

QTY		DESCRIPTION	CATALOG NUMBER	MFR
1	EA	CONT. HINGE	700	IVE
1	EA	CONTINUOUS HINGE	700 X EPT	IVE
1	EA	POWER TRANSFER	EPT2	VON
1	EA	KEYED REMOVABLE MULLION	KR4954	VON
4	EA	IC CYLINDER	AS REQUIRED	SCH
1	EA	PANIC HARDWARE	CD-99-DT	VON
1	EA	ELEC PANIC HARDWARE	LX-CD-99-NL	VON
2	EA	OH STOP	100S	GLY
1	EA	SURFACE CLOSER	4021	LCN
1	EA	SURF. AUTO OPERATOR	4642	LCN
2	EA	ACTUATOR, WALL MOUNT	8310-853	LCN
1	EA	RAIN DRIP	142	ZER
1	EA	WEATHERSTRIP	BY DR/FR SUPPLIER	ZER
1	EA	MULLION SEAL	8780	ZER
2	EA	DOOR SWEEP W/DRIP	8198	ZER
1	EA	THRESHOLD	8655	ZER
1	EA	ELEVATION DRAWING		
1	EA	WIRE DIAGRAM	POINT TO POINT	

FUNCTION: LATCHBOLT RETRACTED INSIDE BY EXIT DEVICE PUSH PAD AND OUTSIDE BY KEY IN CYLINDER. DOOR LOCKS WHEN KEY IS REMOVED AND DOOR IS CLOSED.

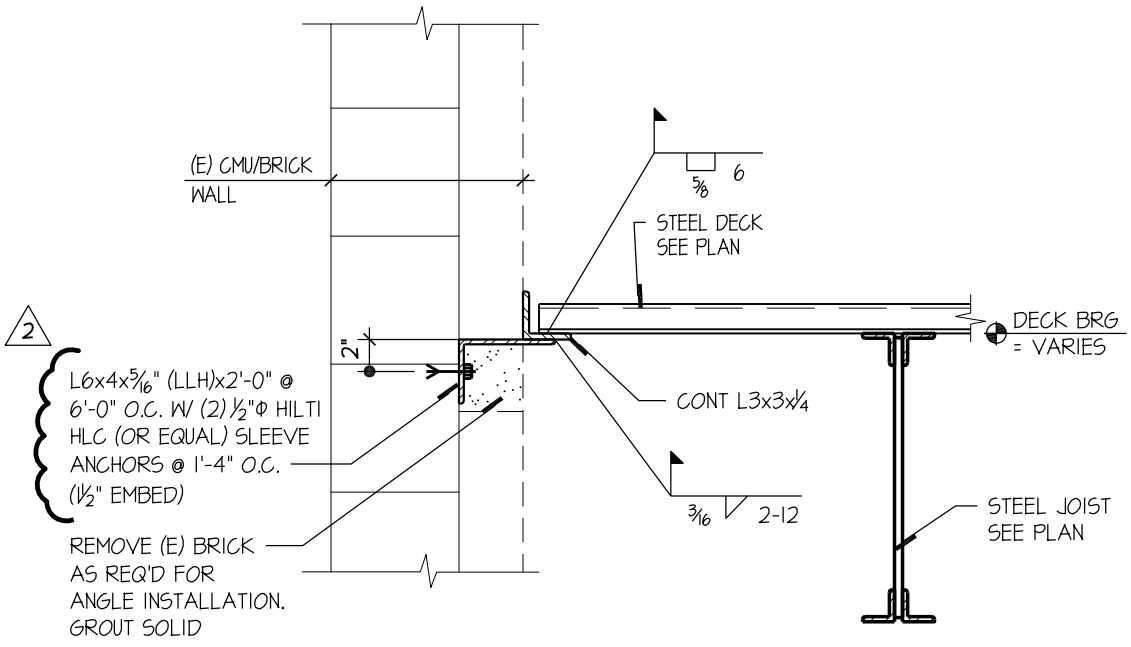
COMMON WIRE FROM BOTH WALL PLATE ACTUATORS WIRED THROUGH THE LATCHBOLT MONITOR SWITCH IN PANIC DEVICE. DOOR LOCKED - ACUTUATORS DEACTIVATED. DOOR UNLOCKED - ACTUATORS ACTIVE.

Door/Hardware Index

Mark #	HWSet #
A101	15
A101A	04
A101B	04
A102	09
A102A	10
A102B	04
A102C	04
A102D	04
A102E	04
A102F	05
A102G	05
A102H	16
A102K	09
A103	24
A104	11
A105	13
A106	13
A107A	02
A107B	02
A108	06
A109	13
A116	13
A117	12
A118	12
A121	13
A122	13
A123	13
A124	11
A125	11
A126	26
A150A	33
A150B	31
A150C	21
A159	27
A203	24
A204	13
A205	11
A206	11
A207A	25
A207B	12
A207C	12
A207D	25

Mark #	HWSet #
A208	13
A209A	13
A209B	13
A211A	11
A211B	14
A212	13
A213	13
A214	11
A215	09
A226	26
B103	04
B109	07
B111	12
B112	12
B118A	08
B118B	04
B118C	04
B118E	08
B118F	18
B118G	01
B150A	06
B150B	30
B150C	34
B150D	29
B150E	28
B152	22
B152A	13
B156	17
C101A	23
C101B	23
C116	19
C118	03
C150	32
C151	20

END OF SECTION

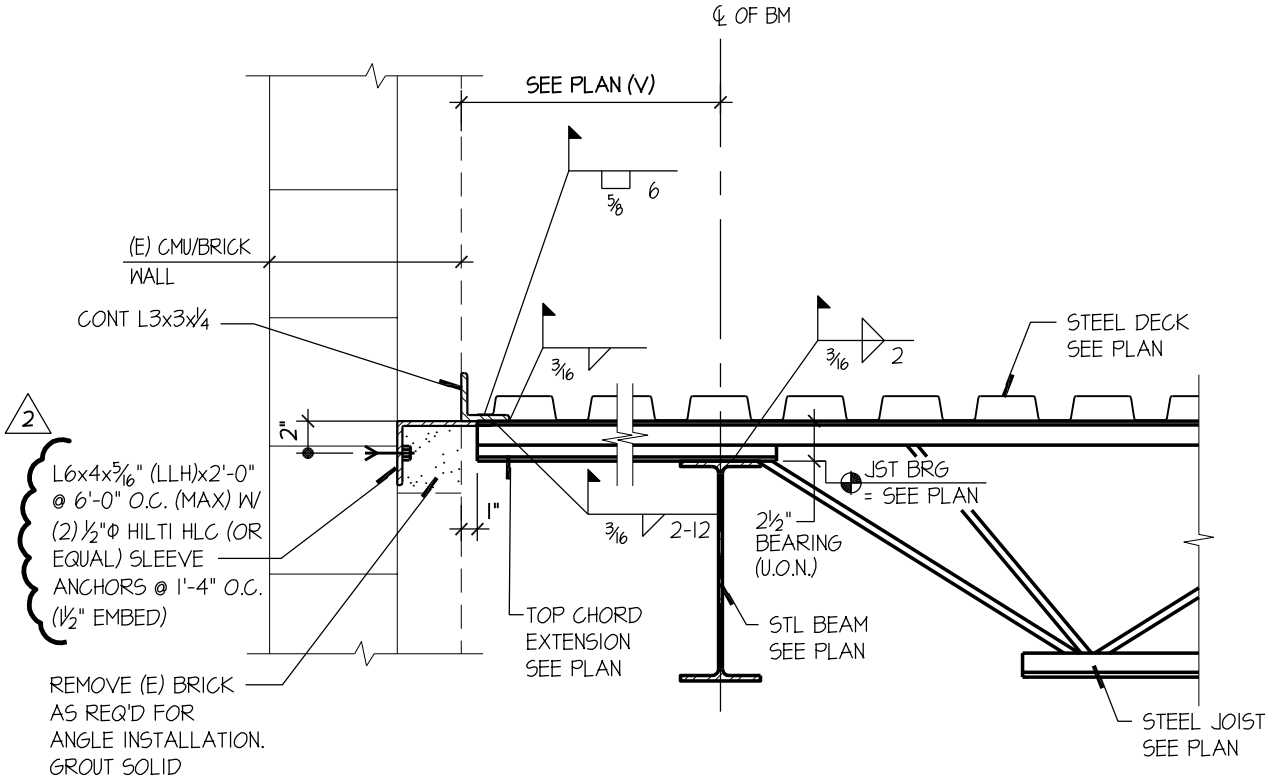


5
S502

Deck Bearing @ Exist'g

Scale: 1" = 1'-0"

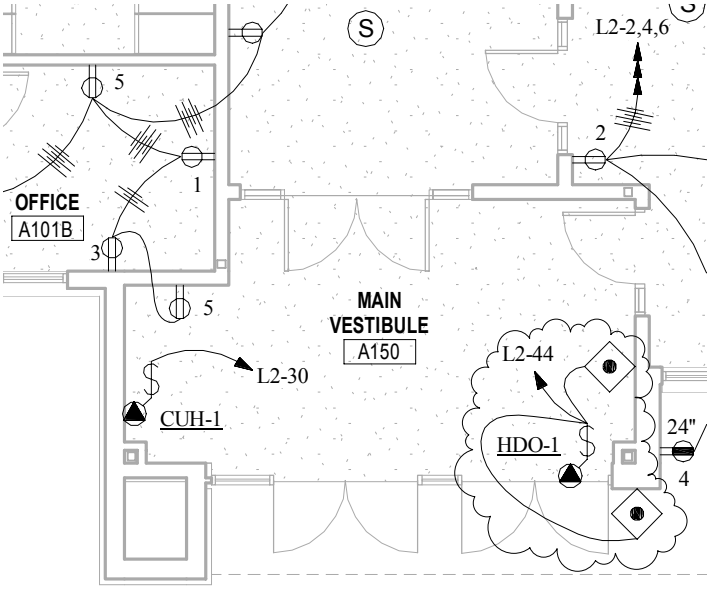
Westhope Public School Westhope, North Dakota	**Deck Bearing @ Existing** Job #12-184	ICON Architectural Group 4050 Garden View Drive, Grand Forks, North Dakota, 58201 701-772-4266 voice, 701-772-4275 fax, www.ICONarchitects.com	DATE 07/31/14	SHEET AS01



6 / S502 Joist Bearing @ Existing

Scale: 1" = 1'-0"

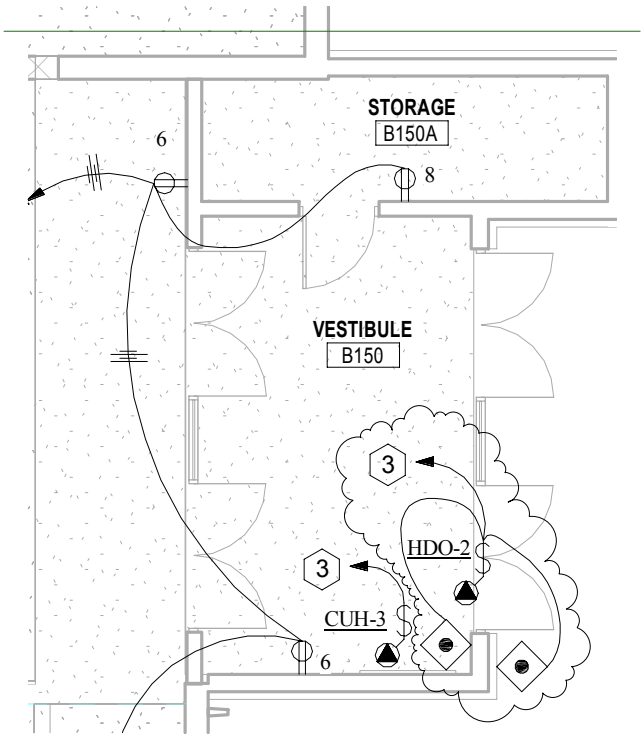
Westhope Public School Westhope, North Dakota	**Joist Bearing @ Existing** Job #12-184	ICON Architectural Group 4050 Garden View Drive, Grand Forks, North Dakota, 58201 701-772-4266 voice, 701-772-4275 fax, www.ICONarchitects.com	DATE 07/31/14 SHEET AS02



1
ADE2

POWER PLAN AREA A - ADDENDUM 1

1/8" = 1'-0"



2
ADE2

POWER PLAN AREA B - ADDENDUM 1

1/8" = 1'-0"

WESTHOPE SCHOOL HVAC UPGRADE
WESTHOPE, NORTH DAKOTA

ELECTRICAL ADDENDUM

ICON architectural group
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Grand Forks, ND 58203
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www.ICONarchitects.com

Date 7/31/2014

Sheet ADE2