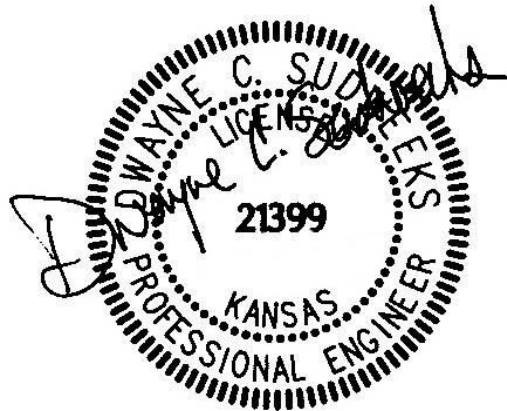


SPECIFICATIONS
FOR
HVAC UPGRADES FOR
LDS MANHATTAN INSTITUTE CONTROLS

Property #502-7403
1820 Claflin Rd.
Manhattan, Kansas 66502

April, 2015



Prepared
by

Engineered Systems Associates, Inc.
1355 East Center
Pocatello, Idaho 83201
208-233-0501

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INVITATION TO BID

1. CONTRACTORS INVITED TO BID THE PROJECT:

- Kansas Controls
- Superior Controls

2. PROJECT:

LDS Manhattan Institute Controls

3. LOCATION:

1820 Claflin Rd.
Manhattan, Kansas 66502

4. OWNER:

Corporation of the Presiding Bishop of
The Church of Jesus Christ of Latter-day Saints,
A Utah Corporation Sole
50 East North Temple Street
Salt Lake City, Utah 84150

5. CONSULTANT:

Dwayne Sudweeks
Engineered Systems Associates, Inc.
1355 East Center
Pocatello, Idaho 83201

6. DESCRIPTION OF PROJECT:

- A. Upgrade temperature controls to new Honeywell "Prestige" and associated work.

7. TYPE OF BID: Bids will be on a lump-sum basis. Segregated bids will not be accepted.**8. TIME OF SUBSTANTIAL COMPLETION:** The time limit for substantial completion of this Work will be 30 calendar days and will be as noted in the Agreement.**9. PRE-BID WALK-THRU:** There will be a walk-thru of the project on April 28, 2015 at 1:00pm. Attendance is mandatory.**10. BID OPENING:** Sealed bids must be received no later than 1:00pm on May 5, 2015 at the Wichita FM Group Office (1201 Grand View Ave., Newton, KS) which time the sealed bids will be opened and read. (Please submit proposals by mail or in person. Faxed proposals cannot be considered.)**11. BIDDING DOCUMENTS:**

- A. Bidding Documents are available to invited Contractors.

12. BIDDER'S QUALIFICATIONS: Bidding by the Contractors will be by invitation only.**13. OWNER'S RIGHT TO REJECT BIDS:** Owner reserves the right to reject any or all bids and to waive any irregularity therein.

END OF DOCUMENT

INSTRUCTIONS TO BIDDERS

1. DOCUMENTS:

- A. Bidding Documents include Bidding Requirements and proposed Contract Documents. Proposed Contract Documents consist of:
 - 1. Contractor's Bid Proposal and Maintenance Project Agreement
 - 2. Other documents included by reference
 - 3. Addenda.
- B. Bidding Requirements are those documents identified as such in proposed Project Manual.
- C. Addenda are written or graphic documents issued prior to execution of the Contract which modify or interpret the Bidding Documents. They become part of the Contract Documents as noted in the Contractor's Bid Proposal and Maintenance Project Agreement upon execution of the Agreement by Owner.

2. BIDDER'S REPRESENTATIONS:

- A. By submitting a bid proposal, bidder represents that
 - 1. Bidder has carefully studied and compared Bidding Documents with each other. Bidder understands the Bidding Documents and the bid is fully in accordance with the requirements of those documents,
 - 2. Bidder has thoroughly examined the site and any building located thereon, has become familiar with local conditions which might directly or indirectly affect contract work, and has correlated its personal observations with requirements of proposed Contract Documents, and
 - 3. Bid is based on materials, equipment, and systems required by Bidding Documents without exception.

3. BIDDING DOCUMENTS:

- A. Copies
 - 1. Owner will provide the Bidding Documents as set forth in the Invitation to Bid.
 - 2. Partial sets of Bidding Documents will not be issued.
- B. Interpretation Or Correction Of Bidding Documents
 - 1. Bidders will request interpretation or correction of any apparent errors, discrepancies, and omissions in the Bidding Documents.
 - 2. Corrections or changes to Bidding Documents will be made by written Addenda.
- C. Substitutions And Equal Products
 - 1. Equal products may be approved upon compliance with Contract Document requirements.
 - 2. Base bid only on materials, equipment, systems, suppliers or performance qualities specified in the Bidding documents.
 - 3. Where a specified product is identified as a "quality standard", products of other manufacturers that meet the performance, properties, and characteristics of the specified "quality standard" may be used without specific approval as a substitute.
- D. Addenda. Addenda will be sent to bidders and to locations where Bidding Documents are on file no later than one week prior to bid opening or by fax no later than 48 hours prior to bid opening.

4. BIDDING PROCEDURES:

- A. Form And Style Of Bids
 - 1. Use Owner's Bid Form titled "Contractor's Bid Proposal And Maintenance Project Agreement".

2. Bid will be complete and executed by authorized representative of Bidder.
 3. Do not delete from or add to the information requested on bid form.
- B. Submission of Bids
1. Submit bid in sealed opaque envelope containing only bid form.
 2. It is bidder's sole responsibility to see that its bid is received at or before the specified time. Bids received after specified bid opening time may be returned to bidders unopened.
 3. No oral, facsimile transmitted, telegraphic, or telephonic bids, modifications, or cancellations will be considered.
- D. Modification Or Withdrawal Of Bid
1. Bidder guarantees there will be no revisions or withdrawal of bid amount for 45 days after bid opening.
 2. Prior to bid opening, bidders may withdraw bid by written request or by reclaiming bid envelope.
 3. Prior to bid opening, bidder may mark and sign on the sealed envelope that bidder acknowledges any or all Addenda.

5. CONSIDERATION OF BIDS:

- A. Opening Of Bids - Sealed bids shall be received no later than 1:00pm on May 5, 2015 at the Wichita FM Group Office (1201 Grand View Ave., Newton, KS) at which time they will be opened and read out loud.
- B. Acceptance Of Bid
1. No bidder will consider itself under contract after opening and reading of bids until Owner accepts Contractor's Bid Proposal by executing same.
 2. Bidder's past performance, organization, subcontractor selection, equipment, and ability to perform and complete its contract in manner and within time specified, together with amount of bid, will be elements considered in award of contract.

6. FORM OF AGREEMENT BETWEEN OWNER AND CONTRACTOR:

- A. Agreement form will be "Contractor's Bid Proposal and Maintenance Project Agreement" provided by Owner.

7. MISCELLANEOUS:

- A. Pre-Bid Conference. There will be a walk-thru of the project on April 28, 2015, 2015 at 1:00pm. Attendance is mandatory.

END OF DOCUMENT

SUBCONTRACTORS AND MAJOR MATERIALS SUPPLIERS LIST

Project Name: _____ Date: _____

Stake: _____ Project No: _____

General Contractor: _____

General Contractor is to provide the names of the following subcontractors and suppliers to the Church Project Manager immediately following the bid opening:

VMR SUBCONTRACTORS

Roofing _____

Doors, Frames & Hardware _____

Storefronts _____

Wood Flooring _____

Other _____

Other _____

SUBCONTRACTORS AND SUPPLIERS

Grading / Site work _____

Site Utilities _____

Demolition _____

Paving _____

Termite Control _____

Site Concrete _____

Fencing _____

Irrigation System _____

Landscaping _____

Building Concrete _____

Masonry _____

Structural Steel _____

Framing _____

Trusses _____

Insulation _____

EIFS _____

Soffit / Fascia _____

Steeple _____

Millwork _____

Drywall _____

Ceramic Tile _____

Acoustical Tile _____

Painting _____

Wall Coverings _____

Elevators / Lifts _____

Draperies _____

Fire Sprinklers _____

Plumbing _____

HVAC _____

Electrical _____

Controls _____

Sound / Satellite _____

EQUAL PRODUCT APPROVAL REQUEST FORM

Project Name: LDS Manhattan Institute Controls Number: #502-7403

TO: _____

FROM: _____

BID DATE: _____

A proposed product is not legally approved and cannot legally be included in a bid or used in the Work until it appears in an Addendum or other Contract Modification as defined in the General Conditions. See Instructions To Bidders Paragraph 3,C, General Conditions, and Section 016000.

PROPOSED EQUAL PRODUCT:

Specification Section: _____

Specified Products: _____

Proposed Product: _____

The Undersigned certifies:

1. Proposed equal product has been fully investigated and determined to be equal or superior in all respects to specified products.
2. Same warranty will be furnished for proposed equal product as for specified products.
3. Same maintenance service and source of replacement parts, as applicable, is available.
4. Proposed equal product will have no adverse effect on other trades and will not affect or delay progress schedule.
5. Proposed equal product does not affect dimensions and functional clearances.

ATTACHMENTS:

Include the following attachments -

1. Copy of the Project Manual Section where the proposed equal product would be specified, rewritten or red-lined to include any changes necessary to correctly specify the proposed equal product. Identify completely changes necessary to the original Project Manual Section.
2. Copies of details, elevations, cross-sections, and other elements of the Project Drawings redone as necessary to show changes necessary to accommodate proposed equal product. Identify completely the changes from the original Drawings.
3. Complete product literature and technical data, installation and maintenance instructions, test results, and other information required to show complete conformance with requirements of the Contract Documents.

SIGNED: _____

Company _____

Address _____

City, State, Zip _____

Telephone _____ FAX _____

REVIEW COMMENTS:

_____ Accepted. See Addenda Number _____.

_____ Submission Not In Compliance With Instructions. Respond to attached comments and resubmit.

_____ Proposed Equal Product Not Acceptable. Use specified products.

_____ Not Reviewed. Submission received too late. Use specified products.

ADDITIONAL COMMENTS:

BY: _____ **DATE:** _____

CONSTRUCTION MATERIAL ASBESTOS STATEMENT (U.S.)

Project Name: LDS Manhattan Institute Controls

Project Type: HVAC

Building Address: 1820 Claflin Rd., Manhattan, Kansas 66502

Owner: Corporation of the Presiding Bishop of the Church of Jesus Christ of Latter-days Saints, a Utah corporation sole

Property Number: #502-7403

Completion Date: _____

As CONSULTANT and principal in charge; based on my best knowledge, information, inspection, and belief; I certify that on the above referenced Project, no asbestos containing building materials were specified in the construction documents or given approval in shop drawings or submittals.

Date _____ Consultant and Principal in charge

Company Name

As GENERAL CONTRACTOR in charge of construction; based on my best knowledge, information, inspection, and belief; I certify that on the above referenced building, no asbestos containing building materials were used in the construction.

Date _____ General Contractor in charge

Company Name

SUPPLEMENTARY CONDITIONS

MAINTENANCE PROJECT AGREEMENT (U.S.)

ITEM 1 - GENERAL

1. Conditions of the Contract apply to each Division of the Specifications.
2. Provisions contained in Division 01 apply to all other Divisions of the Specifications.

ITEM 2 - LIQUIDATED DAMAGES PAYABLE TO OWNER:

Delay in Completion of the Work. For each day after the expiration of the designated Time of Completion that Contractor has not completed the Work, Contractor will pay Owner the amount of FIFTY dollars (\$50.⁰⁰) per day as liquidated damages for Owner's loss of use and the added administrative expense to Owner to administer the Project during the period of delay. In addition, Contractor will reimburse Owner for any additional Architect's fees, attorneys' fees, expert fees, consultant fees, copy costs, and other expenses incurred by Owner as a result of the delay. Owner may deduct any liquidated damages or reimbursable expenses from any money due or to become due to Contractor. If the amount of liquidated damages and reimbursable expenses exceeds any amounts due to Contractor, Contractor will pay the difference to Owner within ten (10) days after receipt of a written request from Owner for payment.

ITEM 3 - KANSAS STATE SALES TAX:**Exemption from State Sales Tax.**

- a. Upon obtaining a certificate of tax exemption for the project, an exemption from Kansas state sales tax should be allowed for tangible personal property and services purchased by Contractor for the project. Purchases of construction machinery, equipment or tools for the project are not exempt but rather are subject to state sales tax.
- b. Prior to beginning work on the project, Contractor will assist Owner in making a timely application to the State for a certificate of tax exemption for the project. After the certificate of tax exemption is obtained from the State, Contractor will furnish the number of the certificate to all suppliers from whom it makes purchases; and all such suppliers shall execute invoices covering the items purchased bearing the number of such certificate. In addition, upon completion of the project, Contractor will timely furnish to Owner a sworn statement (on the form provided by the Kansas Director of Taxation) that all purchases made under such exemption certificate were entitled to the tax exemption. All invoices for such tax exempt purchases shall be held by Contractor for a period of five years.

END OF DOCUMENT

CONTRACTOR BID PROPOSAL AND MAINTENANCE PROJECT AGREEMENT

Corporation of the Presiding Bishop of The Church of Jesus Christ of Latter-day Saints, a Utah corporation sole, ("Owner") and the undersigned Contractor ("Contractor") hereby agree as follows:

1. **Project Site.**
 Property Number: 502-7403
 Address: 1820 Claflin Rd., Manhattan, Kansas 66502
 Project Type: HVAC
 Project Name: LDS Manhattan Institute Controls
2. **Scope of the Work.** Contractor will furnish all labor, materials, and equipment necessary to complete the Work in accordance with the Contract Documents. The Work is all labor, materials, equipment, construction, and services required by the Contract Documents.
3. **Contract Documents.** Contract Documents consist of:
 - a. This Agreement;
 - b. The Specifications (Division 01, 07, and 23)
 - c. Drawings entitled ME-1, ME-2 dated April 2015.
 - d. Addendum No. _____ dated _____; and
 - e. All written Field Changes, written Construction Change Directives and written Change Orders when prepared and signed by Owner and Contractor.
4. **Compensation.** Owner will pay Contractor for performance of Contractor's obligations under the Contract Documents the sum of _____ Dollars
 (\$_____). This is the Contractor's Bid Proposal Amount.
5. **Payment.**
 - a. If the Contractor's Bid Proposal Amount is over \$50,000.00, Contractor will submit to Owner a schedule of values which allocates the Contractor's Bid Proposal Amount to various portions of the Work. This schedule, when accepted by Owner will be used as a basis for reviewing Contractor's payment requests.
 - b. Not more than once each month, Contractor will submit a payment request to Owner. Owner will pay Contractor for work completed within thirty (30) days after Owner receives:
 - (1) Contractor's payment request for work to date;
 - (2) a certification by Contractor that Contractor has paid for all labor, materials, and equipment relating to the Work covered by prior payment requests and that Contractor will pay for all labor, materials, and equipment relating to the Work covered by the current payment request; and
 - (3) releases of all mechanics' liens and claims of subcontractors, laborers, or material suppliers who supplied labor and/or materials for the Work covered by the payment request.
 Owner may modify or reject the payment request if, in Owner's opinion, the Work for which payment is requested is not acceptable or is less complete than represented on the payment request.
6. **Extras and Change Orders.** Owner may order changes in the Work by altering, adding to, or deducting from the Work. In the event of such a change, Contractor's compensation and/or the time of completion will be adjusted to reflect the change. Contractor will not commence work on any change until either: (a) Contractor and Owner have agreed in writing to the amount of the adjustment resulting from the change; or (b) Owner has issued an order for the change acknowledging that there is a dispute regarding the compensation adjustment relating to the change. If Contractor proceeds with a change in the Work without complying with the preceding sentence, Contractor agrees that it will not be entitled to any additional compensation for such change.
7. **Correction of Work.** Contractor will promptly correct, at its own expense,
 - (a) any portion of the Work which
 - 1) fails to conform to the requirements of the Contract Documents, or
 - 2) is rejected by the Owner as defective or because it is damaged or rendered unsuitable during installation or resulting from failure to exercise proper protection.
 - (b) any defects due to faulty materials, equipment, or workmanship which appear within a period of one year from the date of Substantial Completion or within such longer period of time as may be prescribed by law or the terms of any applicable special warranty required by the Contract Documents.
8. **Time of Completion.** Contractor will complete the Work and have it ready for Owner's inspection within thirty (30) calendar days from Notice to Proceed issued by Owner. Time is of the essence. If Contractor is delayed at any time in the progress of the Work by any act or neglect of Owner, or by changes in the Work, or by strikes, lockouts, unusual delay in transportation, unavoidable casualties, or acts of nature beyond Contractor's control, then the time for completion will be extended by the time that completion of the Work is delayed. However, Contractor expressly waives any damages for any such delays other than those delays willfully caused by Owner.
9. **Permits, Surveys, and Taxes.** Contractor will obtain and pay for all permits and licenses, and also pay any applicable taxes. Contractor will also obtain and pay for any surveys it needs to perform the Work. Contractor will conform to all ordinances and covenants governing the Project Site and/or Work.
10. **Compliance with Laws.** Contractor will comply with all applicable laws, ordinances, rules, regulations, and orders of any public authorities relating to performance of the Work.
11. **Payment of Subcontractors and Materialmen.** Contractor will promptly pay for all labor, materials, and equipment used to perform the Work.
12. **Contractor's Insurance.** Prior to performing any work, Contractor will obtain and maintain during the term of this Agreement: Commercial General Liability Insurance, Workers' Compensation Insurance, Automobile Liability Insurance, and Employers' Liability Insurance. In the event the Contractor's Bid Proposal Amount is over \$100,000.00, Contractor's Commercial General Liability Insurance will meet the following additional requirements:
 - a. Insurance Services Office (ISO) form *Commercial General (CG) 00 01 (11/93)* or an equivalent, occurrence policy with limits of not less than One Million Dollars (\$1,000,000.00) per occurrence and Two Million Dollars (\$2,000,000.00) in the aggregate.

- b. Contractor's insurer will add the Owner as an additional insured on this policy using ISO endorsement *CG 2010 (10/93)* or its equivalent.

Automobile Liability Insurance will be for "any auto" for which Contractor may be legally responsible, and with not less than One Hundred Thousand Dollars (\$100,000.00) combined single limit coverage. In the event the Contractor's Bid Proposal Amount is over \$100,000.00, the required Automobile Liability insurance combined single limit coverage will be at least One Million Dollars (\$1,000,000.00).

13. **Independent Contractor Relationship.** The parties expressly agree that Contractor is not an agent or employee of Owner but is an independent contractor solely responsible for all expenses relating to Contractor's business.
14. **Indemnity and Hold Harmless.**
- a. Contractor will indemnify and hold harmless Owner and Owner's representatives, employees, agents, architects, and consultants from and against any and all claims, damages, liability, demands, costs, judgments, awards, settlements, causes of action, losses and expenses (collectively "Claims" or "Claim"), including but not limited to attorney fees, consultant fees, expert fees, copy costs, and other expenses, arising out of or resulting from performance of the Work, attributable to bodily injury, sickness, disease, or death, or to injury to or destruction of real or personal property, including loss of use resulting therefrom, except to the extent that such liability arises out of the negligence of Owner, its representatives, agents, and employees. This indemnity includes, without limitation, indemnification of Owner from all losses or injury to Owner's property, except to the extent that such loss or injury arises out of the negligence of Owner, its representatives, agents, and employees. This indemnity applies, without limitation, to include Claims occurring both during performance of the Work and/or subsequent to completion of the Work. In the event that any Claim is caused in part by a party indemnified hereunder, that party will bear the cost of such Claim to the extent it was the cause thereof. In the event that a claimant asserts a Claim for recovery against any party indemnified hereunder, the party indemnified hereunder may tender the defense of such Claim to Contractor. If Contractor rejects such tender of defense and it is later determined that the negligence of the party indemnified hereunder did not cause all of the Claim, Contractor will reimburse the party indemnified hereunder for all costs and expenses incurred by that party in defending against the Claim. Contractor will not be liable hereunder to indemnify any party for damages resulting from the sole negligence of that party.
- b. In addition to the foregoing, Contractor will be liable to defend Owner in any lawsuit filed by any Subcontractor relating to the Project. Where liens have been filed against Owner's property, Contractor (and/or its bonding company which has issued bonds for the Project) will obtain lien releases and record them in the appropriate county and/or local jurisdiction and provide Owner with a title free and clear from any liens of Subcontractors. In the event that Contractor and/or its bonding company are unable to obtain a lien release, Owner in its absolute discretion may require Contractor to provide a bond around the lien or a bond to discharge the lien, at Contractor's sole expense.
- c. In addition to the foregoing, Contractor will indemnify and hold Owner harmless from any claim of any other contractor resulting from the performance, nonperformance or delay in performance of the Work by Contractor.
- d. The indemnification obligation herein will not be limited by a limitation on the amount or type of damages, compensation or benefits payable by or for Contractor

- or a Subcontractor under worker's compensation acts, disability benefit acts, or other employee benefit acts.
15. **Resolution of Disputes.** In the event there is any dispute arising under the Contract Documents which cannot be resolved by agreement between the parties, either party may submit the dispute with all documentation upon which it relies to Director of Architecture, Engineering, and Construction, Physical Facilities Department, 50 East North Temple, Salt Lake City, Utah 84150, who will convene a dispute resolution conference within thirty (30) days. The dispute resolution conference will constitute settlement negotiations and any settlement proposal made pursuant to the conference will not be admissible as evidence of liability. In the event that the parties do not resolve their dispute pursuant to the dispute resolution conference, either party may commence legal action to resolve the dispute. Any such action must be commenced within six (6) months from the first day of the dispute resolution conference or be time barred. Submission of the dispute to the Director as outlined above is a condition precedent to the right to commence legal action to resolve any dispute. In the event that either party commences legal action to adjudicate any dispute without first submitting the dispute to the Director, the other party will be entitled to obtain an order dismissing the litigation without prejudice and awarding such other party any costs and attorneys fees incurred by that party in obtaining the dismissal, including without limitation copy costs, and expert and consultant fees and expenses.
16. **Termination of Agreement by Contractor.** In the event Owner materially breaches any term of the Contract Documents, Contractor will promptly give Written Notice of the breach to Owner. If Owner fails to cure the breach within ten (10) days of the Written Notice, Contractor may terminate the Agreement by giving Written Notice to Owner and recover from Owner the percentage of the Contract Sum represented by the Work completed on the Project site as of the date of termination together with any out of pocket loss Contractor has sustained with respect to materials and equipment as a result of the termination prior to completion of the Work, less any offsets. Contractor will not be entitled to unearned profits or any other compensation or damages as a result of the termination and hereby waives any claim therefor. Contractor will provide to Owner all warranty, as built, inspection, and other close out documents as well as materials that Contractor has in its possession or control at the time of termination. Without limitation, Contractor's indemnities and obligations as well as all warranties relative to Work provided through the date of termination survive a termination hereunder.
17. **Termination of Agreement by Owner for Cause.** Should Contractor make a general assignment for the benefit of its creditors, fail to apply enough properly skilled workmen or specified materials to properly prosecute the Work in accordance with Contractor's schedule, or otherwise materially breach any provision of the Contract Documents, then Owner may, without any prejudice to any other right or remedy, give Contractor Written Notice thereof. If Contractor fails to cure its default within ten (10) days, Owner may terminate this Agreement by giving Written Notice to Contractor, take possession of the premises and all materials, tools, and appliances thereon, and finish the Work by whatever method Owner deems expedient. In such case, Contractor will not be entitled to receive any further payment until the Work is finished. If the unpaid balance of the Contract Sum exceeds the expense of finishing the Work, including compensation for additional administrative, architectural, consultant, and legal services (including without limitation attorneys fees, expert fees, copy costs, and other expenses), such excess will be paid to Contractor. If such expense exceeds the unpaid balance, Contractor will pay the difference to Owner. Contractor will provide to Owner all warranty, as built, inspection, and other close out documents as well as materials that Contractor has in its possession or

control at the time of termination. Without limitation, Contractor's indemnities and obligations as well as all warranties relative to Work provided through the date of termination survive a termination hereunder.

- 18. **Termination of Agreement by Owner for Convenience.** Notwithstanding any other provision contained in the Contract Documents, Owner may, without cause and in its absolute discretion, terminate the Agreement at any time. In the event of such termination, Contractor will be entitled to recover from Owner the percentage of the Contract Sum equal to the percentage of the Work which Owner and/or its architect determines has been completed on the Project site as of the date of termination together with any out of pocket loss Contractor has sustained with respect to materials and equipment as a result of the termination prior to completion of the Work, less any offsets. Contractor will not be entitled to unearned profits or any other compensation as a result of the termination and hereby waives any claim therefor. Contractor will provide to Owner all warranty, as built, inspection, and other close out documents as well as materials that Contractor has in its possession or control at the time of termination. Owner may, in Owner's sole discretion, take legal assignment of subcontracts and other contractual rights of Contractor. Without limitation, Contractor's indemnities and obligations as well as all warranties relative to Work provided through the date of termination survive a termination hereunder.
- 19. **Assignment of Contract.** The parties hereto will not assign any rights or obligations under this Agreement without the prior written consent of the other party.
- 20. **Integration Clause.** The Contract Documents reflect the full agreement of the parties with respect to the Project and the Work and supersede all prior discussions, agreements, and representations regarding the subject matter of the Contract Documents. The Contract Documents may be amended only in a written document signed by both parties hereto.

- 21. **Applicable Law.** The parties acknowledge that the Contract Documents have substantial connections to the State of Utah. The Contract Documents will be deemed to have been made, executed, and delivered in Salt Lake City, Utah. To the maximum extent permitted by law, (i) the Contract Documents and all matters related to their creation and performance will be governed by and enforced in accordance with the laws of the State of Utah, excluding conflicts of law rules, and (ii) all disputes arising from or related to the Contract Documents will be decided only in a state or federal court located in Salt Lake City, Utah and not in any other court or state. Toward that end, the parties hereby consent to the jurisdiction of the state and federal courts located in Salt Lake City, Utah and waive any other venue to which they might be entitled by virtue of domicile, habitual residence, place of business, or otherwise.
- 22. **Enforcement.** In the event either party commences legal action to enforce or rescind any term of the Contract Documents, the prevailing party will be entitled to recover its attorneys fees and costs, including without limitation all copy costs and expert and consultant fees and expenses, in that action and on all appeals, from the other party.
- 23. **Bid Proposal/Agreement.** Contractor's submission to Owner of this agreement signed by Contractor will constitute Contractor's offer and bid proposal to perform the Work described in this agreement according to the terms thereof. Owner's signing of this agreement and delivery to Contractor of the signed copy thereof will constitute acceptance of Contractor's offer and will convert this document to a binding agreement.
- 24. **Effective Date.** The effective date of this Agreement is the date indicated by the Owner's signature.

OWNER:	CONTRACTOR:
Corporation of the Presiding Bishop of The Church of Jesus Christ of Latter-day Saints, a Utah corporation sole,	company name
By:	By:
Designated Representative	Authorized Representative
Print Name: Andy Headley	Print Name
Address: Wichita Kansas FM Group 1201 Grand View Ave. Newton, Kansas 67114	Title:
	Address:
Telephone No: (318) 283-1620	Telephone No:
Fax No. (318) 283-5712	Fax No.
Effective Date:	Fed. I.D. or SSN: No
Reviewed by:	Date:

DIVISION 01: GENERAL REQUIREMENTS

01 1000 SUMMARY

- 01 1100 SUMMARY OF WORK
- 01 1400 WORK RESTRICTIONS

01 2000 PRICE AND PAYMENT PROCEDURES

- 01 2900 PAYMENT PROCEDURES

01 3000 ADMINISTRATIVE REQUIREMENTS

- 01 3100 PROJECT MANAGEMENT AND COORDINATION
- 01 3300 SUBMITTAL PROCEDURES
- 01 3500 SPECIAL PROCEDURES

01 4000 QUALITY REQUIREMENTS

- 01 4100 REGULATORY REQUIREMENTS
- 01 4301 QUALITY ASSURANCE - QUALIFICATIONS

01 6000 PRODUCT REQUIREMENTS

- 01 6100 COMMON PRODUCT REQUIREMENTS
- 01 6200 PRODUCT OPTIONS
- 01 6600 PRODUCT DELIVERY, STORAGE, AND HANDLING REQUIREMENTS

01 7000 EXECUTION AND CLOSEOUT REQUIREMENTS

- 01 7300 EXECUTION
- 01 7400 CLEANING AND WASTE MANAGEMENT
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DIVISION 07: THERMAL AND MOISTURE PROTECTION

07 8000 SMOKE AND FIRE PROTECTION

- 07 8400 FIRESTOPPING

07 9000 JOINT PROTECTION

- 07 9213 ELASTOMERIC JOINT SEALANTS

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SECTION 01 1100

SUMMARY OF WORK

WORK COVERED BY CONTRACT DOCUMENTS:

Provisions contained in Division 01 apply to Sections of Divisions 02 through 49 of Specifications. Instructions contained in Specifications are directed to Contractor. Unless specifically provided otherwise, obligations set forth in Contract Documents are obligations of Contractor.

Contractor will furnish total labor, materials, equipment, and services necessary to perform The Work in accordance with Contract Documents.

SCOPE OF WORK:

Upgrade temperature controls to new Honeywell "Prestige" and associated work.

Products or systems may be provided under a Value Managed Relationship (VMRs) the Owner has negotiated with the supplier. VMR products and systems are indicated as such in the Specifications.

END OF SECTION

SECTION 01 1400**WORK RESTRICTIONS****PART 1 - GENERAL****1.1 SUMMARY**

A. Section Includes But is Not Limited To:

1. Administrative and procedural requirements for Work Restrictions.

1.2 PROJECT CONDITIONS

A. During construction period, Contractor will have use of premises for construction operations. Contractor will ensure that Contractor, its employees, subcontractors, and their employees comply with following requirements:

1. Confine operations to areas within Contract limits shown on Drawings. Do not disturb portions of site beyond Contract limits.
2. Do not allow alcoholic beverages, illegal drugs, or persons under their influence on Project site.
3. Do not allow use of tobacco in any form on Project Site.
4. Do not allow pornographic or other indecent materials on site.
5. Do not allow work on Project site on Sundays except for emergency work.
6. Refrain from using profanity or being discourteous or uncivil to others on Project Site or while performing The Work.
7. Wear shirts with sleeves, wear shoes, and refrain from wearing immodest, offensive, or obnoxious clothing, while on Project Site.
8. Do not allow playing of obnoxious and loud music on Project Site. Do not allow playing of any music within existing facilities.
9. Do not build fires on Project Site.
10. Do not allow weapons on Project Site, except those carried by law enforcement officers or other uniformed security personnel who have been retained by Owner or Contractor to provide security services.

B. Existing Facilities:

1. Reasonably accommodate use of existing facilities by Owner.

C. Do not load or permit any part of the structure to be loaded with a weight that will endanger its safety. Questions of structural loading as part of construction means and methods shall be addressed by a licensed structural engineer engaged by Contractor, subject to the review by Architect.

PART 2 - PRODUCTS Not Used**PART 3 - EXECUTION Not Used****END OF SECTION**

SECTION 01 2900
PAYMENT PROCEDURES

PART 1 - GENERAL**1.1 SUMMARY**

- A. Section Includes But is Not Limited To:
1. Administrative and procedural requirements to prepare and process Applications for Payments.

1.2 PAYMENT REQUESTS

- A. Use Payment Request forms provided by Owner.
- B. Each Payment Request will be consistent with previous requests and payments certified by Architect and paid for by Owner.
- C. Request Preparation:
1. Complete every entry on Payment Request form.
 2. Entries will match data on approved schedule of values and Contractor's Construction Schedule. Use updated schedules if revisions have been made.
 3. Submit signed Payment Request to Architect with current Construction Schedule.
- D. Provide following submittals before or with submittal of Initial Payment Request:
1. List of Subcontractors.
 2. Initial progress report.
 3. Contractor's Construction Schedule.
 4. Submittal Schedule.
- E. Provide Affidavit of Contractor and Consent of Surety with Payment Request following Substantial Completion.

1.3 SCHEDULE OF VALUES

- A. Submit schedule of values on Owner's standard form to Architect 20 days minimum before submission of Initial Payment Request as a necessary condition before payment will be processed. Coordinate preparation of schedule of values with preparation of Contractor's Construction Schedule. Correlate line items in Schedule of Values with other required administrative schedules and forms, including:
1. Contractor's Construction Schedule.
 2. Payment Request form.
 3. Schedule of Allowances.
 4. Schedule of Alternates.

PART 2 - PRODUCTS Not Used**PART 3 - EXECUTION Not Used**

END OF SECTION

SECTION 01 3100**PROJECT MANAGEMENT AND COORDINATION****PART 1 - GENERAL****1.1 SUMMARY**

- A. Section Includes But is Not Limited To:
 - 1. Administrative and procedural requirements for Project Management and Coordination on Projects.

1.2 PROJECT COORDINATION

- A. Project designation for this Project is LDS 5842271, LDS Arbon Branch HVAC (Pocatello, Idaho Stake).
- B. This Project designation will be included on documents generated for Project by Contractor and Subcontractors, or be present on a cover letter accompanying such documents.

1.3 MULTIPLE CONTRACT COORDINATION

- A. Contractor shall be responsible for accurately maintaining and reporting schedule of The Work from Notice to Proceed to date of Substantial Completion.
- B. Contractor shall be responsible for providing Temporary Facilities and Controls for those who perform work on Project from Notice to Proceed to date of Substantial Completion.
- C. Contractor shall be responsible for providing Construction Waste Management And Disposal services for those who perform work on Project from Notice to Proceed to date of Substantial Completion.
- D. Contractor shall be responsible for Final Cleaning for entire Project.

1.4 PROJECT MEETINGS AND CONFERENCES

- A. Preconstruction Conference:
 - 1. Attend preconstruction conference and organizational meeting scheduled by Architect at Project site or other convenient location.
 - 2. Be prepared to discuss items of significance that could affect progress, including such topics as:
 - a. Construction schedule.
 - b. Critical Work sequencing.
 - c. Current problems.
 - d. Designation of responsible personnel.
 - e. Distribution of Contract Documents.
 - f. Equipment deliveries and priorities.
 - g. General schedule of inspections by Architect and its consultants.
 - h. General inspection of tests.
 - i. Office, work, and storage areas.
 - j. Preparation of record documents and O & M manuals.
 - k. Procedures for processing interpretations and Modifications.
 - l. Procedures for processing Payment Requests.
 - m. Project cleanup.

- n. Security.
 - o. Status of permits.
 - p. Submittal of Product Data, Shop Drawings, Samples, Quality Assurance / Control submittals.
 - q. Use of the premises.
 - r. Work restrictions.
 - s. Working hours.
3. Architect will record minutes of meetings and distribute copies to Owner and Contractor within three working days.
- B. Progress Meetings:
- 1. Attend progress meetings at Project site at regularly scheduled intervals determined by Architect, at least once a month.
 - 2. Progress meetings will be open to Owner, Architect, Subcontractors, and anyone invited by Owner, Architect, and Contractor.
 - 3. Be prepared to discuss items of significance that could affect progress, including following:
 - a. Progress since last meeting.
 - b. Whether Contractor is on schedule.
 - c. Activities required to complete Project within Contract Time.
 - d. Labor and materials provided under separate contracts.
 - e. Off-site fabrication problems.
 - f. Access.
 - g. Site use.
 - h. Temporary facilities and services.
 - i. Hours of work.
 - j. Hazards and risks.
 - k. Project cleanup.
 - l. Quality and Work standards.
 - m. Status of pending modifications.
 - n. Documentation of information for Payment Requests.
 - o. Maintenance of Project records.
 - 4. Architect will prepare minutes of progress meetings and distribute copies of minutes to Owner and Contractor within three working days.
- C. Pre-Installation Conferences:
- 1. Attend pre-installation conferences specified in Contract Document.
 - a. If possible, schedule these conferences on same day as regularly scheduled Progress Meetings. If this is not possible, coordinate scheduling with Architect.
 - b. Request input from attendees in preparing agenda.
 - 2. Be prepared to discuss following items:
 - a. Requirements of Contract Documents.
 - b. Completed work necessary for installation of items or systems.
 - c. Conditions not in compliance with installation requirements.
 - d. Installation and inspection schedule.
 - e. Coordination between trades.
 - f. Space and access limitations.
 - g. Testing.
 - 3. Architect will prepare meeting minutes and distribute minutes to Owner and Contractor within three working days.

PART 2 - PRODUCTS Not Used**PART 3 - EXECUTION Not Used****END OF SECTION**

SECTION 01 3300**SUBMITTAL PROCEDURES****PART 1 - GENERAL****1.1 SUMMARY**

- A. Section Includes But is Not Limited To:
1. Administrative and procedural requirements for Submittal Procedures.

1.2 SUBMITTAL SCHEDULE

- A. Furnish submittal schedule within 20 days after receipt of Notice to Proceed, listing items specified to be furnished for review to Architect including product data, shop drawings, samples, and Informational submittals.
1. Coordinate submittal schedule with Contractor's construction schedule.
 2. Enclose the following information for each item:
 - a. Scheduled date for first submittal.
 - b. Related Section number.
 - c. Submittal category.
 - d. Name of Subcontractor.
 - e. Description of part of the Work covered.
 - f. Scheduled date for resubmittal.
 - g. Scheduled date for Architect's final release or approval.
- B. Print and distribute copies to Architect and Owner and post copy in field office. When revisions are made, distribute to same parties and post in same location.
- C. Revise schedule monthly. Send copy of revised schedule to Owner and Architect and post copy in field office.

1.3 SUBMITTAL PROCEDURES

- A. Coordination:
1. Coordinate preparation and processing of submittals with performance of construction activities. Transmit each submittal sufficiently before performance of related construction activities to avoid delay.
 - a. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.
 - b. Coordinate transmittal of different types of submittals required for related elements of The Work so processing will not be delayed by need to review submittals concurrently for coordination. Architect reserves right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.
 2. Processing Time:
 - a. Allow sufficient review time so installation will not be delayed by time required to process submittals, including time for resubmittals.
 - 1) Allow 21 days for initial review. Allow additional time if processing must be delayed to allow coordination with subsequent submittals. Architect will

- promptly advise Contractor when submittal being processed must be delayed for coordination.
- 2) If an intermediate submittal is necessary, process same as initial submittal.
 - 3) Allow 10 days for reprocessing each submittal.
 - 4) No extension of Contract Time will be authorized because of failure to transmit submittals to Architect in sufficient time before work is to be performed to allow processing.
3. Identification:
- a. Place permanent label or title block on each submittal for identification. Include name of entity that prepared each submittal on label or title block.
 - 1) Provide space approximately 4 by 5 inches on label or beside title block on Shop Drawings to record Contractor's review and approval markings and action taken.
 - 2) Include following information on label for processing and recording action taken:
 - a) Project name.
 - b) Date.
 - c) Name and address of Architect.
 - d) Name and address of Contractor.
 - e) Name and address of Subcontractor.
 - f) Name and address of supplier.
 - g) Name of manufacturer.
 - h) Number and title of appropriate Specification Section.
 - i) Drawing number and detail references, as appropriate.
4. Transmittal:
- a. Package each submittal appropriately for transmittal and handling. Transmit each submittal from Contractor to Architect using transmittal letter. On transmittal, record relevant information and requests for data. Include Contractor's certification that information complies with Contract Document requirements, or, on form or separate sheet, record deviations from Contract Document requirements, including minor variations and limitations.
 - b. Submittals received from sources other than Contractor or not marked with Contractor's approval will be returned without action.

1.4 ACTION SUBMITTALS

- A. Product Data:
1. Submit Product Data, as required by individual Sections of Specifications.
 2. Mark each copy of each set of submittals to show choices and options used on Project. Where printed Product Data includes information on products that are not required for Project, mark copies to indicate information relating to Project.
 3. Certify that proposed product complies with requirements of Contract Documents. List any deviations from those requirements on form or separate sheet.
 4. Submit five copies of each required submittal unless otherwise required. Architect will return three copies marked with action taken and with corrections or modifications required.
 5. Submit electronic files PDF: Architect will return a PDF copy marked with action taken and with corrections or modifications required.
- B. Shop Drawings:
1. Submit newly prepared graphic data to accurate scale. Except for templates, patterns, and similar full-size Drawings, submit Shop Drawings on sheets at least **8-1/2 by 11 inches (215 by 280 mm)** but no larger than **36 by 48 inches (915 by 1 200 mm)**. Highlight, encircle, or otherwise show deviations from Contract Documents. Include following information as a minimum:

- a. Dimensions.
 - b. Identification of products and materials included.
 - c. Compliance with specified standards.
 - d. Notation of coordination requirements.
 - e. Notation of dimensions established by field measurement.
2. Do not reproduce Contract Documents or copy standard information as basis of Shop Drawings. Standard printed information prepared without specific reference to Project is not acceptable as Shop Drawings.
 3. Review and designate (stamp) approval of shop drawings. Unless otherwise specified, submit to Architect six copies of shop drawings required by Contract Documents. Shop drawings not required by Contract Documents, but requested by Contractor or supplied by Subcontractor, need not be submitted to Architect for review.
- C. Samples:
1. Submit full-size, fully fabricated Samples cured and finished as specified and physically identical with material or product proposed. Samples include partial sections of manufactured or fabricated components, cuts or containers of materials, color range sets, and swatches showing color, texture, and pattern.
 - a. Mount, display, or package Samples so as to ease review of qualities specified. Prepare Samples to match samples provided by Architect, if applicable. Include following:
 - 1) Generic description of Sample.
 - 2) Sample source.
 - 3) Product name or name of manufacturer.
 - 4) Compliance with recognized standards.
 - 5) Availability and delivery time.
 2. Submit Samples for review of kind, color, pattern, and texture, for final check of these characteristics with other elements, and for a comparison of these characteristics between final submittal and actual component as delivered and installed.
 - a. Where variations in color, pattern, texture or other characteristics are inherent in material or product represented, submit set of three samples minimum that show approximate limits of variations.
 - b. Refer to other specification Sections for requirements for Samples that illustrate workmanship, fabrication techniques, details of assembly, connections, operation and similar construction characteristics.
 - c. Refer to other Sections for Samples to be returned to Contractor for incorporation into The Work. Such Samples shall be undamaged at time of use. On transmittal, indicate special requests regarding disposition of Sample submittals.
 3. Where Samples are for selection of color, pattern, texture, or similar characteristics from a range of standard choices, submit full set of choices for material or product. Preliminary submittals will be reviewed and returned with Architect's mark indicating selection and other action.
 4. Except for Samples illustrating assembly details, workmanship, fabrication techniques, connections, operation, and similar characteristics, submit three sets. One will be returned marked with action taken.
 5. Samples, as accepted and returned by Architect, will be used for quality comparisons throughout course of construction.
 - a. Unless noncompliance with Contract Documents is observed, submittal may serve as final submittal.
 - b. Sample sets may be used to obtain final acceptance of construction associated with each set.

1.5 INFORMATIONAL SUBMITTALS

- A. Informational submittals are design data, test reports, certificates, manufacturer's instructions, manufacturer's field reports, and other documentary data affirming quality of products and installations. Submit five copies of each required submittal unless otherwise required. Architect will return three copies marked with action taken and with corrections or modifications required. [or] Submit electronic files: PDF. Architect will return a PDF copy marked with action taken and with corrections or modifications required.
1. **Certificates:** Describe certificates intended to document affirmations by Contractor or others that the work is in accordance with the Contract Documents, but do not repeat provisions of Parts 2 or 3.
 2. **Delegated Design Submittals / Design Data:** Describe submittals intended to demonstrate design work prepared by Contractor's licensed professionals.
 3. **Test And Evaluation Reports:** Describe submittal of test reports or evaluation service reports intended to document required tests.
 4. **Manufacturer Instructions:** Describe submittals intended to document manufacturer instructions.
 5. **Source Quality Control Submittals:** Describe submittal of source quality control documentation.
 6. **Field Quality Control Submittals:** Describe submittal of field quality control documentation.
 7. **Manufacturer Reports:** Describe submittal of Manufacturer reports as documentation of manufacturer activities.
 8. **Special Procedure Submittals:** Describe submittals intended to document special procedures. An example would be construction staging or phasing for remodeling an existing facility while keeping it in operation. While the Contractor would normally be responsible for managing this, submittal of his plan as documentation could be specified.
 9. **Qualification Statements:** Describe submittals intended to document qualifications of entities employed by Contractor.

1.6 CLOSEOUT SUBMITTALS

- A. This title groups submittals that occur during project closeout. Coordinate with section 01 7800 Closeout Submittals.
1. **Maintenance Contracts:** Describe submittal of the maintenance contract.
 2. **Operations & Maintenance Data:** Describe submittal of operation and maintenance data necessary for products of the Section.
 3. **Bonds:** Describe submittals of bonds specific to this Section.
 4. **Warranty Documentation:** Describe submittal of final executed warranty document.
 5. **Record Documentation:** Describe submittal of record documentation specific to this Section.
 6. **Sustainable (LEED) Design Closeout Documentation:** Describe submittal intended to document sustainable design requirements that cannot be submitted until closing or later.
 7. **Software:** Describe submittal of extra copy operating system and other utility software necessary to operate and maintain software during life of product.

1.7 MAINTENANCE MATERIAL SUBMITTALS

- A. This title groups maintenance material submittals required by Section.
1. **Spare Parts:** Describe spare parts necessary for Owner's use in facility operation and maintenance. 'Parts' are generally understood to be items such as filters, motor drive belts, lamps, and other similar manufactured items that require only simple replacement.

2. **Extra Stock Materials:** Describe extra stock materials to be provided for Owner's use in facility operation and maintenance. Extra stock materials are generally understood to be items such as ceiling tiles, flooring, paint etc.
3. **Tools and Software:**
 - a. Describe tools to be provided for Owner's use in facility operation and maintenance. Tools are generally understood to be wrenches, gauges, circuit setters, etc, required for proper operation or maintenance of a system.
 - b. If necessary, describe submittal of an extra copy of operating system and other utility software necessary to operate and maintain the software during expected life of product.

PART 2 - PRODUCTS Not Used

PART 3 - EXECUTION Not Used

END OF SECTION

SECTION 01 3500**SPECIAL PROCEDURES****PART 1 - GENERAL****SUMMARY**

- A. Section Includes But is Not Limited To:
 - 1. Administrative and procedural requirements for Special Procedures.

ACCELERATION OF WORK

- B. Complete The Work in accordance with Construction Schedule. If Contractor falls behind schedule, take such actions as are necessary, at no additional expense to Owner, to bring progress of The Work back in accordance with schedule.
- C. Owner may request proposal for completion of The Work at date earlier than expiration of Contract Time. Promptly provide requested proposal showing cost of such acceleration of The Work. Consult with Owner and Architect regarding possible options to decrease cost of such acceleration. If Owner determines to order acceleration of The Work, change in Contract Sum and Contract Time resulting from acceleration will be included in a Change Order.

OWNER'S SAFETY REQUIREMENTS

- D. Personal Protection:
 - 1. Contractor shall ensure:
 - a. Positive means of fall protection, such as guardrails system, safety net system, personal fall arrest system, etc, is provided to employees whenever exposed to a fall six feet or more above a lower level.
 - b. Personnel working on Project shall wear hard hats and safety glasses as required by regulation and hazard.
 - c. Personnel working on Project shall wear long or short sleeve shirts, long pants, and hard-toed boots or other sturdy shoes appropriate to type and phase of work being performed.
- E. Contractor Tools And Equipment:
 - 1. Contractor shall ensure:
 - a. Tools and equipment are in good working condition, well maintained, and have necessary guards in place.
 - b. Ground Fault Circuit Interrupters (GFCI) is utilized on power cords and tools.
 - c. Scaffolding and man lifts are in good working condition, erected and maintained as required by governmental regulations.
 - d. Ladders are in good condition, well maintained, used as specified by Manufacturer, and secured as required.
- F. Miscellaneous:
 - 1. Contractor shall ensure:
 - a. Protection is provided on protruding rebar and other similar objects.
 - b. General Contractor Superintendent has completed the OSHA 10-hour construction outreach training course or equivalent.
 - c. Implementation and administration of safety program on Project.
 - d. Material Safety Data Sheets (MSDS) are provided for substances or materials for which an MSDS is required by governmental regulations before bringing on site.

- e. Consistent safety training is provided to employees on Project.
2. Report accidents involving injury to employees on Project that require off-site medical treatment to Owner's designated representative.

PART 2 - PRODUCTS Not Used

PART 3 - EXECUTION Not Used

END OF SECTION

SECTION 01 4100
REGULATORY REQUIREMENTS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes But is Not Limited To:
 - 1. Administrative and procedural requirements for Regulatory Requirements.

1.2 ASBESTOS

- A. Contract Documents for this Project have been prepared in accordance with generally accepted professional architectural and engineering practices. Accordingly, no asbestos or products containing asbestos have been knowingly specified for this Project. Notify Architect immediately for instructions if materials containing asbestos are brought to site for inclusion in the Work.
- B. At Architect's direction and with Owner's approval, a certified asbestos inspector will collect samples and an independent testing laboratory will perform testing procedures on suspect materials.
- C. Certify that based upon best knowledge, information, inspection, and belief no building materials containing asbestos were used in construction of Project. Submit certification on form provided by Owner.

PART 2 - PRODUCTS Not Used

PART 3 - EXECUTION Not Used

END OF SECTION

SECTION 01 4301**QUALITY ASSURANCE - QUALIFICATIONS****PART 1 - GENERAL****1.1 SUMMARY**

A. Related Documents:

1. Drawings and general provisions of the Contract, including General Conditions and Division 01 Specification Sections, apply to this Section.

1.2 REFERENCES

A. Definitions:

1. Accreditation: Process in which **certification** of competency, authority, or credibility is presented. Verify that laboratories have an appropriate quality management system and can properly perform certain test methods (e.g., ANSI, ASTM, and ISO test methods) and calibration parameters according to their scopes of accreditation.
2. Quality-Assurance Services: Activities, actions, and procedures performed before and during execution of the Work to guard against defects and deficiencies and substantiate that proposed construction will comply with requirements.
3. Testing Agency: Entity engaged to perform specific tests, inspections, or both.
4. Testing Agency Laboratory: Agency or firm qualified to perform field and laboratory tests to determine characteristics and quality of materials and workmanship.

B. Reference Standards:

1. ASTM International:
 - a. ASTM E329-09, 'Standard Specification for Agencies Engaged in Construction Inspection and/or Testing.'

1.3 QUALIFICATIONS

A. Qualifications: Qualifications paragraphs in this Article establish minimum qualification levels required; individual Specification Sections specify additional requirements:

1. Fabricator / Supplier / Installer Qualifications: Firm experienced in producing products similar to those indicated for this Project and with record of successful in-service performance, as well as sufficient production capacity to produce required units.
 - a. Where heading '*VMR (Value Managed Relationship) Suppliers / Installers*' is used to identify list of specified suppliers or installers, Owner has established relationships that extend beyond requirements of this Project. No other suppliers / installers will be acceptable. Follow specified procedures to preserve relationships between Owner and specified suppliers / installers and advantages that accrue to Owner from those relationships.
 - b. Where heading '*Acceptable or Approved Suppliers / Installers / Fabricators*' is used to identify list of specified suppliers / installers / fabricators, use only one of listed suppliers / installers / fabricators. No others will be acceptable.
 - c. Acceptable / Approved Suppliers / Installers:
 - 1) Following areas of the Work have restrictions on sub-bids which may be accepted by Contractor:
 - a) Electrical, Division 26: Installers approved by Architect before bidding.

- b) HVAC, Division 23: Installers approved by Architect before bidding.
 - 2) Except where above list indicates 'No other accepted,' other installers may apply for approval to participate in bidding for this Project by complying with submitting following information 10 days minimum before bid date:
 - a) Cover letter requesting opportunity to bid Project.
 - b) Evidence that licensing requirements required by AHJ have been complied with and other requirements of relevant portions of bidding documents have been met.
 - c) List of five recently completed projects of similar size and scope of this Project with following information appended for each project:
 - (1) Project name, address, and date of installation.
 - (2) Names, addresses, and other contact information of General Contractor, Architect, and Owner.
 - (3) Three letter of recommendation from satisfied clients.
 - 3) Architect will review submittals which have been properly submitted and identify approved installers by Addendum.
2. Factory-Authorized Service Representative Qualifications:
 - a. Authorized representative of manufacturer who is trained and approved by manufacturer to inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.
3. Installer Qualifications:
 - a. Firm or individual experienced in installing, erecting, or assembling work similar in material, design, and extent to that indicated for this Project, whose work has resulted in construction with a record of successful in-service performance.
4. Manufacturer Qualifications:
 - a. Firm experienced in manufacturing products or systems similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.
5. Manufacturer's Field Services Qualifications:
 - a. Experienced authorized representative of manufacturer to inspect field-assembled components and equipment installation, including service connections.
6. Professional Engineer Qualifications:
 - a. Professional engineer who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing engineering services of kind indicated. Engineering services are defined as those performed for installations of system, assembly, or products that are similar to those indicated for this Project in material, design, and extent.
7. Specialists:
 - a. Certain sections of Specifications require that specific construction activities shall be performed by entities who are recognized experts in those operations.
 - b. Specialists shall satisfy qualification requirements indicated and shall be engaged for activities indicated.
 - c. Requirement for specialists shall not supersede building codes and regulations governing the Work.
8. Testing Agency Qualifications:
 - a. Independent Testing Agency with experience and capability to conduct testing and inspecting indicated, as documented according to ASTM E329; and with additional qualifications specified in individual Sections; and where required by authorities having jurisdiction, that is acceptable to authorities.
 - 1) Testing Laboratory:
 - a) AASHTO Materials Reference Laboratory (AMRL) Accreditation Program.
 - b) Cement and Concrete Reference Laboratory (CCRL).
 - c) Nationally Recognized Testing Laboratory (NRTL): Nationally recognized testing laboratory according to 29 CFR 1910.7.
 - d) National Voluntary Laboratory (NVLAP): Testing Agency accredited according to [National Institute of Standards and Technology \(NIST\)](#)

Technology Administration, U. S. Department of Commerce Accreditation Program.

PART 2 - PRODUCTS Not Used

PART 3 - EXECUTION Not Used

END OF SECTION

SECTION 01 6100**COMMON PRODUCT REQUIREMENTS****PART 1 - GENERAL****1.1 SUMMARY**

- A. Section Includes But is Not Limited To:
1. Administrative and procedural requirements for Common Product Requirements.

1.2 GENERAL

- A. Provide products that comply with Contract Documents, that are undamaged, and, unless otherwise indicated, new and unused at time of installation. Provide products complete with accessories, trim, finish, safety guards, and other devices and details needed for complete installation and for intended use and effect.
- B. Except for required labels and operating data, do not attach or imprint manufacturer's or producer's nameplates or trademarks on surfaces of products that will be exposed to view in occupied spaces or on building exterior.
1. Locate required product labels and stamps on concealed surface or, where required for observation after installation, on accessible surface that is not conspicuous.
 2. Provide permanent nameplates on items of service-connected or power-operated equipment. Locate on easily accessible surface that is inconspicuous in occupied spaces. Nameplate will contain following information and other essential operating data:
 - a. Name of product and manufacturer.
 - b. Model and serial number.
 - c. Capacity.
 - d. Speed.
 - e. Ratings.
- C. Where specifications describe a product or assembly by specifying exact characteristics required, with or without use of brand or trade name, provide product or assembly that provides specified characteristics and otherwise complies with Contract requirements.
- D. Where Specifications require compliance with performance requirements, provide products that comply with these requirements and are recommended by manufacturer for application described. General overall performance of product is implied where product is specified for specific application. Manufacturer's recommendations may be contained in published product literature, or by manufacturer's certification of performance.
- E. Where specifications only require compliance with an imposed code, standard, or regulation, select product that complies with standards, codes or regulations specified.
- F. Where Specifications require matching an established Sample, Architect's decision will be final on whether proposed product matches satisfactorily. Where no product available within specified category matches satisfactorily nor complies with other specified requirements, refer to Architect.
- G. Where specified product requirements include phrase ` . . . as selected from manufacturer's standard colors, patterns, textures . . . ' or similar phrase, select product and manufacturer

that comply with other specified requirements. Architect will select color, pattern, and texture from product line selected.

- H. Refer to individual Specification Sections and Allowance provisions in Division 01 for allowances that control product selection, and for procedures required for processing such selections.
- I. Remove and replace products and materials not specified in Contract Documents but installed in the Work with specified products and materials at no additional cost to Owner and for no increase in Contract time.

PART 2 - PRODUCTS Not Used

PART 3 - EXECUTION Not Used

END OF SECTION

SECTION 01 6200**PRODUCT OPTIONS****PART 1 - GENERAL****1.1 SUMMARY**

- A. Section Includes But is Not Limited To:
1. Administrative and procedural requirements for Product Options.

1.2 GENERAL

- A. Product Selection:
1. When option of selecting between two or more products is given, product selected will be compatible with products previously selected, even if previously selected products were also options.
- B. Non-Conforming Work:
1. Non-conforming work as covered in Article 12.3 of General Conditions applies, but is not limited, to use of non-specified products or manufacturers.
- C. Product selection is governed by Contract Documents and governing regulations, not by previous Project experience. Procedures governing product selection include:
1. Substitutions And Equal Products:
 - a. Generally speaking, substitutions for specified products and systems, as defined in the Uniform Commercial Code, are not acceptable. However, equal products may be approved upon compliance with Contract Document requirements.
 - b. Approved Products / Manufacturers / Suppliers / Installers:
 - 1) Category One:
 - a) Owner has established 'Value Managed Relationships' that extend beyond requirements of this Project. No substitutions or equal products will be allowed on this Project.
 - b) Follow specified procedures to preserve relationships between Owner and specified manufacturers / suppliers and advantages that accrue to Owner from those relationships.
 - 2) Category Two:
 - a) Owner has established National Contracts that contain provisions extending beyond requirements of this Project. No substitutions or equal products will be allowed on this Project.
 - b) Follow specified procedures to preserve relationships between Owner and specified manufacturers / suppliers and advantages that accrue to Owner from those relationships.
 - 3) Category Three:
 - a) Specified products are provided to Church Projects under a National Account Program. Use these products to preserve advantages that accrue to Owner from those programs. No substitutions or equal products will be allowed on this Project.
 - 4) Category Four:
 - a) Provide only specified products available from manufacturers listed. No substitutions, private-labeled, or equal products, or mixing of manufacturers' products is allowed on this Project.

- b) In Sections where lists recapitulating Manufacturers previously mentioned in Section are included under heading '*Manufacturers*' or '*Approved Manufacturers*', this is intended as a convenience to Contractor as a listing of contact information only. It is not intended that all manufacturers in list may provide products where specific products and manufacturers are listed elsewhere in Section.
- c. Acceptable Products / Manufacturers / Suppliers / Installers:
 - 1) Type One: Use specified products / manufacturers unless approval to use other products / manufacturers has been obtained from Architect by Addendum.
 - 2) Type Two: Use specified products / manufacturers unless approval to use other products and manufacturers has been obtained from Architect in writing before installing or applying unlisted or private-labeled products.
 - 3) Use 'Equal Product Approval Request Form' to request approval of equal products, manufacturers, or suppliers before bidding or before installation, as noted in individual Sections.
- d. Quality / Performance Standard Products / Manufacturers:
 - 1) Class One: Use specified product / manufacturer or equal product from specified manufacturers only.
 - 2) Class Two: Use specified product / manufacturer or equal product from any manufacturer.
 - 3) Products / manufacturers used shall conform to Contract Document requirements.

PART 2 - PRODUCTS Not Used

PART 3 - EXECUTION Not Used

END OF SECTION

SECTION 01 6600**PRODUCT DELIVERY, STORAGE, AND HANDLING REQUIREMENTS****PART 1 - GENERAL****1.1 SUMMARY**

- A. Section Includes But is Not Limited To:
 - 1. Administrative and procedural requirements for Product Delivery, Storage, and Handling Requirements.

1.2 GENERAL

- A. Deliver, store, and handle products according to manufacturer's recommendations, using means and methods that will prevent damage, deterioration, and loss, including theft.

1.3 DELIVERY AND ACCEPTANCE REQUIREMENTS

- A. Schedule delivery to reduce long-term storage at site and to prevent overcrowding of construction spaces.
- B. Coordinate delivery with installation time to ensure minimum holding time for items that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft, and other losses.
- C. Deliver products to site in manufacturer's original sealed container or other packaging system, complete with labels and instructions for handling, storing, unpacking, protecting, and installing.
- D. Inspect products upon delivery to ensure compliance with Contract Documents, and to ensure that products are undamaged and properly protected.

1.4 STORAGE AND HANDLING REQUIREMENTS

- A. Store products at site in manner that will simplify inspection and measurement of quantity or counting of units.
- B. Store heavy materials away from Project structure so supporting construction will not be endangered.
- C. Store products subject to damage by elements above ground, under cover in weathertight enclosure, with ventilation adequate to prevent condensation. Maintain temperature and humidity within range required by manufacturer's instructions.

PART 2 - PRODUCTS Not Used**PART 3 - EXECUTION Not Used****END OF SECTION**

SECTION 01 7300**EXECUTION****PART 1 - GENERAL****1.1 SUMMARY**

- A. Section Includes But is Not Limited To:
1. Administrative and procedural requirements for governing Execution of the Work.

1.2 COMMON INSTALLATION PROVISIONS

- A. Manufacturer's Instructions: Comply with Manufacturer's installation instructions and recommendations to extent that those instructions and recommendations are more explicit or stringent than requirements contained in Contract Documents. Notify Architect of conflicts between Manufacturer's installation instructions and Contract Document requirements.
- B. Provide attachment and connection devices and methods necessary for securing Work. Secure work true to line and level. Anchor each product securely in place, accurately located, and aligned with other Work. Allow for expansion and building movement.
- C. Visual Effects: Provide uniform joint widths in exposed work. Arrange joints in exposed work to obtain best visual effect. Refer questionable choices to Architect for final decision.
- D. Install each component during weather conditions and Project status that will ensure best possible results. Isolate each part of completed construction from incompatible material as necessary to prevent deterioration.
- E. Coordinate temporary enclosures with required inspections and tests, to reduce necessity of uncovering completed construction for that purpose.
- F. Mounting Heights: Where mounting heights are not shown, install individual components at standard mounting heights recognized within the industry or local codes for that application. Refer questionable mounting height decisions to Architect for final decision.

PART 2 - PRODUCTS Not Used**PART 3 - EXECUTION Not Used****END OF SECTION**

SECTION 01 7400**CLEANING AND WASTE MANAGEMENT****PART 1 - SUMMARY****1.1 GENERAL**

- A. Includes But Not Limited To:
 - 1. Administrative and procedural requirements for Cleaning and Waste Management as described in Contract Documents.
- B. Related Requirements:
 - 1. In addition to standards described in this section, comply with all requirements for cleaning-up as described in various other Sections of these Specifications.

1.2 REFERENCES

- A. Definitions:
 - 1. Asphalt Pavement, Brick, and Concrete (ABC) Rubble: Rubble that contains only weathered (cured) asphalt pavement, clay bricks and attached mortar normally used in construction, or concrete that may contain rebar. The rubble shall not be mixed with, or contaminated by, another waster or debris.
 - 2. Construction Waste: Building and site improvement materials and other solid waste resulting from construction, remodeling, renovation, or repair operations. Construction waste includes packaging.
 - 3. Demolition Waste: Building and site improvement materials resulting from demolition or selective demolition operations.
 - 4. Disposal: Removal off-site of demolition and construction waste and subsequent sale, recycling, reuse, or deposit in landfill or incinerator acceptable to authorities having jurisdiction.
 - 5. Recycle: Recovery of demolition or construction waste for subsequent processing in preparation for reuse.
 - 6. Salvage: Recovery of demolition or construction waste and subsequent sale or reuse in another facility.
 - 7. Salvage and Reuse: Recovery of demolition or construction waste and subsequent incorporation into the Work.

PART 2 - PRODUCTS Not Used**PART 3 - EXECUTION****3.1 PROGRESS CLEANING**

- A. Comply with regulations of authorities having jurisdiction and safety standards for cleaning.
- B. Keep premises broom clean during progress of the Work.

- C. Keep site and adjoining streets reasonably clean. If necessary, sprinkle rubbish and debris with water to suppress dust.
- D. During handling and installation, protect construction in progress and adjoining materials in place. Apply protective covering where required to ensure protection from soiling, damage, or deterioration until Substantial Completion.
- E. Clean and maintain completed construction as frequently as necessary throughout construction period. Adjust and lubricate operable components to ensure ability to operate without damaging effects.
- F. If Organ Chamber is included, clean debris and leave dust free before organ speakers are installed.
- G. Supervise construction activities to ensure that no part of construction completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during construction period.
- H. Before and during application of painting materials, clear area where such work is in progress of debris, rubbish, and building materials that may cause dust. Sweep floors and vacuum as required and take all possible steps to keep area dust free.
- I. Clean exposed surfaces and protect as necessary to avoid damage and deterioration.
- J. Place extra materials of value remaining after completion of associated work have become Owner's property as directed by Owner or Architect.
- K. Construction Waste Management And Disposal:
 - 1. Remove waste materials and rubbish caused by employees, Subcontractors, and contractors under separate contract with Owner and dispose of legally. Remove unsuitable or damaged materials and debris from building and from property.
 - a. Provide adequate waste receptacles and dispose of materials when full.
 - b. Properly store volatile waste and remove daily.
 - c. Do not deposit waste into storm drains, sanitary sewers, streams, or waterways. Do not discharge volatile, harmful, or dangerous materials into drainage systems.
 - 2. Do not burn waste materials or build fires on site. Do not bury debris or excess materials on Owner's property.

3.2 FINAL CLEANING

- A. Immediately before Substantial Completion, thoroughly clean building and area where The Work was performed. Remove all rubbish from under and about building, landscaped areas and parking lot and leave building and Project Site ready for occupancy by Owner.
- B. Comply with individual manufacturer's cleaning instructions.
- C. Clean each surface or unit to condition expected in normal, commercial building cleaning and maintenance program, including but not limited to:
 - 1. Interior Cleaning:
 - a. Clean inside glazing, exercising care not to scratch glass.
 - b. Remove marks, stains, fingerprints and dirt.
 - c. Clean and polish woodwork and finish hardware.
 - d. Remove labels that are not permanent labels.
 - e. Clean plumbing fixtures and tile work. Remove spots, soil or paint.

- f. Clean surfaces of mechanical and electrical equipment. Remove excess lubrication and other substances. Clean light fixtures and lamps.
 - g. Clean other fixtures and equipment and remove stains, paint, dirt, and dust.
 - h. Remove temporary floor protection and clean floors.
2. Exterior Cleaning:
- a. Clean outside glazing, exercising care not to scratch glass.
 - b. Remove marks, stains, and dirt from exterior surfaces.
 - c. Clean and polish finish hardware.
 - d. Remove temporary protection systems.
 - e. Clean dirt, mud, and other foreign material from paving, sidewalks, and gutters.
 - f. Clean drop inlets, through-curb drains, and other drainage structures.
 - g. Remove trash, debris, and foreign material from landscaped areas.

END OF SECTION

SECTION 01 7700
CLOSEOUT PROCEDURES

PART 1 - GENERAL**1.1 SUMMARY**

- A. Section Includes But is Not Limited To:
1. Administrative and procedural requirements for Closeout Procedures.

1.2 GENERAL

- A. Schedule closeout procedures in the four weeks before expiration of Contract Time. Weeks will be marked by three Architect's weekly visits before Final Closeout Review, Final Closeout Review, and expiration of Contract Time.
- B. Date of Substantial Completion shall fall within week between Architect's final weekly visit and Final Closeout Review. Date of Substantial Completion shall not occur until Construction Schedule shows completion of construction work, unless agreed to by Architect and included on Certificate of Substantial Completion.

1.3 PRELIMINARY CLOSEOUT REVIEWS

- A. Confirm with Architect when Substantial Completion of The Work will be achieved.
1. Final three Architect's weekly visits will serve as Preliminary Closeout Reviews to determine if Final Closeout Review will occur as scheduled and that Substantial Completion of the Work will be achieved by that date.
 2. By final weekly Architect visit, notify Owner and Architect of date when Substantial Completion of The Work will be achieved.
- B. Arrange with Architect date for Final Closeout Review to confirm Substantial Completion.

1.4 CLOSEOUT REQUIREMENTS

- A. Before Final Closeout Review:
1. Deliver Closeout Submittals to Architect.
 2. Deliver tools, spare parts, extra stock, and similar items as required by the Contract Documents.
 3. Complete start-up testing of systems, and instruction of Owner's maintenance personnel as required by the Contract Documents.
 4. Discontinue or change over and remove temporary facilities from site, along with construction tools, mock-ups, and similar elements.
 5. Complete final cleaning requirements.

1.5 FINAL CLOSEOUT REVIEW

- A. Participate in Final Closeout Review.

- B. When Owner and Architect have confirmed that Contractor has achieved Substantial Completion of The Work, Owner, Architect, and Contractor will execute Certificate of Substantial Completion that contains:
 - 1. Date of Substantial Completion.
 - 2. Punch List of Work not yet accepted.
 - 3. Amount to be withheld for completion of Punch List work.
 - 4. Time period for completion of Punch List work.
 - 5. Amount of liquidated damages set forth in Supplementary Conditions to be assessed if Contractor fails to complete Punch List work within time set forth in Certificate.

- C. Final Acceptance Conference:
 - 1. Notify Architect in writing when work on Punch List has been completed.
 - 2. Arrange with Architect date and time for Final Acceptance Conference.
 - 3. When Owner and Architect have confirmed that Contractor has completed Punch List work, Architect will issue letter to Owner authorizing final payment.

PART 2 - PRODUCTS Not Used

PART 3 - EXECUTION Not Used

END OF SECTION

SECTION 01 7800
CLOSEOUT SUBMITTALS

PART 1 - GENERAL**1.1 SUMMARY**

- A. Section Includes But is Not Limited To:
 - 1. Administrative and procedural requirements for Closeout Submittals.

1.2 GENERAL

- A. Workmanship bonds, final certifications, equipment check-out sheets, and similar documents.
- B. Releases enabling Owner unrestricted use of The Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.
- C. Project photographs, damage or settlement survey, and similar record information required by Contract Documents.

1.3 OPERATIONS AND MAINTENANCE DATA

- A. Operations And Maintenance Manuals that include:
 - 1. Copy of Soils Report.
 - 2. Copy of complete Project Manual including Addenda, Modifications as defined in General Conditions, and other interpretations issued during construction.
 - a. Mark these documents to show variations in actual Work performed in comparison with text of specifications and Modifications. Show substitutions, selection of options, and similar information, particularly on elements that are concealed or cannot otherwise be readily discerned later by direct observation.
 - b. Note related record drawing information and Product Data.
 - 3. Operations and maintenance submittals required by Contract Documents.
 - 4. Certifications required by Contract Documents.
 - 5. Copies of warranties required by Contract Documents.
 - 6. Testing and Inspection Reports required by Contract Documents.

1.4 WARRANTIES

- A. When written guarantees beyond one year after substantial completion are required by Contract Documents, secure such guarantees and warranties properly addressed and signed in favor of Owner. Include these documents in Operations & Maintenance Manuals specified above.
- B. Delivery of guarantees and warranties will not relieve Contractor from obligations assumed under other provisions of Contract Documents.

1.5 PROJECT RECORD DOCUMENTS

- A. Do not use record documents for construction purposes. Protect from deterioration and loss in secure, fire-resistive location. Provide access to record documents for Architect's reference during normal working hours.

- B. Maintain clean, undamaged set of Drawings. Mark set to show actual installation where installation varies from the Work as originally shown. Give particular attention to concealed elements that would be difficult to measure and record at a later date.
 - 1. Mark record sets with red erasable pencil. Use other colors to distinguish between variations in separate categories of the Work.
 - 2. Mark new information that is important to Owner, but was not shown on Drawings.
 - 3. Note related Change Order numbers where applicable.

1.6 SPARE PARTS

- A. Provide items that are indicated in individual Sections.

1.7 EXTRA STOCK MATERIALS

- A. Provide items that are indicated in individual Sections.

PART 2 - PRODUCTS Not Used**PART 3 - EXECUTION Not Used**

END OF SECTION

SECTION 07 8400

FIRESTOPPING

PART 1 - GENERAL

SUMMARY

Includes But Not Limited To:

1. Furnish and install firestopping not involving penetrations as described in Contract Documents.
2. Quality of firestopping materials and systems used for penetrations on Project, including submittal requirements.

Related Sections:

3. Furnishing and installing of penetration firestopping specified under Section installing work penetrating structure.

REFERENCES

American Society For Testing And Materials:

4. ASTM E 814-00, 'Standard Test Method for Fire Tests of Through-Penetration Fire Stops.'

International Conference of Building Officials:

5. ICBO, 'Uniform Building Code (UBC), Volume 1, Administrative, Fire and Life Safety, and Field Inspection Provisions.'

Underwriter's Laboratories / American National Standards Institute:

6. UL / ANSI 1479-2003, 'Standard for Safety for Fire Tests of Through-Penetration Firestops.'
7. Fire Resistance Directory, current edition, contains listing of approved Penetration Firestop Systems.

DEFINITIONS

Penetration Firestop System: An assemblage of specific materials or products that are designed, tested, and fire resistive in accordance with UBC Standard 7-5 to resist passage of fire through penetrations for prescribed period of time.

SUBMITTALS

Shop Drawings:

8. Show each type of Penetration Firestop System to be used on Project with design approval reference number.
9. Identify locations where each type of Penetration Firestop System is to be installed.

QUALITY ASSURANCE

Regulatory Requirements:

10. Each Penetration Firestop System shall be UL / ULC listed for that type of penetration occurring on Project.
11. Ratings shall be in accordance with ASTM E 814, UL 147, or UBC Standard No 43-6, as acceptable to local code authority.

PART 2 - PRODUCTS

COMPONENTS

Sealant, packing material, or collar system required by Firestop Manufacturer for Firestop Penetration System to comply with listed design.

Type Two Acceptable Manufacturers:

1. Members of International Firestop Council www.firestop.org.
2. Equal as approved by Architect before installation. See Section 01 6200.

PART 3 - EXECUTION: Not Used

END OF SECTION

SECTION 07 9213**ELASTOMERIC JOINT SEALANTS****PART 1 - GENERAL****SUMMARY**

Includes But Not Limited To:

1. Furnish and install sealants not specified to be furnished and installed under other Sections.
2. Quality of sealants to be used on Project not specified elsewhere, including submittal, material, and installation requirements.

Related Sections:

3. Furnishing and installing of sealants is specified in Sections specifying work to receive new sealants.
4. Section 07 2419: Sealants for EIF Systems.

SUBMITTALS

Product Data:

5. Manufacturer's literature and installation recommendations for each Product.
6. Schedule showing joints requiring sealants. Show also backing and primer to be used.

Quality Assurance / Control: Certificate from Manufacturer indicating date of manufacture.

DELIVERY, STORAGE, AND HANDLING

Handle to prevent inclusion of foreign matter, damage by water, or breakage.

Deliver and keep in original containers until ready for use.

Do not use damaged or deteriorated materials.

Store in a cool place, but never under 40 deg F 4 deg C.

PART 2 - PRODUCTS**MATERIALS**

Sealants:

1. Sealants provided shall meet Manufacturer's shelf-life requirements.
2. Exterior Building Elements:
 - a. Joints and cracks around windows.
 - b. Aluminum entrance perimeters and thresholds.
 - c. Door frames.
 - d. Columns.
 - e. Louvers.
 - f. Wall penetrations.
 - g. Connections.
 - h. Parapet caps.

- i. Other joints necessary to seal off building from outside air and moisture.
- j. Category Four Approved Products. See Section 01 6200 for definitions of Categories.
 - 1) Dow Corning:
 - a) Primer: 1200.
 - b) Sealant: 791.
 - 2) GE Sealants & Adhesives:
 - a) Primer: SS4044.
 - b) Sealant: Silpruf SCS 2000.
 - 3) Tremco:
 - a) Primer:
 - (1) Metal: No. 20.
 - (2) Other: No. 23.
 - b) Sealant: Spectrum 1.
- 3. Exterior Sheet Metal And Miscellaneous:
 - a. Penetrations in soffits and fascias.
 - b. Roof vents and flues.
 - c. Flashings.
 - d. Gutters.
 - e. Category Four Approved Products. See Section 01 6200 for definitions of Categories.
 - 1) 791 or 790 by Dow Corning.
 - 2) Sikaflex 15LM by Sika Corp.
 - 3) Tremsil 600 by Tremco.
- 4. Exterior Concrete:
 - a. Category Four Approved Products. See Section 01 6200 for definitions of Categories.
 - 1) Joints between building foundations and exterior site concrete:
 - a) Dow Corning:
 - (1) Primer: 1200.
 - (2) Sealant: 790.
 - b) GE Sealants & Adhesives:
 - (1) Primer: SS4044.
 - (2) Sealant: Silpruf SCS 2000.
 - 2) Expansion joints in retaining walls:
 - a) Dow Corning:
 - (1) Primer: 1200.
 - (2) Sealant: 790.
 - b) GE Sealants & Adhesives:
 - (1) Primer: SS4044.
 - (2) Sealant: Silpruf SCS 2000.
 - 3) Expansion joints in Portland cement concrete driveways and parking lots:
 - a) Dow Corning: 888 (NS). 890 (SL) may be used on non-sloping areas.
- 5. Interior:
 - a. Inside jambs and heads of exterior door frames.
 - b. Inside perimeters of windows.
 - c. Miscellaneous gaps between substrates.
 - d. Category Four Approved Product. See Section 01 6200 for definitions of Categories.
 - 1) Tub, Tile, And Ceramic Silicone Sealant by Dow Corning.
 - 2) Acrylseal by GE Sealants & Adhesives.
 - 3) Latisil Sealant by Laticrete.
 - 4) Pro-Select Kitchen And Bath Silicone Sealant by Sherwin Williams.
 - 5) Tremsil 200 by Tremco.
- 6. Interior Joints Formed By:
 - a. Countertops and backsplash to wall.

- b. Sinks and lavatories to countertops.
- c. Category Four Approved Products. See Section 01 6200 for definitions of Categories.
 - 1) Tub, Tile, And Ceramic Silicone Sealant by Dow Corning.
 - 2) Acrylseal by GE Sealants & Adhesives.
 - 3) Laticrete Sealant by Laticrete.
 - 4) Pro-Select Kitchen And Bath Silicone Sealant by Sherwin Williams.
 - 5) Tremsil 200 by Tremco.
- 7. Color: As selected by Architect from Manufacturer's standard colors.

Backing: Flexible closed cell, non-gassing polyurethane or polyolefin rod or bond breaker tape as recommended by Sealant Manufacturer for joints being sealed.

MANUFACTURERS

Contact Information:

- 8. Dow Corning Corp, Midland, MI www.dowcorning.com.
- 9. Laticrete International Inc, Bethany, CT www.laticrete.com.
- 10. GE Sealants & Adhesives, Huntersville, NC www.gesealants.com.
- 11. Sika Corporation, Lyndhurst, NJ www.sikaconstruction.com.
- 12. Sherwin-Williams, Cleveland, OH www.sherwin-williams.com.
- 13. Tremco, Cleveland, OH www.tremcosealants.com.

PART 3 - EXECUTION

PREPARATION

Surfaces shall be clean, dry, and free of dust, oil, grease, dew, or frost.

Apply primer, if required.

Joint Backing:

- 1. Rod for open joints shall be at least 1-1/2 times width of open joint and of thickness to give solid backing. Backing shall fill up joint so depth of sealant bite is no more than **3/8 inch 10 mm** deep.
- 2. Apply bond-breaker tape in shallow joints as recommended by Sealant Manufacturer.

APPLICATION

Apply sealant with hand-calking gun with nozzle of proper size to fit joints. Use sufficient pressure to insure full contact to both sides of joint to full depth of joint. Apply sealants in vertical joints from bottom to top.

Tool joints immediately after application of sealant if required to achieve full bedding to substrate or to achieve smooth sealant surface. Tool joints in opposite direction from application direction, i.e., in vertical joints, from the top down. Do not 'wet tool' sealants.

Depth of sealant bite shall be **1/4 inch 6 mm** minimum and **1/2 inch 13 mm** maximum, but never more than one half or less than one fourth joint width.

Do not apply calking at temperatures below **40 deg F 4 deg C**.

Calk gaps between painted or coated substrates and unfinished or pre-finished substrates. Calk gaps larger than **3/16 inch 9 mm** between painted or coated substrates.

CLEANING

Clean adjacent materials, which have been soiled, immediately (before setting) as recommended by Manufacturer.

END OF SECTION

**DIVISION 23: HEATING, VENTILATING, AND
AIR-CONDITIONING**

23 0000 HEATING, VENTILATING, AND AIR-CONDITIONING

- 23 0501 Common HVAC Requirements
- 23 0553 Identification for HVAC Piping and Equipment
- 23 0933 Electric and Electronic Control System for HVAC

END OF TABLE OF CONTENTS

SECTION 23 0501**COMMON HVAC REQUIREMENTS****PART 1 - GENERAL****1.1 SUMMARY**

- A. Includes But Not Limited To:
 - 1. Common requirements and procedures for HVAC systems.
 - 2. Responsibility for proper operation of electrically powered equipment furnished under this Division.
 - 3. Furnish and install sealants relating to installation of systems installed under this Division.
 - 4. Furnish and install Firestop Penetration Systems for HVAC system penetrations as described in Contract Documents.

- B. Products Furnished But Not Installed Under This Section:
 - 1. Sleeves, inserts, and equipment for mechanical systems installed under other Sections.

- C. Related Requirements:
 - 1.
 - 2. Section 07 8400: Quality of Penetration Firestop Systems to be used on Project and submittal requirements.
 - 3. Section 07 9213: Quality of sealants used at building exterior.
 - 4. Section 07 9219: Quality of acoustical sealants.
 - 5. Sections Under 09 9000 Heading: Painting of mechanical items requiring field painting.
 - 6. Section 26 2913: Magnetic starters and thermal protective devices (heaters) not factory mounted integral part of mechanical equipment.
 - 7. Slots and openings through floors, walls, ceilings, and roofs provided under other Divisions in their respective materials.

1.2 SUBMITTALS

- A. Action Submittals:
 - 1. Product Data:
 - a. Manufacturer's catalog data for each manufactured item.
 - 1) Provide section in submittal for each type of item of equipment. Include Manufacturer's catalog data of each manufactured item and enough information to show compliance with Contract Document requirements. Literature shall show capacities and size of equipment used and be marked indicating each specific item with applicable data underlined.
 - 2) Include name, address, and phone number of each supplier.
 - 2. Shop Drawings:
 - a. Schematic control diagrams for each separate fan system, heating system, control panel, etc. Each diagram shall show locations of all control and operational components and devices. Mark correct operating settings for each control device on these diagrams.
 - b. Diagram for electrical control system showing wiring of related electrical control items such as firestats, fuses, interlocks, electrical switches, and relays. Include drawings showing electrical power requirements and connection locations.

- c. Drawing of each temperature control panel identifying components in panels and their function.
 - d. Other shop drawings required by Division 23 trade Sections.
- B. Informational Submittals:
- 1. Sustainable Design Submittals:
 - a. See Section 01 8113 for Sustainable Design Requirements for this Project. See individual Specification Sections in Division 22 for Submittals required.
 - 2. Qualification Statement:
 - a. HVAC Firm:
 - 1) Provide Qualification documentation if requested by Architect or Owner.
 - b. Installer:
 - 1) Provide Qualification documentation if requested by Architect or Owner.
- C. Closeout Submittals:
- 1. Include following in Operations And Maintenance Manual specified in Section 01 7800:
 - a. Operations and Maintenance Data (Modify and add to requirements of Section 01 7800):
 - 1) At beginning of HVAC section of Operations And Maintenance Manual, provide master index showing items included.
 - a) Provide name, address, and phone number of Mechanical Engineer and Temperature Control subcontractors.
 - b) Identify maintenance instructions by using same equipment identification used in Contract Drawings. Maintenance instructions shall include:
 - (1) List of HVAC equipment used indicating name, model, serial number, and nameplate data of each item together with number and name associated with each system item.
 - (2) Manufacturer's maintenance instructions for each piece of HVAC equipment installed in Project. Instructions shall include name of vendor, installation instructions, parts numbers and lists, operation instructions of equipment, and maintenance and lubrication instructions.
 - (3) Summary list of mechanical equipment requiring lubrication showing name of equipment, location, and type and frequency of lubrication.
 - (4) Manual for Honeywell Prestige thermostat published by Honeywell.
 - c) Provide operating instructions to include:
 - (1) General description of each HVAC system.
 - (2) Step by step procedure to follow in putting each piece of HVAC equipment into operation.
 - (3) Provide diagrams for electrical control system showing wiring of items such as smoke detectors, fuses, interlocks, electrical switches, and relays.
 - b. Warranty Documentation:
 - 1) Include copies of warranties required in individual Sections of Division 23.
 - c. Record Documentation:
 - 1) Manufacturers documentation:
 - a) Copies of approved shop drawings.

1.3 QUALITY ASSURANCE

- A. Regulatory Agency Sustainability Approvals:
- 1. Perform work in accordance with applicable provisions of Gas Ordinances applicable to Project. Provide materials and labor necessary to comply with rules, regulations, and ordinances.

2. In case of differences between building codes, laws, local ordinances, utility company regulations, and Contract Documents, the most stringent shall govern. Notify Architect in writing of such differences before performing work affected by such differences.
 3. Sustainable Design Compliance:
 - a. Submit all Sustainable Design Requirements to comply with Section 01 8113 for information needed by the Design Professional to demonstrate that particular credits have been achieved. In particular, credits that depend on knowing the cost and quantity of certain types of products cannot be achieved without obtaining that information from the Contractor. These include renewable content, locally sourced new products, and reused products. In addition, a form is provided for each installer to certify that they have not used adhesives, sealants, and for suppliers and installers to certify they have not used composite wood with prohibited VOC content.
 4. Identification:
 - a. Motor and equipment name plates as well as applicable UL / ULC and AGA / CGA labels shall be in place when Project is turned over to Owner.
- B. Qualifications: Requirements of Section 01 4301 applies, but not limited to following:
1. Company:
 - a. Company specializing in performing work of this section.
 - 1) Minimum five (5) years experience in HVAC installations.
 - 2) Minimum five (5) satisfactorily completed installations in past three (3) years of projects similar in size, scope, and complexity required for this project before bidding.
 - b. Upon request, submit documentation.
 2. Installer:
 - a. Licensed for area of Project.
 - b. Designate one (1) individual as project foremen who shall be on site at all times during installation and experienced with installation procedures required for this project.
 - c. Upon request, submit documentation.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. Delivery And Acceptance Requirements:
1. Accept valves on site in shipping containers with labeling in place.
- B. Storage And Handling Requirements:
1. In addition to requirements specified in Division 01:
 - a. Stored material shall be readily accessible for inspection by Architect until installed.
 - b. Store items subject to moisture damage, such as controls, in dry, heated spaces.
 - c. Provide temporary protective coating on cast iron and steel valves.
 - d. Provide temporary end caps and closures on piping and fittings. Maintain in place until installation.
 2. Protect bearings during installation. Thoroughly grease steel shafts to prevent corrosion.

1.5 WARRANTY

- A. Manufacturer Warranty:
1. Provide certificates of warranty for each piece of equipment made out in favor of Owner. Clearly record 'start-up' date of each piece of equipment on certificate.
- B. Special Warranty:

1. Guarantee HVAC systems to be free from noise in operation that may develop from failure to construct system in accordance with Contract Documents.
2. If HVAC sub-contractor with offices located more than 150 miles (240 km) from Project site is used, provide service / warranty work agreement for warranty period with local HVAC sub-contractor approved by Architect. Include copy of service / warranty agreement in warranty section of Operation And Maintenance Manual.

PART 2 - PRODUCTS

2.1 COMPONENTS

- A. Components shall bear Manufacturer's name and trade name. Equipment and materials of same general type shall be of same make throughout work to provide uniform appearance, operation, and maintenance.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Drawings:
 1. HVAC Drawings show general arrangement of piping, ductwork, equipment, etc. Follow as closely as actual building construction and work of other trades will permit.
 2. Consider Architectural and Structural Drawings part of this work insofar as these drawings furnish information relating to design and construction of building. These drawings take precedence over HVAC Drawings.
 3. Because of small scale of Drawings, it is not possible to indicate all offsets, fittings, and accessories that may be required. Investigate structural and finish conditions affecting this work and arrange work accordingly, providing such fittings, valves, and accessories required to meet conditions.
- B. Verification Of Conditions:
 1. Examine premises to understand conditions that may affect performance of work of this Division before submitting proposals for this work. Examine adjoining work on which mechanical work is dependent for efficiency and report work that requires correction.
 2. No subsequent allowance for time or money will be considered for any consequence related to failure to examine site conditions.
 3. Ensure that items to be furnished fit space available. Make necessary field measurements to ascertain space requirements including those for connections and furnish and install equipment of size and shape so final installation shall suit true intent and meaning of Contract Documents. If approval is received by Addendum or Change Order to use other than originally specified items, be responsible for specified capacities and for ensuring that items to be furnished will fit space available.
 4. Check that slots and openings provided under other Divisions through floors, walls, ceilings, and roofs are properly located. Perform cutting and patching caused by neglecting to coordinate with Divisions providing slots and openings at no additional cost to Owner.

3.2 PREPARATION

- A. Changes Due To Equipment Selection:

1. Where equipment specified or otherwise approved requires different arrangement or connections from that shown in Contract Documents, submit drawings, if requested by Architect, showing proposed installations.
2. If proposed changes are approved, install equipment to operate properly and in harmony with intent of Contract Documents. Make incidental changes in piping, ductwork, supports, installation, wiring, heaters, panelboards, and as otherwise necessary.
3. Provide any additional motors, valves, controllers, fittings, and other additional equipment required for proper operation of system resulting from selection of equipment.
4. Be responsible for the proper location of roughing-in and connections provided under other Divisions.

3.3 INSTALLATION

- A. Interface With Other Work:
1. Furnish sleeves, inserts, supports, and equipment that are to be installed by others in sufficient time to be incorporated into construction as work proceeds. Locate these items and see they are properly installed.
 2. Electrical: Furnish exact location of electrical connections and complete information on motor controls to installer of electrical system.
- B. Cut carefully to minimize necessity for repairs to previously installed or existing work. Do not cut beams, columns, or trusses.
- C. Penetration Firestops: Install Penetration Firestop System appropriate for penetration at HVAC system penetrations through walls, ceilings, roofs, and top plates of walls.
- D. Sealants:
1. Seal openings through building exterior caused by penetrations of elements of HVAC systems.
 2. Furnish and install acoustical sealant to seal penetrations through acoustically insulated walls and ceilings.

3.4 REPAIR / RESTORATION

- A. Each Section of this Division shall bear expense of cutting, patching, repairing, and replacing of work of other Sections required because of its fault, error, tardiness, or because of damage done by it.
1. Patch and repair walls, floors, ceilings, and roofs with materials of same quality and appearance as adjacent surfaces unless otherwise shown.
 2. Surface finishes shall exactly match existing finishes of same materials.

3.5 FIELD QUALITY CONTROL

- A. Field Tests:
1. Perform tests on HVAC piping systems. Furnish devices required for testing purposes.
- B. Non-Conforming Work:
1. Replace material or workmanship proven defective with sound material at no additional cost to Owner.
 2. Repeat tests on new material, if requested.

3.6 SYSTEM START-UP

- A. Off-Season Start-up:
 - 1. If Substantial Completion inspection occurs during heating season, schedule spring start-up of cooling systems. If inspection occurs during cooling season, schedule autumn start-up for heating systems.
 - 2. Notify Owner seven days minimum before scheduled start-up.
 - 3. Time will be allowed to completely service, test, check, and off-season start systems. During allowed time, train Owner's representatives in operation and maintenance of system.
 - 4. At end of off-season start-up, furnish Owner with letter confirming that above work has been satisfactorily completed.

- B. Preparations that are to be completed before start up and operation include, but are not limited to, following:
 - 1. Dry out electric motors and other equipment to develop and properly maintain constant insulation resistance.
 - 2. Make adjustments to insure that:
 - a. Equipment alignments and clearances are adjusted to allowable tolerances.
 - b. Nuts and bolts and other types of anchors and fasteners are properly and securely fastened.
 - c. Packed, gasketed, and other types of joints are properly made up and are tight and free from leakage.
 - d. Miscellaneous alignings, tightenings, and adjustings are completed so systems are tight and free from leakage and equipment performs as intended.
 - 3. Motors and accessories are completely operable.
 - 4. Inspect and test electrical circuitry, connections, and voltages to be properly connected and free from shorts.
 - 5. Adjust drives for proper alignment and tension.
 - 6. Make certain filters in equipment for moving air are new and of specified type.
 - 7. Properly lubricate and run-in bearings in accordance with Manufacturer's directions and recommendations.

3.7 CLOSEOUT ACTIVITIES

- A. Instruction Of Owner:
 - 1. Instruct building maintenance personnel and Stake Physical Facilities Representative in operation and maintenance of mechanical systems utilizing Operation And Maintenance Manual when so doing:
 - a. Minimum Instruction Periods:
 - 1) Temperature Control: Two (2) hours.
 - b. Conduct instruction periods after Substantial Completion inspection when systems are properly working and before final payment is made. None of these instructional periods shall overlap another.

3.8 PROTECTION

- A. Protect piping systems from entry of foreign materials by temporary covers, completing sections of the work, and isolating parts of completed system. Cap or plug open ends of pipes and equipment to keep dirt and other foreign materials out of system. Do not use plugs of rags, wool, cotton waste, or similar materials.

- B. Do not operate pieces of equipment used for moving supply air without proper air filters installed properly in system.
- C. After start-up, continue necessary lubrication and be responsible for damage to bearings while equipment is being operated up to Substantial Completion.

END OF SECTION

SECTION 23 0553**IDENTIFICATION FOR HVAC PIPING AND EQUIPMENT****PART 1 - GENERAL****1.1 SUMMARY**

- A. Includes But Not Limited To:
 - 1. Furnish and install identification of HVAC equipment and piping as described in Contract Documents.

1.2 SUBMITTALS

- A. Informational Submittals:
 - 1. Sustainable Design Submittals:
 - a. Product Data for Credit EQ 4.1:
 - 1) For adhesives, including printed statement of VOC content.

PART 2 - PRODUCTS**2.1 SYSTEMS****PART 3 - EXECUTION****3.1 APPLICATION**

- A. Labels:
 - 1. Identify following items with specified labels fastened to equipment with screws (unless noted otherwise):
 - a. Thermostats and control panels in mechanical spaces (attach label to wall directly above or below thermostats).
 - 2. Engrave following data from Equipment Schedules on Drawings onto labels:
 - a. Equipment mark.
 - b. Area served.
 - c. Thermostat zone number, when different from equipment mark.
 - d. Panel and breaker from which unit is powered.

END OF SECTION

SECTION 23 0933**ELECTRIC AND ELECTRONIC CONTROL SYSTEM FOR HVAC****PART 1 - GENERAL****1.1 SUMMARY**

- A. Includes But Not Limited To:
 - 1. Furnish and install automatic temperature control system as described in Contract Documents.
 - 2. Furnish and install conductors and make connections to control devices, motors, and associated equipment.
- B. Related Requirements:
 - 1. Section 23 0501: Common HVAC Requirements.

1.2 SUBMITTALS

- A. Informational Submittals:
 - 1. Qualification Statements: Submit document from Approved Distributor confirming contractor sponsorship.
- B. Closeout Submittals:
 - 1. Include following in Operations And Maintenance Manual specified in Section 01 7800:
 - a. Operations and Maintenance Data:
 - 1) Leave with O&M Manual specified in Section 23 0501.

1.3 QUALITY ASSURANCE

- A. Qualifications: Requirements of Section 01 4301 applies, but is not limited to the following:
 - 1. Installer:
 - a. Before bidding, obtain sponsorship from a local, Approved Distributor specified under PART 2 PRODUCTS. Initial requirements for sponsorship are:
 - 1) Be one of following Honeywell supported partners:
 - a) Honeywell Authorized Control Integrator (ACI).
 - b) Honeywell Building Controls Specialist (ACS).
 - c) Honeywell Building Controls Associate (BCS).
 - d) Honeywell-Commercial Automation Contractor (CAC).
 - 2) Receive product training from and exhibit LCBS system skills to sponsoring Approved Distributor.

PART 2 - PRODUCTS**2.1 SYSTEMS**

- A. Manufacturers:
 - 1. Manufacturer Contact List:

- a. Air Products & Controls Ltd, Pontiac, MI www.ap-c.com.
- b. Fire-Lite Alarms, Northford, CT www.firelite.com.
- c. Honeywell Inc, Minneapolis, MN www.honeywell.com.
- d. ICCA Firex, Carol Stream, IL www.icca.invensys.com.
- e. System Sensor, St Charles, IL www.systemsensor.com.
- f. Zimmerman Technologies, Renton, WA zimmtech@yahoo.com (425) 255-1906.

B. Performance:

1. Design Criteria:

- a. Honeywell Prestige IAQ thermostat system with RedLINK Internet Gateway(s).
 - 1) General Requirements:
 - a) Controls multistage equipment, dehumidification and ventilation with 2 wire connection to thermostat location into occupied space.
 - b) Adjust backlight preference to darken screen after 45 seconds of setting adjustments.
 - c) Programmable from keypad or USB Port memory stick.
 - d) Prestige thermostat design utilizes wireless communicating thermostats with EIM located near furnace, with electronic thermostat located in building space.
 - e) Thermostat system shall control fresh air based upon TOD schedule for electric / electronic actuation of dampers.
 - f) CO2 sensors will open dampers only when CO2 exceeds 1200 ppm for energy savings.
 - g) RedLINK wireless network enables devices access via internet browser/ Apps via RIG module(s).
 - h) Wireless room sensors (temperature and humidity) & Outdoor Air sensor can be added as specified.
 - 2) System Requirements:
 - a) Up to 4 Heat/2 Cool Heat Pumps; Up to 3 Heat/2 Cool Conventional Systems.
 - b) Used with Honeywell RedLINK enabled thermostats and accessories.
 - c) Tri-Lingual Display (Selectable for English, Spanish, or French).
 - d) 18 to 30 Vac.
 - e) 50 Hz; 60 Hz.
 - f) System Position to include Auto changeover for Heat-Cool.
 - g) 7-Day Programming.
 - h) 365-Day Event Scheduling.
 - i) Display Security Lockout options.
 - j) Minimum/ Maximum Temperature Range Stops.
 - k) 1,2,3,4 hour over-ride option.
 - l) Remote Access via internet, free Apple App, free Droid App.
 - m) Dehumidification setting range 40 to 80% RH.
 - n) Return Air and Discharge Air Sensors calculate Delta T for equipment diagnostics.

C. Components:

1. Thermostats And Sensors:

- a. Thermostat and Sensor Kit:
 - 1) Category Four Approved Product. See Section 01 6200 for definitions of Categories:
 - a) Part Number YTHX9421R5101WW consisting of following:
 - (1) Communicating Thermostat w/ Equipment Interface Module (EIM): Low voltage type provided with automatic change-over feature for both heating and cooling stages, seven-day / 365 day program with two starts and stops per day, and provisions for damper operators. Honeywell THX9421R5021WW.

- (2) Discharge Air / Return Air Sensors: Honeywell C7735A1000, 10k ohms.
 - (3) Outdoor Air Sensor: Honeywell C7089R1013.
 - b. Remote Room Temperature/ Humidity Sensor:
 - 1) Category Four Approved Products. See Section 01 6200 for definitions of Categories:
 - a) Honeywell C7189R1004, plain face, wireless temperature/humidity.
 - b) Honeywell REM5000R1001, Portable Comfort Control.
 - c. Internet Gateway Module(s): One (1) module per four (4) thermostats.
 - 1) Category Four Approved Product. See Section 01 6200 for definitions of Categories:
 - a) Honeywell THM6000R1002, RIG Redlink Internet Gateway module.
 2. Guard For Multi-Purpose Sensors:
 - a. Match color of sensor.
 - b. Category Four Approved Product. See Section 01 6200 for definitions of Categories:
 - 1) MSI-244 Sensor Guard with integral wood base by Zimmerman Technologies.
 3. Transformer:
 - a. 120 / 24 V, 50VA Honeywell AT150F.
 - b. 120 / 24 V, 75VA Honeywell AT175F.
 4. Damper Actuators:
 - a. Electric type equipped for Class I wiring.
 - b. Shall not consume power during UNOCCUPIED cycle or use chemicals or expandable media.
 - c. Have built in spring return.
 - d. Category Four Approved Product. See Section 01 6200 for definitions of Categories:
 - 1) Honeywell MS8105A1030/U.
 - 2) Honeywell MS8105A1130 w/ End switch.
 5. Conductors:
 - a. Color-coded and No. 16 and No. 12 AWG Type TWN, TFN, or THHN, stranded.
 - b. Thermostat Cable: 12, 8, or 4 conductor, 18AWG solid copper wire, insulated with high-density polyethylene. Conductors parallel enclosed in brown PVC jacket (22 AWG cable not allowed).
 - c. Communicating Cable:
 - 1) Class Two Quality Standard. See Section 01 6200:
 - a) CAT 4, 22 gauge (0.025 in) (0.645 mm), twisted pair, non-plenum and non-shielded cable.
 6. CO₂ Return Air Sensor:
 - a. Duct mount with display.
 - b. Category Four Approved Product. See Section 01 6200 for definitions of Categories:
 - 1) Honeywell: C7232B1006.
 - D. Operation Sequences:
 1. Programmable thermostat shall control unoccupied and occupied status of fan system based on adjustable seven day program and remote room sensor / push button. Fan shall run continuously in occupied mode and cycle in unoccupied mode.
 2. Adjustable heating and cooling set points shall control space temperature by activating either heating or cooling equipment. Programmable thermostat provides automatic change over between heating and cooling.
 3. Remote room sensor provides optional override of thermostat program by allowing three hour timed override of thermostat program at any time by pushing ON / OFF button on remote room sensor cover. This shall activate thermostat to occupied mode and system shall control to occupied set point.

4. Minimum outside air damper, spring return type, shall open in occupied mode and remain closed in unoccupied mode in zones using outside air.
5. Two Sensor Averaging:
 - a. Sensors shall control zone HVAC equipment by averaging temperature in spaces containing sensors.
 - b. Prestige thermostat will typically be located next to furnaces. When applied in such fashion, thermostat shall read temperature(s) from wireless remote sensor(s).
6. Systems Using CO₂ sensor to Control Outside Air Damper Operation:
 - a. Minimum outside air damper, spring return type, shall open in occupied mode only when CO₂ sensor setpoint of 1200 ppm is reached. Damper shall close if CO₂ level drops below 1100 ppm.
 - b. Damper shall remain closed in un-occupied mode.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Interface With Other Work:
 1. Calibrate room thermostats as required during air test and balance. Insulate sensor J-box with fiberglass insulation; expandable/ foam insulation is NOT acceptable
 2. Instruct air test and balance personnel in proper use and setting of control system components.
 3. Install low voltage electrical wiring in accordance with Division 26 of these Specifications.
- B. Communication RIG Module:
 1. RIG and all RedLINK wireless modules need to be installed at least 24 inches (610 mm) from any other RedLINK device.
 - a. If RIG fails to communicate with other RedLINK devices, relocate RIG where signal can be received.
- C. Safety Controls: Interlock duct smoke detectors to keep heating, cooling, and system fan from operating when detector is energized.
- D. Mount damper actuators and actuator linkages external of airflow. Make certain dampers operate freely without binding or with actuator housing moving.
- E. Paste copy of record control wiring diagram on back of relay panel door cover for each multiple furnace system.

3.2 FIELD QUALITY CONTROL

- A. Field Tests:
 1. Calibrate, adjust, and set controls for proper operation, operate systems, and be prepared to prove operation of any part of control system. This work is to be completed before pre-substantial completion inspection.
 2. Test each individual heating, cooling, and damper control for proper operation using control system.

3.3 ADJUSTING

- A. Prestige thermostat configuration settings; the following are configuration guidelines for consistent installations:
1. 1000 English/French/Spanish (depending upon region).
 2. 1010 Commercial.
 3. 1030 Zone Name (display on Home Screen).
 4. 1040 Programmable.
 5. 2000 Conventional / Heat Pump (match equipment).
 6. 2010 Standard / High Efficiency (match equipment).
 7. 2070 Heating / Cooling Stages (match equipment).
 8. 2220 A- L/A Terminal Setup (Time of Day).
 9. 3000 Changeover (Automatic) Deadband (3 degrees).
 10. Advanced Option +PID Settings – Change cooling settings to 4 cph and heating to 6 (mild climates and 9 cph (cold climates).
 11. 3240 Minimum Compressor Off Time (3 minutes).
 12. 4000 Number of Schedules periods (4 Periods Per Day).
 13. 4010 Pre-Occupancy Purge Duration (off).
 14. 4020 Type of Override (Standard).
 15. 4030 Override Duration (1hr for classrooms, 2 hours for Stake and Bishops zones).
 16. 4050 Heat Recovery (default setting).
 17. 4060 Heat Recovery (default setting).
 18. 4070 Cooling Recovery (default setting).
 19. 4080 Cooling Recovery (default setting).
 20. 4100 Temperature Range Stops (Minimum Cooling setpoint 69 degrees, Maximum Heating Setpoint 73 degrees F.
 21. 5000 Return Air (check) Discharge Air (Check).
 22. 5070 Return Air Sensor (EIM – S2).
 23. 5080 (10K).
 24. 5090 Discharge Air Sensor (EIM – S1).
 25. 5100 (10K).
 26. 5110 A-Coil Low Temperature Cutoff (35 degrees).
 27. 7000 – 8700 (default).
Section 9000- 9210 for dehumidification application.
 28. 9000 Dehumidification Equipment (Dehumidifier when using TrueDRY equipment).
 29. 9040 What Terminals are Wired to the Dehumidifier? (EIM – U1).
 30. 9110 Dehumidification High Limit Range Stop (65 percent).
 31. 9120 System Modes Allowing Dehumidification (Heat and Cool).
 32. 9130 Dehumidifier Fan Control (Thermostat Controls Fan).
 33. 9140 Dehumidifier Lockout (Dehumidifier Allowed when Cooling is Running).
 34. 9180 Dehumidification Away mode (Allowed).
 35. 9210 Dehumidifier Filter Replacement Reminder (4 Calendar Months).
 36. 10000 Ventilation Type (None / damper end-switch will control ERV).
 37. 10170 – 12000 (Default).
 38. 13000 Heat Delta T Diagnostics (On).
 39. 13010 Cooling Delta T Diagnostics (On).
 40. 13015 Set Advanced Delta T Diagnostics Options (No).
 41. 14000 – 15020 (default) Contractor is NOT to install business card.
 42. SYSTEM SWITCH Setting (Make sure system is set for Automatic).
 43. MENU/ PREFERENCES/ DISPLAY OPTIONS/ BACKLIGHT (set to 0 Dim).
 44. MENU/ Holiday-Event Scheduler / Custom Events/ Create a new event.

3.4 CLOSEOUT ACTIVITIES

- A. Instruction Of Owner:

1. Include as part of training required in Section 23 0501, following training:
 - a. Training shall be by personnel of installing company and utilize operator's manuals and as-built documentation.
 - b. Provide training in (2) two sessions including Mytotalconnectcomfort sight & smart Apps for up to six (6) hours total:
 - 1) First session will occur between system completion and Substantial Completion.
 - 2) Second session will occur within forty five (45) days of Substantial Completion when agreed upon by Owner.
 - c. Training shall include sequence of operation review, selection of displays, modification of schedules and setpoints, troubleshooting of sensors, etc, as follows:
 - 1) Control System Overview:
 - a) Show access to system through both individual thermostats and Internet browser via mytotalconnectcomfort and how network works. Scheduling building at minimum for Stake and General Conference, special events.
 - 2) Thermostat Programming from Keypad and USB memory stick: Instructions on developing setpoints and schedules and adjusting local zone temperatures.
 - 3) Thermostat Operation:
 - a) Identify and explain security settings and screen lockouts.
 - 4) Web Internet training with local building maintenance personnel during two (2) sessions.
 - a) Review all features accessible from the 'Settings' tab including Alarm points, user access, scheduling and humidity setpoints (where applied).

END OF SECTION

END OF DIVISION 23