

Agreement for Construction Services

This Agreement ("Agreement") between Williamson County, Texas, a political subdivision of the State of Texas ("Owner") and Trimbuilt Construction, Inc. ("Contractor") is entered into in accordance with the following terms and conditions:

ARTICLE 1 SCOPE OF WORK: The Owner desires to retain Contractor for the construction of Jester Annex HVAC Rooftop Unit (RTU) Replacement (hereinafter called the "Project"). The Contractor shall have the overall responsibility for and shall provide complete construction services and furnish all materials, equipment, tools and labor as necessary or reasonably inferable to complete the Project, or any phase of the Project, in accordance with the Owner's requirements and the terms of this Agreement (hereinafter collectively referred to as the "Work").

ARTICLE 2 CONTRACT PRICE: Owner agrees to pay to the Contractor, for the satisfactory performance of the Work, the sum of Two Million Two Hundred Ninety-Nine Thousand Nine Hundred and No/100 Dollars (\$2,299,900.00) in accordance with the terms and conditions of this Agreement.

ARTICLE 3 PLANS AND SPECIFICATIONS: The Work shall be performed pursuant to and in accordance with the plans and specifications attached hereto as **Exhibit "A"**, as well as any revisions made thereto.

ARTICLE 4 CONTRACT TIME:

4.1 Contractor shall commence the Work upon instruction to do so from the Owner and shall achieve Substantial Completion within Four Hundred Fifty-Six (456) calendar days from the date the Work is commenced; provided, however, Owner may extend said time period in the event bad weather affects the progress of the Work. Unless otherwise specified in writing, Contractor shall achieve Final Completion within Thirty (30) calendar days of Substantial Completion. Owner shall determine when the Project has been fully and finally completed to its satisfaction. The time set forth for completion of the work is an essential element of the Agreement.

4.2 Liquidated Damages.

Contractor acknowledges and recognizes that Owner is entitled to full and beneficial occupancy and use of the completed Work following expiration of the Contract Time and that Owner has entered into, or will enter into, binding agreements upon Contractor's achieving Substantial Completion of the Work within the Contract Time. Contractor further acknowledges and agrees

that if Contractor fails to complete substantially or cause the Substantial Completion of any Phase of the Work within the Contract Time, Owner will sustain extensive damages and serious loss as a result of such failure. In the cases of missed scheduled events, which incur exact losses of revenue and exact expenses for fees and other cancellation costs, Contractor shall be responsible for the exact amount of damages sustained by Owner. In other cases, the exact amount of such damages will be extremely difficult to ascertain. Therefore, Owner and Contractor agree as set forth below:

- 4.2.1** Subject to the other terms and conditions herein, if Substantial Completion is not achieved by the date specified above or by such date to which the Contract Time may be extended, the Contract Price shall be reduced by **Seven Hundred Fifty and No/100 Dollars (\$750.00) per calendar day** as liquidated damages and not as a penalty, until the date of Substantial Completion. Force majeure shall apply relative to both rain/snow delays (acts of nature) and/or supply delays over which Contractor has no control, and such force majeure delays shall not be subject to such reduction of the Contract Price.
- 4.2.2** Owner may deduct liquidated damages described herein from any unpaid amounts then or thereafter due Contractor under this Agreement. Any liquidated damages not so deducted from any unpaid amounts due Contractor shall be payable by Contractor to Owner at the demand of Owner, together with the interest from the date of the demand at a rate equal to the prime interest rate as published by the Wall Street Journal on the **first (1st) business day** after such amounts are demanded.
- 4.2.3** Notwithstanding anything to the contrary in this Agreement, if Owner is unable to recover any portion of liquidated damages in accordance with the terms and conditions herein because it is found to be unenforceable or invalid as a penalty or otherwise, then, Owner shall be entitled to recover from Contractor all of Owner's actual damages in connection with the failure by Contractor to achieve Substantial Completion of the Work within the Contract Time, including, without limitation, direct, indirect, or consequential damages.

ARTICLE 5 PAYMENT:

5.1 Schedule Of Values

Contractor shall submit to the Owner, before the first Application for Payment, a schedule of values allocating the entire Contract Price to the various portions of the Work and prepared in such form and supported by such data to substantiate its accuracy as the Owner may require. This schedule, unless objected to by the Owner, shall be used as a basis for reviewing the Contractor's Applications for Payment.

5.2 Applications For Payment

- 5.2.1** Contractor shall submit to the Owner an itemized Application for Payment prepared in accordance with the schedule of values for completed portions of the Work. Such application shall be notarized, if required, and supported by such data substantiating the Contractor's right to payment as the Owner may require, such as copies of requisitions from

subcontractors and material suppliers and shall reflect retainage if provided for in the Agreement.

5.2.1.1 Such applications may include requests for payment on account of changes in the Work that have been properly authorized by written Change Orders.

5.2.1.2 Applications for Payment shall not include requests for payment for portions of the Work for which the Contractor does not intend to pay a subcontractor or material supplier unless such Work has been performed by others whom the Contractor intends to pay.

5.2.1.3 If requested by Owner or required elsewhere in the Agreement, each Application for Payment shall be accompanied by the following, all in a form and substance satisfactory to the Owner:

- a. With each Application for Payment: a current Sworn Statement from the Contractor setting forth all subcontractors and all material suppliers with whom the Contractor has subcontracted, the amount of each such subcontract, the amount requested for any subcontractor or material supplier in the Application for Payment, and the amount to be paid to the Contractor from such progress payment;
- b. With each Application for Payment: a duly executed Conditional Waiver and Release on Progress Payment from the Contractor and subcontractors establishing receipt of payment or satisfaction of the payment requested by the Contractor in the current Application for Payment;
- c. Commencing with the second Application for Payment submitted by the Contractor, a duly executed Unconditional Waiver and Release on Progress Payment from Contractor and all subcontractors, material suppliers and, where appropriate, lower tier subcontractors that have billed more than five thousand dollars (\$5,000) on a single application of payment, establishing receipt of payment or satisfaction of payment of all amounts requested on behalf of such entities and disbursed prior to submittal by the Contractor of the current Application for Payment;
- d. With the Final Application for Payment: Contractor shall submit a Conditional Waiver and Release on Final Payment as required by Texas Property Code, §53.284. Upon receipt of final payment, Contractor shall submit an Unconditional Waiver and Release on Final Payment as required by Texas Property Code, §53.284; and
- e. Such other information, documentation, and materials as the Owner, or the title insurer (if any) may require in order to ensure that Owner's property is free of lien claims. Such other documents may include, without limitation, original copies of lien or bond claim releases suitable for filing with the County Clerk in Williamson County, Texas.

5.2.2 Unless otherwise provided in the Agreement, payments shall be made on account of materials and equipment delivered and suitably stored at the site for subsequent incorporation in the Work. If approved in advance by the Owner, payment may similarly be made for materials and equipment suitably stored off the site at a location agreed upon in writing.

Payment for materials and equipment stored on or off the site shall be conditioned upon compliance by the Contractor with procedures satisfactory to the Owner to establish the Owner's title to such materials and equipment or otherwise protect the Owner's interest, and shall include the costs of applicable insurance, storage and transportation to the site for such materials and equipment stored off the site.

- 5.2.3** The Contractor warrants that title to all Work covered by an Application for Payment will pass to the Owner no later than the time of payment. The Contractor further warrants that upon submittal of an Application for Payment all Work for which Certificates for Payment have been previously issued and payments received from the Owner shall, to the best of the Contractor's knowledge, information and belief, be free and clear of liens, bond claims, claims, security interests or encumbrances in favor of the Contractor, subcontractors, material suppliers, or other persons or entities making a claim by reason of having provided labor, materials and equipment relating to the Work.

5.2.3.1 The Contractor further expressly undertakes to defend Owner, at the Contractor's sole expense, against any actions, lawsuits, or proceedings brought against Owner as a result of liens filed against the Work, the site of any of the Work, the Project site and any improvements thereon, or any portion of the property of any of Owner (referred to collectively as "liens" in this paragraph), provided the Owner has paid Contractor pursuant to the requirements of the Agreement. The Contractor hereby agrees to indemnify and hold Owner harmless against any such liens or claims of lien and agrees to pay any judgment or lien resulting from any such actions, lawsuits, or proceedings.

5.2.3.2 The Owner shall release any payments withheld due to a lien or bond claims if the Contractor obtains security acceptable to the Owner, however, the Contractor shall not be relieved of any responsibilities or obligations under this paragraph, including, without limitation, the duty to defend and indemnify Owner.

5.2.3.3 Retainage. The Owner shall withhold from each progress payment, as retainage, five percent (5%) of the total earned amount. Retainage so withheld shall be managed in conformance with Texas Government Code, Chapter 2252, Subchapter B. Any request for reduction or release of retainage shall be accompanied by written consent of the Contractor's Surety. No such request shall be made until the Contractor has earned at least sixty-five percent (65%) of the total Contract Price.

5.2.3.4 For purposes of Texas Government Code, §2251.021 (a)(2), the date the performance of service is completed is the date when the Owner's representative approves the Application for Payment.

5.3 Certificates For Payment

5.3.1 The Owner will, within seven (7) business days after receipt of the Contractor's Application for Payment, issue a Certificate for Payment, with a copy to the Contractor, for such amount as the Owner determines is properly due, or notify the Contractor in writing of the Owner's reasons for withholding certification in whole or in part as provided.

5.3.2 The issuance of a Certificate for Payment will constitute a representation by the Owner, based

on the Owner's evaluation of the Work and the data comprising the Application for Payment, that, to the best of the Owner's knowledge, information and belief, the Work has progressed to the point indicated and that the quality of the Work is in accordance with the Agreement. The foregoing representations are subject to an evaluation of the Work for conformance with the Agreement upon Substantial Completion, to results of subsequent tests and inspections, to correction of minor deviations from the Agreement prior to completion and to specific qualifications expressed by the Owner. The issuance of a Certificate for Payment will further constitute a representation that the Contractor is entitled to payment in the amount certified. However, the issuance of a Certificate for Payment will not be a representation that the Owner has (1) made exhaustive or continuous on-site inspections to check the quality or quantity of the Work, (2) reviewed construction means, methods, techniques, sequences or procedures, (3) reviewed copies of requisitions received from subcontractors and material suppliers and other data requested by the Owner to substantiate the Contractor's right to payment, or (4) made examination to ascertain how or for what purpose the Contractor has used money previously paid on account of the Contract Price.

5.4 Decisions To Withhold Certification

5.4.1 The Owner may withhold a Certificate for Payment in whole or in part, to the extent reasonably necessary to protect the Owner, if in the Owner's opinion the representations to the Owner required herein cannot be made. If the Owner is unable to certify payment in the amount of the Application, the Owner will notify the Contractor. If the Contractor or Contractor and Owner, as the case may be, cannot agree on a revised amount, the Owner will promptly issue a Certificate for Payment for the amount that can be certified. The Owner may also withhold a Certificate for Payment or, because of subsequently discovered evidence, may nullify the whole or a part of a Certificate for Payment previously issued, to such extent as may be necessary in the Owner's opinion to protect the Owner from loss for which the Contractor is responsible because of:

5.4.1.1 defective Work not remedied;

5.4.1.2 third party claims filed or reasonable evidence indicating probable filing of such claims;

5.4.1.3 failure of the Contractor to make payments properly to subcontractors or for labor, materials or equipment;

5.4.1.4 reasonable evidence that the Work cannot be completed for the unpaid balance of the Contract Price;

5.4.1.5 damage to the Owner or a separate contractor;

5.4.1.6 failure to maintain the scheduled progress, or reasonable evidence that the Work will not be completed within the Contract Time;

5.4.1.7 failure to comply with the requirements of Texas Government Code, Chapter 2258 (Prevailing Wage Law);

5.4.1.8 failure to include sufficient documentation to support the amount of payment requested for the Project;

5.4.1.9 failure to obtain, maintain, or renew insurance coverage, payment/performance

bonds or warranty bond required by the Agreement; or
5.4.1.10 repeated failure to carry out the Work in accordance with the Agreement.

5.4.2 When the above reasons for withholding certification are removed, certification will be made for amounts previously withheld.

5.5 Progress Payments

5.5.1 The Owner shall make payment in the manner and within the time provided in the Agreement and in accordance with Texas Government Code, Chapter 2251.

5.5.2 The Contractor shall pay each subcontractor and material and equipment suppliers no later than ten (10) calendar days after receipt of payment from the Owner the amount to which the subcontractor or material and equipment suppliers is entitled. Payments to subcontractors may reflect the percentages actually retained from payments to the Contractor on account of the subcontractor's portion of the Work. The Contractor shall, by appropriate agreement with each subcontractor, require each subcontractor to make payments to Sub-subcontractors in a similar manner.

5.5.3 The Owner has the right to request written evidence from the Contractor that the Contractor has properly paid subcontractors and material and equipment suppliers amounts paid by the Owner to the Contractor for subcontracted Work. If the Contractor fails to furnish such evidence within seven (7) calendar days, the Owner shall have the right to contact subcontractors to ascertain whether they have been properly paid. The Owner shall not have an obligation to pay or to see to the payment of money to a subcontractor, except as may otherwise be required by law.

5.5.4 A Certificate for Payment, a progress payment, or partial or entire use or occupancy of the Project by the Owner shall not constitute acceptance of Work not in accordance with the Agreement.

5.6 Failure Of Payment

5.6.1 If the Owner is required to issue Certificates for Payment and, through no fault of the Contractor, the Owner fails to timely issue Certificates for Payment in the time permitted in the Agreement, or if the Owner does not pay the Contractor by the date established in the Agreement, then the Contractor may, upon twenty-one (21) business days written notice to the Owner, stop the Work until payment of the amount owing has been received.

5.6.2 If the Owner is entitled to reimbursement or payment from the Contractor under or pursuant to the Agreement, such payment shall be made promptly upon demand by the Owner. Notwithstanding anything contained in the Agreement to the contrary, if the Contractor fails to promptly make any payment due the Owner, or if the Owner incurs any costs and expenses to cure any default of the Contractor or to correct defective work, the Owner shall have an absolute right to offset such amount against the Contract Price and may, in the Owner's sole discretion, elect either to (1) deduct an amount equal to that which the Owner is entitled from

any payment then or thereafter due the Contractor from the Owner, or (2) issue a written notice to the Contractor reducing the Contract Price by an amount equal to that which the Owner is entitled.

5.7 Substantial Completion

- 5.7.1** Substantial Completion is the stage in the progress of the Work when the Work or designated portion thereof is sufficiently complete in accordance with the Agreement so that the Owner can occupy or utilize the Work for its intended use; provided, however, that as a condition precedent to Substantial Completion, the Owner has received all certificates of occupancy and any other permits, approvals, licenses, and other documents from any governmental authority having jurisdiction thereof necessary for the beneficial occupancy of the Project.
- 5.7.2** When the Contractor considers that the Work, or a portion thereof which the Owner agrees to accept separately, is substantially complete, the Contractor shall prepare and submit to the Owner a comprehensive list of items to be completed or corrected prior to final payment (punch list). Failure to include an item on the punch list does not alter the responsibility of the Contractor to complete all Work in accordance with the Agreement.
- 5.7.3** Upon receipt of the Contractor's punch list, the Owner will examine the Work to determine whether the Work or designated portion thereof is substantially complete. If the Owner's examination discloses any item, whether or not included on the Contractor's punch list, that is not sufficiently complete in accordance with the Agreement, the Contractor shall, before issuance of the Certificate of Substantial Completion, complete or correct such item upon notification by the Owner. In such case, the Contractor shall then submit a request for another examination by the Owner to determine Substantial Completion.
- 5.7.4** When the Work or designated portion thereof is substantially complete, the Owner will prepare a Certificate of Substantial Completion that shall establish the date of Substantial Completion, shall establish responsibilities of the Owner and Contractor for security, maintenance, heat, utilities, damage to the Work and insurance, and shall fix the time within which the Contractor shall finish all items on the list accompanying the Certificate. Unless otherwise provided, Contractor shall complete all items on the punch list within thirty (30) calendar days of Substantial Completion. Warranties required by the Agreement shall commence on the date of Substantial Completion of the Work or designated portion thereof unless otherwise provided in the Certificate of Substantial Completion.
- 5.7.5** The Certificate of Substantial Completion shall be submitted to the Owner and Contractor for their written acceptance of responsibilities assigned to them in such Certificate of Substantial Completion. Upon such acceptance and consent of surety, if any, the Owner shall make payment of retainage.

5.8 Partial Occupancy or Use

- 5.8.1** The Owner may occupy or use any completed or partially completed portion of the Work at any stage when such portion is designated by separate agreement with the Contractor,

provided such occupancy or use is consented to by the insurer, the surety, and authorized by public authorities having jurisdiction over the Project. Such partial occupancy or use may commence whether or not the portion is substantially complete, provided the Owner and Contractor have accepted in writing the responsibilities assigned to each of them for payments, retainage, if any, security, maintenance, heat, utilities, damage to the Work and insurance, and have agreed in writing concerning the period for correction of the Work and commencement of warranties required by the Agreement. When the Contractor considers a portion substantially complete, the Contractor shall prepare and submit a list to the Owner as provided herein. Consent of the Contractor to partial occupancy or use shall not be unreasonably withheld.

- 5.8.2** Immediately prior to partial occupancy or use, the Owner and Contractor shall jointly inspect the area to be occupied or portion of the Work to be used in order to determine and record the condition of the Work.
- 5.8.3** Partial occupancy or use of a portion or portions of the Work shall not constitute acceptance of Work not complying with the requirements of the Agreement.

5.9 Final Completion and Final Payment

- 5.9.1** Upon receipt of the Contractor's written notice that the Work is ready for final inspection and acceptance and upon receipt of a final Application for Payment, the Owner will make such inspection and, when the Owner finds the Work acceptable under the Agreement and the Agreement fully performed, the Owner will issue a final Certificate for Payment for the entire balance found to be due the Contractor and noted in the final Certificate is due and payable. All warranties and guarantees required under or pursuant to the Agreement shall be assembled and delivered by the Contractor to the Owner as part of the final Application for Payment. The final Certificate for Payment will not be issued by the Owner until all warranties and guarantees have been received and accepted by the Owner.
- 5.9.2** Neither final payment nor any remaining retained percentage shall become due until the Contractor submits to the Owner (1) an affidavit that payrolls, bills for materials and equipment, and other indebtedness connected with the Work have been paid or otherwise satisfied, within the period of time required by Texas Government Code, Chapter 2251, (2) a certificate evidencing that insurance required by the Agreement to remain in force after final payment is currently in effect and will not be canceled or allowed to expire until at least thirty (30) business days prior written notice has been given to the Owner, (3) a written statement that the Contractor knows of no substantial reason that the insurance will not be renewable to cover the period required by the Agreement, (4) consent of surety to final payment, (5) a warranty bond in a form acceptable to Owner, and (6) other data establishing payment or satisfaction of obligations, such as receipts, unconditional full and final releases and waivers of liens, claims, security interests or encumbrances arising out of the Agreement, to the extent and in such form as may be designated by the Owner.
- 5.9.3** Acceptance of final payment by the Contractor, a subcontractor or material supplier shall constitute a waiver of claims by that payee except those previously made in writing and

identified by that payee as unsettled at the time of final Application for Payment.

ARTICLE 6 CONTRACTOR'S GENERAL RESPONSIBILITIES AND COVENANTS:

6.1 Contractor shall render, diligently and competently in accordance with the highest standards used in the profession, all Contractor services which shall be necessary or advisable for the expeditious, economical and satisfactory completion of the Project. Contractor agrees to use its best efforts, skill, judgment, and abilities to perform its obligations and to further the interests of Owner in accordance with Owner's requirements and procedures.

6.2 Contractor's duties as set forth herein shall at no time be in any way diminished by reason of any approval by the Owner nor shall the Contractor be released from any liability by reason of such approval by the Owner, it being understood that the Owner at all times is ultimately relying upon the Contractor's skill and knowledge in performing the services required hereunder.

6.3 Contractor is responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the Work. The safety program shall comply with all applicable requirements of the current federal Occupational Safety and Health Act and all other applicable federal, state and local laws and regulations.

6.4 Contractor shall be responsible for all construction means, methods, techniques, sequences and procedures, and for coordinating all portions of the Work. The Contractor shall keep the Owner informed of the progress and quality of the Work.

6.5 Insurance. Contractor shall carry insurance in the types and amounts indicated below for the duration of the Agreement, which shall include items owned by Owner in the care, custody and control of Contractor prior to and during construction. Contractor must also complete and file the declaration pages from the insurance policies with Owner whenever a previously identified policy period expires during the term of the Agreement, as proof of continuing coverage. Contractor shall update all expired policies prior to submission of any payment requests hereunder. Failure to update policies shall be reason for payment to be withheld until evidence for renewal is provided to the Owner. If the Contractor fails to obtain, maintain or renew any insurance required by this Agreement, the Owner may, among other remedies available hereunder or at law, obtain insurance coverage directly and recover the cost of that insurance from the Contractor or declare this Agreement void if the Contractor does not remedy the breach within ten (10) days after receipt of notice of breach from the Owner. All policies of insurance provided by the Contractor must comply with the requirements set forth herein, the Agreement and the laws of the State of Texas.

6.5.1 The Contractor shall provide and maintain, until the Work covered in the Agreement is completed and accepted by the Owner, the minimum insurance coverages in the minimum amounts as described below.

Type of Coverage	Limits of Liability
.1 Worker's Compensation	Statutory

- | | | |
|----|---------------------------|------------------------|
| .2 | Employer's Liability | |
| | Bodily Injury by Accident | \$500,000 Ea. Accident |
| | Bodily Injury by Disease | \$500,000 Ea. Employee |
| | Bodily Injury by Disease | \$500,000 Policy Limit |

- .3 Commercial general liability including completed operations and contractual liability insurance for bodily injury, death, or property damages in the following amounts:

COVERAGE	PER OCCURRENCE
----------	----------------

Commercial General Liability (including premises, completed operations and contractual)	\$1,000,000
---	-------------

Aggregate policy limits:	\$2,000,000
--------------------------	-------------

- .4 Comprehensive automobile and auto liability insurance (covering owned, hired, leased and non-owned vehicles):

COVERAGE	PER PERSON	PER OCCURRENCE
----------	------------	----------------

Bodily injury (including death)	\$1,000,000	\$1,000,000
------------------------------------	-------------	-------------

Property damage	\$1,000,000	\$1,000,000
-----------------	-------------	-------------

Aggregate policy limits	No aggregate limit
-------------------------	--------------------

- .5 Builder's Risk Insurance (all-risks)

An all-risk policy, in the amount equal at all times to 100% of the Contract Price. The policy shall include coverage for loss or damage caused by certified acts of terrorism as defined in the Terrorism Risk Insurance Act. The policy shall be issued in the name of the Contractor and shall name its Subcontractors as additional insureds. The Owner shall be named as a loss payee on the policy. The builders risk policy shall have endorsements as follow:

- a. This insurance shall be specific as to coverage and not considered as contributing insurance with any permanent insurance maintained on the present premises. If off-site storage is permitted, coverage shall include transit and storage in an amount sufficient to protect property being transported or stored.

- b. For renovation projects and or portions of work contained within an existing structure, the Owner waives subrogation for damage by fire to existing building structure(s), if the Builder's Risk Policy has been endorsed to include coverage for existing building structure(s) in the amount described in the Special Conditions. However, Contractor shall not be required to obtain such an endorsement unless specifically required by the Special Conditions in the Agreement. The aforementioned waiver of subrogation shall not be effective unless such endorsement is obtained.
- .6. Flood insurance when specified in Supplementary General Conditions or Special Conditions.
- .7. Umbrella coverage in the amount of not less than \$5,000,000.

6.5.2 Workers' Compensation Insurance Coverage:

1. Definitions:

- (a) Certificate of coverage ("certificate") - A copy of a certificate of insurance, a certificate of authority to self-insure issued by the Texas Workers' Compensation Commission, or a coverage agreement (TWCC-81, TWCC-82, TWCC-83, or TWCC-84), showing statutory workers' compensation insurance coverage for the person's or entity's employees providing services on a project, for the duration of the Project.
 - (b) Duration of the Project - includes the time from the beginning of the work on the Project until the Contractor's/person's work on the Project has been completed and accepted by the Owner.
 - (c) Coverage – Workers' compensation insurance meeting the statutory requirements of the Texas Labor Code, §401.011(44).
 - (d) Persons providing services on the Project ("subcontractor") - includes all persons or entities performing all or part of the services the Contractor has undertaken to perform on the Project, regardless of whether that person contracted directly with the Contractor and regardless of whether that person has employees. This includes, without limitation, independent contractors, subcontractors, leasing companies, motor carriers, owner-operators, employees of any such entity, or employees of any entity which furnishes persons to provide services on the Project. "Services" include, without limitation, providing, hauling, or delivering equipment or materials, or providing labor, transportation, or other service related to a project. "Services" does not include activities unrelated to the Project, such as food/beverage vendors, office supply deliveries, and delivery of portable toilets.
2. The Contractor shall provide coverage, based on proper reporting of classification codes and payroll amounts and filing of any coverage agreements, which meets the statutory requirements of Texas Labor Code, §401.011(44) for all employees of the Contractor providing services on the Project, for the duration of the Project.

3. The Contractor must provide a certificate of coverage prior to execution of the Agreement/Contract, and in no event later than ten (10) days from Notice of Award. Failure to provide the insurance in a timely fashion may result in loss of Contractor's bid bond.
4. If the coverage period shown on the Contractor's current certificate of coverage ends during the duration of the Project, the Contractor must, prior to the end of the coverage period, file a new certificate of coverage with the Owner showing that coverage has been extended.
5. The Contractor shall obtain from each person providing services on a project, and provide to the Owner:
 - (a.) a certificate of coverage, prior to that person beginning work on the Project, so the Owner will have on file certificates of coverage showing coverage for all persons providing services on the Project; and
 - (b.) no later than seven days after receipt by the Contractor, a new certificate of coverage showing extension of coverage, if the coverage period shown on the current certificate of coverage ends during the duration of the Project.
6. The Contractor shall retain all required certificates of coverage for the duration of the Project and for one year thereafter.
7. The Contractor shall notify the Owner in writing by certified mail or personal delivery, within 10 days after the Contractor knew or should have known, of any change that materially affects the provision of coverage of any person providing services on the Project.
8. The Contractor shall post on each project site a notice, in the text, form and manner prescribed by the Texas Workers' Compensation Commission, informing all persons providing services on the Project that they are required to be covered, and stating how a person may verify coverage and report lack of coverage.
9. The Contractor shall contractually require each person with who it contracts to provide services on a project, to:
 - (a) provide coverage, based on proper reporting of classification codes and payroll amounts and filing of any coverage agreements, which meets the statutory requirements of Texas labor Code, Section 401.011(44) for all of its employees providing services on the Project, for the duration of the Project;
 - (b) provide to the Contractor, prior to that person beginning work on the Project, a certificate of coverage showing that coverage is being provided for all employees of the person providing services on the Project, for the duration of the Project;
 - (c) provide the Contractor, prior to the end of the coverage period, a new certificate of coverage showing extension of coverage, if the coverage period shown on the current certificate of coverage ends during the duration of the Project;
 - (d) obtain from each other person with whom it contracts, and provide to the Contractor:

- i. a certificate of coverage, prior to the other person beginning work on the Project; and
 - ii. a new certificate of coverage showing extension of coverage, prior to the end of the coverage period, if the coverage period shown on the current certificate of coverage ends during the duration of the Project;
 - (e) retain all required certificate of coverage on file for the duration of the Project and for one year thereafter;
 - (f) notify the Owner in writing by certified mail or personal delivery, within 10 days after the person knew or should have known, of any change that materially affects the provision of coverage of any person providing services on the Project; and
 - (g) contractually require each person with whom it contracts, to perform as required by paragraphs (a)-(g), with the certificates of coverage to be provided to the person for whom they are providing services.
10. By signing the Agreement/Contract or providing or causing to be provided a certificate of coverage, the Contractor is representing to the Owner that all employees of the Contractor who will provide services on the Project will be covered by workers' compensation coverage for the duration of the Project, that the coverage will be based on proper reporting of classification codes and payroll amounts, and that all coverage agreements will be filed with the appropriate insurance carrier or, in the case of a self-insured, with the Commission's Division of Self-Insurance Regulation. Providing false or misleading information may subject the Contractor to administrative penalties, criminal penalties, civil penalties, or other civil actions.
11. The Contractor's failure to comply with any of these provisions is a breach of contract by the Contractor which entitles the Owner to declare the Agreement/Contract void if the Contractor does not remedy the breach within ten days after receipt of notice of breach from the Owner.
- 6.5.3** If insurance policies are not written for the amounts specified herein, Contractor shall carry Umbrella or Excess Liability Insurance for any differences in amounts specified. If Excess Liability Insurance is provided, it shall follow the form of primary coverage.
- 6.5.4** Insurance coverage required hereunder shall be written on an occurrence basis by companies authorized and admitted to do business in the State of Texas and rated A- or better by A.M. Best Company, or otherwise acceptable to Owner.
- 6.5.5** **The Owner ("Williamson County, Texas"), its officials, employees and volunteers shall be named as an additional insured on all required policies.** These insurance policies shall contain the appropriate additional insured endorsement signed by a person authorized by that insurer to bind coverage on its behalf.
- 6.5.6** The furnishing of the above listed insurance coverage, as may be modified by the Agreement, must be tendered prior to execution of the Agreement/Contract, and in no event

later than ten (10) days from Notice of Award. Failure to provide the insurance in a timely fashion may result in loss of Contractor's bid bond.

- 6.5.7** Owner reserves the right to review the insurance requirements set forth herein during the Agreement and to make reasonable adjustments to the insurance coverage and their limits when deemed necessary and prudent by the Owner based upon changes in statutory law, court decisions, or the claims history of the industry as well as the Contractor.
- 6.5.8** Owner shall be entitled, upon request, and without expense, to receive complete copies of the policies with all endorsements and may make any reasonable requests for deletion, or revision or modification of particular policy terms, conditions, limitations, or exclusions, except where policy provisions are established by law or regulation binding upon the Parties or the underwriter of any of such policies. Damages caused by the Contractor and not covered by insurance shall be paid by the Contractor.
- 6.5.9** Contractor shall be responsible for payment of premiums for all of the insurance coverages required hereunder. Contractor further agrees that for each claim, suit or action made against insurance provided hereunder, with respect to all matters for which the Contractor is responsible hereunder, Contractor shall be solely responsible for all deductibles and self-insured retentions. Any deductibles or self-insured retentions over \$75,000 in the Contractor's insurance must be declared and approved in writing by Owner in advance.
- 6.5.10** Contractor shall contractually require each person or entity with whom it contracts to provide services in relation to the Work, to comply with every insurance requirement that Contractor must comply with hereunder. More specifically, each person or entity with whom Contractor contracts to provide services on the in relation to the Work must comply with each insurance requirement hereunder just as if such person or entity was the Contractor. Thus, every reference to Contractor under each insurance requirement hereunder shall mean and include each person or entity with whom Contractor contracts to provide services in relation to the Work. If any such person or entity with whom Contractor contracts to provide services in relation to the Work fails to obtain, maintain or renew any insurance required by this Agreement, Owner may, among other remedies available hereunder or at law, obtain insurance coverage directly and recover the cost of that insurance from the Contractor or declare this Agreement void if the Contractor does not remedy the breach within ten (10) days after receipt of notice of breach from the Owner.

ARTICLE 7 INDEMNITY:

7.1 INDEMNIFICATION - EMPLOYEE PERSONAL INJURY CLAIMS. TO THE FULLEST EXTENT PERMITTED BY LAW, Contractor SHALL INDEMNIFY, DEFEND (WITH COUNSEL OF OWNER'S CHOOSING), AND HOLD HARMLESS OWNER, AND OWNER'S EMPLOYEES, AGENTS, REPRESENTATIVES, PARTNERS, OFFICERS, AND DIRECTORS (COLLECTIVELY, THE "INDEMNITEES") AND SHALL ASSUME ENTIRE RESPONSIBILITY AND LIABILITY (OTHER THAN AS A RESULT OF INDEMNITEES' GROSS NEGLIGENCE) FOR ANY CLAIM OR ACTION BASED ON OR ARISING OUT OF THE PERSONAL INJURY, OR DEATH, OF ANY EMPLOYEE OF CONTRACTOR, OR OF ANY SUBCONTRACTOR, OR OF ANY OTHER ENTITY FOR WHOSE ACTS THEY MAY BE LIABLE, WHICH OCCURRED OR WAS ALLEGED TO HAVE OCCURRED ON THE PROJECT SITE

OR IN CONNECTION WITH THE PERFORMANCE OF THE WORK. CONTRACTOR HEREBY INDEMNIFIES THE INDEMNITEES EVEN TO THE EXTENT THAT SUCH PERSONAL INJURY WAS CAUSED OR ALLEGED TO HAVE BEEN CAUSED BY THE SOLE, COMPARATIVE OR CONCURRENT NEGLIGENCE OR THE STRICT LIABILITY OF ANY INDEMNIFIED PARTY. THIS INDEMNIFICATION SHALL NOT BE LIMITED TO DAMAGES, COMPENSATION, OR BENEFITS PAYABLE UNDER INSURANCE POLICIES, WORKERS COMPENSATION ACTS, DISABILITY BENEFITS ACTS, OR OTHER EMPLOYEES BENEFIT ACTS.

INDEMNIFICATION - OTHER THAN EMPLOYEE PERSONAL INJURY CLAIMS. TO THE FULLEST EXTENT PERMITTED BY LAW, CONTRACTOR SHALL INDEMNIFY, DEFEND (WITH COUNSEL OF OWNER'S CHOOSING), AND HOLD HARMLESS OWNER, AND OWNER'S EMPLOYEES, AGENTS, REPRESENTATIVES, PARTNERS, OFFICERS, AND DIRECTORS (COLLECTIVELY, THE "INDEMNITEES") FROM AND AGAINST CLAIMS, DAMAGES, LOSSES AND EXPENSES, INCLUDING BUT NOT LIMITED TO ATTORNEYS' FEES, ARISING OUT OF OR ALLEGED TO BE RESULTING FROM THE PERFORMANCE OF THIS AGREEMENT OR THE WORK DESCRIBED HEREIN, TO THE EXTENT CAUSED BY THE NEGLIGENCE, ACTS, ERRORS, OR OMISSIONS OF CONTRACTOR OR ITS SUBCONTRACTORS, ANYONE EMPLOYED BY THEM OR ANYONE FOR WHOSE ACTS THEY MAY BE LIABLE, REGARDLESS OF WHETHER OR NOT SUCH CLAIM, DAMAGE, LOSS OR EXPENSE IS CAUSED IN WHOLE OR IN PART BY A PARTY INDEMNIFIED HEREUNDER.

7.2 Except for the obligation of Owner to pay Contractor the Contract Price pursuant to the terms of this Agreement, and to perform certain other obligations pursuant to the terms and conditions explicitly set forth herein, Owner shall have no liability to Contractor or to anyone claiming through or under Contractor by reason of the execution or performance of this Agreement. Notwithstanding any obligation or liability of Owner to Contractor, no present or future partner or affiliate of Owner or any agent, officer, director, or employee of Owner, or of the various departments comprising Owner, or anyone claiming under Owner has or shall have any personal liability to Contractor or to anyone claiming through or under Contractor by reason of the execution or performance of this Agreement.

ARTICLE 8 WARRANTY:

8.1 Contractor hereby warrants that the materials and equipment provided for the Work will be of good quality and new unless otherwise required or permitted by the Owner; that the construction will be free from faults and defects; and that the construction will conform with the requirements of the plans, specifications, drawings and the terms of this Agreement.

8.2 Contractor shall provide warranty services for the Work for a **full twelve (12) months** following Final Completion and final payment. Just before the warranty period expires, Contractor shall attend an on-site meeting with the Owner to ensure that all warranty issues have been identified and properly remedied.

ARTICLE 9 PREVAILING WAGE RATE:

9.1 Duty to Pay Prevailing Wage Rates. The Contractor shall pay not less than the wage scale of the various classes of labor as shown on the "Prevailing Wage Schedule", as defined below. The specified wage rates are minimum rates only, and are not representations that qualified labor adequate to perform the Work is available locally at the prevailing wage rates. The Owner is not bound to pay—and will not consider—any claims for additional compensation made by any

Contractor because the Contractor pays wages in excess of the applicable minimum rate contained in the Agreement. The "Prevailing Wage Schedule" is not a representation that quantities of qualified labor adequate to perform the Work may be found locally at the specified wage rates.

9.1.2 For classifications not shown, workers shall not be paid less than the wage indicated for Laborers. The Contractor shall notify each worker commencing work on the Project of the worker's job classification and the established minimum wage rate required to be paid, as well as the actual amount being paid. The notice must be delivered to and signed in acknowledgement of receipt by the employee and must list both the monetary wages and fringe benefits to be paid or furnished for each classification in which the worker is assigned duties. When requested by Owner, competent evidence of compliance with the Texas Prevailing Wage Law shall be furnished by Contractor.

9.1.3 A copy of each worker wage rate notification shall be submitted to the Owner with the Application for Payment for the period during which the worker began on-site activities.

9.2 Prevailing Wage Schedule. Pursuant to Texas Government Code Section 2258.022(2), the general prevailing rate of per diem wages for each craft or type of worker needed to execute the Contract and the prevailing rate for legal holiday and overtime work shall be the most recent prevailing wage rate for Williamson County, Texas for building construction as determined by the United States Department of Labor in accordance with the Davis-Bacon Act (40 U.S.C. Section 276a et seq.), and its subsequent amendments, which are published and can be obtained online at <https://sam.gov/search/?index=dba> (the "Prevailing Wage Schedule"). Should the Contractor at any time become aware that a particular skill or trade not reflected on the Prevailing Wage Schedule will be or is being employed in the Work, whether by the Contractor or by a subcontractor, the Contractor shall promptly inform the Owner and shall specify a wage rate for that skill or trade, which shall bind the Contractor.

9.3 Penalty for Violation. The Contractor and any Subcontractor shall pay to the Owner a penalty of sixty dollars (\$60.00) for each worker employed for each calendar day, or portion thereof, that the worker is paid less than the wage rates stipulated in the Prevailing Wage Schedule or any supplement or update thereto pursuant to provisions above. The Contractor and each Subcontractor shall keep, or cause to be kept, an accurate record showing the names and occupations of all workers employed in connection with the Work, and showing the actual per diem wages paid to each worker, which records shall be open at all reasonable hours for the inspection by the Owner.

9.4 Complaints of Violations of Prevailing Wage Rates. Within thirty-one (31) days of receipt of information concerning a violation of Texas Government Code, Chapter 2258, the Owner shall make an initial determination as to whether good cause exists to believe a violation occurred. The Owner's decision on the initial determination shall be reduced to writing and sent to the Contractor or Subcontractor against whom the violation was alleged, and to the affected worker. When a good cause finding is made, the Owner shall retain the full amounts claimed by the claimant or claimants as the difference between wages paid and wages due under the Prevailing

Wage Schedule and any supplements thereto, together with the applicable penalties, such amounts being subtracted from successive progress payments pending a final decision on the violation.

9.5 Arbitration Required if Violation not Resolved. After the Owner makes its initial determination, the affected Contractor or Subcontractor and worker have fourteen (14) days in which to resolve the issue of whether a violation occurred, including the amount that should be retained by Owner or paid to the affected worker. If the Contractor or Subcontractor and affected worker reach an agreement concerning the worker's claim, the Contractor shall promptly notify the Owner in a written document signed by the worker. If the Contractor or Subcontractor and affected worker do not agree before the fifteenth (15th) day after the Owner's determination, the Contractor or Subcontractor and affected worker must participate in binding arbitration in accordance with the Texas General Arbitration Act, Chapter 171, Tex. Civ. Prac. & Rem. Code. The parties to the arbitration have ten (10) days after the expiration of the fifteen (15) days referred to above, to agree on an arbitrator; if by the eleventh (11th) day there is no agreement to an arbitrator, a district court shall appoint an arbitrator on the petition of any of the parties to the arbitration.

9.6 Arbitration Award. If an arbitrator determines that a violation has occurred, the arbitrator shall assess and award against the Contractor or Subcontractor the amount of penalty as provided herein and the amount owed the worker. The Owner may use any amounts retained hereunder to pay the worker the amount as designated in the arbitration award. If the Owner has not retained enough from the Contractor or Subcontractor to pay the worker in accordance with the arbitration award, the worker has a right of action against the Contractor and Subcontractor as appropriate, and the surety of either to receive the amount owed, attorneys' fees and court costs. The Contractor shall promptly furnish a copy of the arbitration award to the Owner.

9.7 Prevailing Wage Retainage. Money retained pursuant to this section shall be used to pay the claimant or claimants the difference between the amount the worker received in wages for labor on the Project at the rate paid by the Contractor or Subcontractor and the amount the worker would have received at the general prevailing wage rate as provided by the agreement of the claimant and the Contractor or Subcontractor affected, or in the arbitrator's award. The full statutory penalty of sixty dollars (\$60.00) per day of violation per worker shall be retained by the Owner to offset its administrative costs, pursuant to Texas Government Code, §2258.023. Any retained funds in excess of these amounts shall be paid to the Contractor on the earlier of the next progress payment or final payment. Provided, however, that the Owner shall have no duty to release any funds to either the claimant or the Contractor until it has received the notices of agreement or the arbitration award as provided in this section.

9.8 No Extension of Time. If the Owner determines that good cause exists to believe a violation has occurred, the Contractor shall not be entitled to an extension of time for any delay arising directly or indirectly from the procedures set forth in this section.

ARTICLE 10 BONDS:

10.1 Performance Bond. Upon execution of this Agreement, Contractor shall provide a Performance Bond in the amount of 100% of the Contract Price. The surety for a Performance Bond shall meet the requirements of Texas law and the requirements set forth in the Agreement.

10.2 Payment Bond. Upon execution of this Agreement, Contractor shall provide a Payment Bond in the amount of 100% of the Contract Price, as security for the true and faithful payment in full of all subcontractors and persons performing labor, services, materials, machinery, and fixtures in connection with the Work. The surety for a Payment Bond shall meet the requirements of Texas law and the requirements set forth in the Agreement.

10.3 Warranty Bond. Upon Final Completion, Contractor shall provide a Warranty Bond in the amount of 20% of the Contract Price, as security for the true and faithful performance of all warranties set forth in the Agreement.

ARTICLE 11 TERMINATION OR SUSPENSION OF THE AGREEMENT

11.1 Termination by Contractor

If one of the reasons described below exists, the Contractor may, upon thirty (30) business days written notice to the Owner, terminate the Agreement and recover from the Owner payment for Work executed, including reasonable overhead, profit, and costs incurred by reason of such termination:

- 11.1.1** Issuance of an order of a court or other public authority having jurisdiction that requires all Work to be stopped;
- 11.1.2** An act of government, such as a declaration of national emergency that requires all Work to be stopped;
- 11.1.3** Because the Owner has not issued a Certificate for Payment and has not notified the Contractor of the reason for withholding certification as provided in the Agreement, or because the Owner has not made payment on an undisputed Certificate for Payment within the time stated in the Agreement; or
- 11.1.4** If the Work is stopped for a period of ninety (90) consecutive days through no act or fault of the Contractor or a Subcontractor, Sub-subcontractor or their agents or employees or any other persons or entities performing portions of the Work under direct or indirect contract with the Agreement.

11.2 Termination by the Owner for Cause

11.2.1 The Owner may terminate the Agreement if the Contractor:

- 11.2.1.1** Fails to commence the Work in accordance with the provisions of the Agreement;
- 11.2.1.2** Fails to prosecute the Work to completion thereof in a diligent, efficient, timely, workmanlike, skillful and careful manner and in strict accordance with the provisions of the Agreement;
- 11.2.1.3** Fails to use an adequate amount or quality of personnel or equipment to complete the Work without undue delay;

- 11.2.1.4 Fails to perform any of its obligations under the Agreement;
- 11.2.1.5 Fails to make prompt payments when due to its Subcontractors and Suppliers, or as required by **Texas Government Code, Chapter 2251**;
- 11.2.1.6 Files any petition or other pleading seeking any relief under any provisions of the Federal Bankruptcy Act, as amended, or any other federal or state statute or law providing for reorganization of debts or other relief from creditors, permits a receiver or other person to be appointed on account of its insolvency or financial condition, or becomes insolvent;
- 11.2.1.7 Creates any situation or state of facts which would authorize or permit an involuntary petition in bankruptcy to be filed against Contractor; or
- 11.2.1.8 Has not met or in Owner's opinion will not meet the dates of Substantial Completion set forth in the Agreement.

11.2.2 When any of the reasons under **Paragraph 11.2.1** exist, the Owner, in its sole and absolute discretion, may without prejudice to any other rights or remedies of the Owner and after giving the Contractor and the Contractor's surety, if any, **thirty (30) calendar days** written notice, terminate employment of the Contractor and may, subject to any prior rights of the surety, exclude the Contractor from the Project site and take possession of all materials, equipment, tools, and construction equipment and machinery thereon owned by the Contractor; accept assignment of subcontracts of Contractors subcontractors; and finish the Work by whatever reasonable method the Owner may deem expedient. Upon written request of the Contractor, the Owner shall furnish to the Contractor a detailed accounting of the costs incurred by the Owner in finishing the Work.

11.2.3 When the Owner terminates the Agreement for one of the reasons stated in **Paragraph 11.2.1**, the Contractor shall not be entitled to receive further payment until the Work is finished. In the event that it is determined that sufficient cause did not exist for termination under this **Section 11.2**, then the termination shall be considered a termination for convenience, under **Section 11.4**, below.

11.2.4 If the unpaid balance of the Contract Price exceeds costs of finishing the Work, including compensation for expenses made necessary thereby, and other damages and costs incurred by the Owner in finishing the Work and not expressly waived, such excess shall be paid to the Contractor. If such costs and damages exceed the unpaid balance, the Contractor shall pay the difference to the Owner.

11.3 Suspension by the Owner for Convenience

11.3.1 The Owner may, without cause, order the Contractor in writing to suspend, delay or interrupt the Work in whole or in part for such period of time as the Owner may determine.

11.3.2 The Contract Price and Contract Time shall be adjusted for increases in the cost and time caused by suspension, delay or interruption as described in **Paragraph 11.3.1**. Adjustment of the Contract Price shall include profit. No adjustment shall be made to the extent:

- 11.3.2.1 that performance is, was or would have been so suspended, delayed or interrupted by another cause for which the Contractor is responsible; or

11.3.2.2 that an equitable adjustment is made or denied under another provision of the Agreement.

11.4 Termination by the Owner for Convenience

11.4.1 The Owner may, at any time, terminate the Agreement for the Owner's convenience and without cause.

11.4.2 Upon receipt of written notice from the Owner of such termination for the Owner's convenience, the Contractor shall

11.4.2.1 Cease operations as directed by the Owner in the notice;

11.4.2.2 Take actions necessary, or that the Owner may direct, for the protection and preservation of the Work; and

11.4.2.3 Except for Work directed to be performed prior to the effective date of termination stated in the notice, terminate all existing subcontracts and purchase orders and enter into no further subcontracts and purchase orders.

11.4.3 Upon Owner's termination for convenience, costs of the Work executed, including reasonable overhead and profit, incurred to and including the date of termination, will be due and payable to Contractor in accordance with the Agreement.

ARTICLE 12 MISCELLANEOUS PROVISIONS

12.1 Interest and Late Payments. Owner's payment for goods and services shall be governed by Chapter 2251 of the Texas Government Code. Interest charges for any overdue payments shall be paid by Owner in accordance with Texas Government Code Section 2251.025. More specifically, the rate of interest that shall accrue on a late payment is the rate in effect on September 1 of Owner's fiscal year in which the payment becomes due. The said rate in effect on September 1 shall be equal to the sum of one percent (1%); and (2) the prime rate published in the Wall Street Journal on the first day of July of the preceding fiscal year that does not fall on a Saturday or Sunday.

In the event that an error appears in an invoice/application for payment submitted by Contractor, Owner shall notify Contractor of the error not later than the twenty first (21st) day after the date Owner receives the invoice/application for payment. If the error is resolved in favor of Contractor, Contractor shall be entitled to receive interest on the unpaid balance of the invoice/application for payment submitted by Contractor beginning on the date that the payment for the invoice/application for payment became overdue. If the error is resolved in favor of the Owner, Contractor shall submit a corrected invoice/application for payment that must be paid in accordance within the time set forth above. The unpaid balance accrues interest as provided by Chapter 2251 of the Texas Government Code if the corrected invoice/application for payment is not paid by the appropriate date.

12.2 Audits. Contractor agrees that Owner or its duly authorized representatives shall, until the expiration of three (3) years after final payment under this Agreement, have access to and the right

to examine and photocopy any and all books, documents, papers and records of Contractor which are directly pertinent to the services to be performed under this Agreement for the purposes of making audits, examinations, excerpts, and transcriptions. Contractor agrees that Owner shall have access during normal working hours to all necessary Contractor facilities and shall be provided adequate and appropriate work space in order to conduct audits in compliance with the provisions of this section. Owner shall give Contractor reasonable advance notice of intended audits.

12.3 Assignment. This Agreement is a personal service contract for the services of Contractor, and Contractor's interest in this Agreement, duties hereunder and/or fees due hereunder may not be assigned or delegated to a third party.

12.4 Governing Law and Venue. This Agreement and all of the rights and obligations of the parties and all of the terms and conditions shall be construed, interpreted and applied in accordance with and governed by and enforced under the laws of the State of Texas without reference to its conflicts of law provisions. Williamson County, Texas where the Project is located shall be the sole place of venue for any legal action arising from or related to this Agreement or the Project in which the Owner is a party.

12.5 Binding Effect. This Agreement shall be binding upon and inure to the benefit of the parties and their respective permitted assigns and successors.

12.6 Notices. All notices, consents, approvals, demands, requests or other communications relied on by the parties shall be in writing. Written notice shall be deemed to have been given when delivered in person to the designated representative of the Contractor or Owner for whom it is intended; or sent by U. S. Mail to the last known business address of the designated representative.

12.7 Severability. Should any term or provision of this Agreement be held invalid or unenforceable in any respect, the remaining terms and provisions shall not be affected and this Agreement shall be construed as if the invalid or unenforceable term or provision had never been included.

12.8 Relationship of the Parties. GC shall be an independent contractor under this Contract and shall assume all of the rights, obligations, liabilities, applicable to it as such independent contractor hereunder and any provisions in this Contract which may appear to give County the right to direct GC as to details of doing the Work herein covered or to exercise a measure of control over the Work shall be deemed to mean that GC shall follow the desires of County in the results of the Work only. County shall not retain or have the right to control the GC's means, methods or details pertaining to the GC's performance of the Work described herein, nor shall County have the power to direct the order in which GC's Work is performed under this Contract. County and GC hereby agree and declare that GC is an independent contractor and, as such, meets the qualifications of an Independent Contractor under Texas Worker's Compensation Act, Texas Labor Code, Section 406.141, that the GC is not an employee of County for purposes of this Contract, and that the GC and its employees, agents and sub-subcontractors shall not be entitled to worker's compensation coverage or any other type of insurance coverage held by County.

12.9 Force Majeure. If the party obligated to perform is prevented from performance by an act of war, order of legal authority, act of God, or other unavoidable cause not attributable to the fault or negligence of said party, the other party shall grant such party relief from the performance of this Agreement. The burden of proof for the need of such relief shall rest upon the party obligated to perform. To obtain release based on force majeure, the party obligated to perform shall file a written request with the other party.

12.10 No Waiver of Sovereign Immunity. Nothing herein shall be construed as a waiver of sovereign immunity by Owner.

12.11 Current Revenues. Under Texas law, a contract with a governmental entity that contains a claim against future revenues is void; therefore, each party paying for the performance of governmental functions or services must make those payments from current revenues available to the paying party.

12.12 Compliance with Laws. Contractor shall comply with all federal, state, and local laws, statutes, ordinances, rules and regulations, and the orders and decrees of any courts or administrative bodies or tribunals in any matter affecting the performance of this Agreement, including, without limitation, Worker's Compensation laws, minimum and maximum salary and wage statutes and regulations, licensing laws and regulations. When required, Contractor shall furnish the Owner with certification of compliance with said laws, statutes, ordinances, rules, regulations, orders, and decrees above specified.

12.13 Entire Agreement & Incorporated Documents; Conflicting Terms. This Agreement constitutes the entire agreement between the parties and may not be modified or amended other than by a written instrument executed by both parties.

The following documents shall comprise the Contract Documents:

1. This Agreement between Owner and Contractor;
2. Exhibit "A" – Plans and Specifications;
3. Addenda issued prior to the Effective Date of this Agreement;
4. The Request for Proposal/Invitation for Bids documents defined in Williamson County RFP#25RFCSP50;
5. Contractor's Proposal/Bid submitted in response to Williamson County RFP#25RFCSP50; and
6. All Change Orders and any other Modifications issued after the Effective Date of this Agreement.

In the event of a dispute or conflict relating to the terms and conditions of the Contract Documents, applicable documents will be referred to for the purpose of clarification, conflict resolution or for additional detail in the following order of precedence:

1. This Agreement between Owner and Contractor;
2. Exhibit "A" – Plans and Specifications;
3. Addenda issued prior to the Effective Date of this Agreement;

4. The Request for Proposal/Invitation for Bids documents defined in Williamson County RFP#25RFCSP50;
5. Contractor's Proposal/Bid submitted in response to Williamson County RFP#25RFCSP50; and
6. All Change Orders and any other Modifications issued after the Effective Date of this Agreement.

BY SIGNING BELOW, the Parties have executed and bound themselves to this Agreement to be effective as of the date of the last party's execution hereof.

OWNER:

WILLIAMSON COUNTY, TEXAS,
a political subdivision of the state of Texas

By: _____

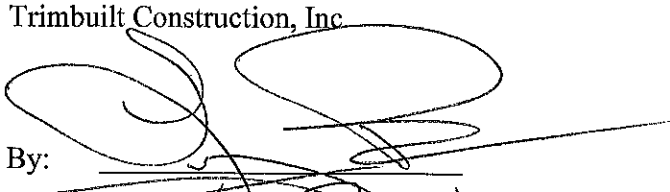
Printed Name: _____

Title: _____

Date: _____

CONTRACTOR:

Trimbuilt Construction, Inc

By: 

Printed Name: Larry Puckett

Title: President

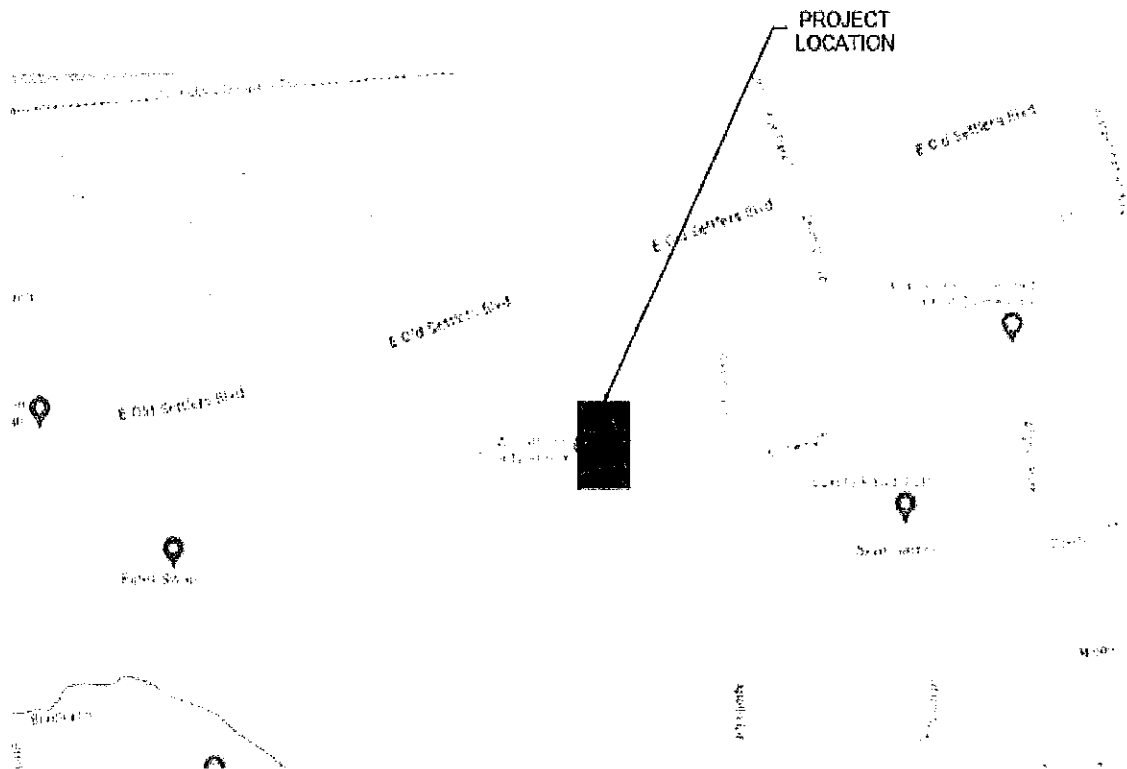
Date: 6-23-2025

Exhibit "A"

Plans and Specifications

Location of Project: Jester Annex, 1801 E. Old Settlers Blvd, Round Rock, TX 78664

Scope of Work: Owner's Project is to upgrade the air conditioning system at Williamson County Jester Annex by converting the current HVAC system from DX to chilled water. The Project envelopes two (2) of the three (3) units with provision made to replace the third unit at a future date. The Project includes all utilities, drainage, roadways, parking, landscaping and walkways to structures, and landscaping associated with structures.





PLANS AND SPECIFICATIONS

All Work provided are to be performed in conjunction with the A/E and Owner.

Architects and Engineers (A/E)

Owner's designated A/E has prepared the construction documents for the Project and has full responsibility for complying with, the laws relating to architectural and engineering services in Texas including, but not limited to the Texas Engineering Practice Act (Occupations Code Chapters 1001 and 1051), as applicable.

Personnel

In addition to the terms and conditions of the Agreement, Contractor shall

- Maintain a staff of properly trained and experienced personnel to ensure satisfactory performance under this Agreement.
- Assign to Owner a designated representative who will be responsible for the coordination and administration of Owner's requirements.
- Provide a superintendent on the job full time (all day/all working days) from the start of construction through substantial completion. After substantial completion, on-site contractor supervision will be required at any time work is under way at the site.

Project Execution

Except as otherwise set forth in the Agreement and other Contract Documents, Owner shall provide or contract for, independently of Contractor, the inspection services, the testing of construction materials engineering, and the verification testing services necessary for acceptance of the Project by Owner.

Construction Cost

In addition to the terms and conditions of the Agreement, Contractor shall:

- Complete accounting records of work performed on the Project
- Review all pay requests and process for payment through A/E
- Review and prepare summary application for payment based on the Contractors' Certificate of Payment and material vendors' invoicing
- Coordinate change orders, verify subcontractors' estimates as reasonable and accurate, secure Owner's approval before change order work is completed
- Provide all necessary materials, facilities, and ancillary services (such as cleanup) necessary for provision of the Work not being provided by the subcontractor(s) when necessary for the performance of the Work during construction and for completion of the construction

Construction Scheduling

In addition to the terms and conditions of the Agreement, Contractor shall:

- Review Owner's anticipated opening date and develop Project schedule
- Sequence schedule to support contract documents and opening date and recommend any necessary corrective actions
- Attend milestone review meetings with Owner and Project team immediately before commencing each Project phase
- At the milestone review meetings, assist Owner in identifying goals for the upcoming work, examine the performance of the Project team against the goals in the preceding phase, and propose corrective measures as necessary or appropriate.
- Coordinate and expedite the ordering and delivery of materials, especially those requiring a long lead time

Construction Administration

In addition to the terms and conditions of the Agreement, Contractor shall:

- Provide on-site job trailer, temporary fencing, temporary utilities, and other services as appropriate
- Schedule, conduct, and report with the A/E on weekly meetings with subcontractors
- Require safety programs and certificates of insurance from subcontractors
- Monitor and supervise safety programs of subcontractors and verify compliance with laws and regulations
- Coordinate interpretation of the meaning and intent of drawing and specification and assist in resolution of questions
- Review all shop drawings and submittals from subcontractors
- Keep records of all documents at the job site, including red-line changes
- Administer construction contracts prepared by Owner
- Coordinate necessary testing services
- Record progress of Project

Fulltime Onsite Supervision

In addition to the terms and conditions of the Agreement, Contractor shall:

- Provide an experienced Construction Field Superintendent on site daily, every workday, to monitor work and progress of the Project
- Manage subcontractor performance
- Monitor and enforce Owner construction conditions
- Provide visual inspections of workmanship and special inspections as needed to verify quality of work, and maintenance to specifications
- Provide written progress reports to Owner and A/E submitted weekly during contractor meetings

- Arrange for delivery and storage of all material purchased by Owner
- Coordinate contract scheduling, monitor contractor labor force, verify delivery of contractor materials

Disputes and Resolution

In addition to the terms and conditions of the Agreement, Contractor shall:

- Assist Owner and A/E with review and management of claims
- Mediate conflicts between Contractor and Owner, if necessary
- Mediate conflicts between A/E and Owner, if necessary

Project Close Out

In addition to the terms and conditions of the Agreement, Contractor shall:

- Supervise subcontractors' final testing and start-up of utilities, operations systems and equipment
- Walk through and prepare "punch list" with Owner, A/E and consulting engineers
- Participate in final inspection with Owner and A/E
- Prepare equipment operational manuals and provide preventive maintenance plan
- Verify appropriate training and in-service has been provided by subcontractors for Owner
- Supervise completion of punch list items
- Compile all product data, samples, warranties, owner manuals, red line drawings, keys, maintenance stock, extra materials, and other information or materials to be provided to Owner
- Coordinate Project substantial completion and final payments with A/E and Owner

Plans, Drawings and Specifications

Attached below:

WILLIAMSON COUNTY JESTER ANNEX ROOFTOP HVAC UNIT REPLACEMENT

**ISSUED FOR PERMIT
JULY 25, 2024**

RAMIREZ-SIMON ENGINEERING, LLC
9805 Whitthorn Drive
Houston, Texas 77095
Main: 832.261.1420
Texas Registered Engineering Firm F-14781

GESSNER ENGINEERING
Corporate Office: 401 W 26th Street,
Bryan, Texas, 77803
Main: 1.877.437.7637
Firm Registration Numbers: TBPE F-7451,
TBPLS F-10193910



COMPORATE OFFICE
401 W 15TH STREET
BRYAN, TEXAS 77801
1-877-DESMER 1437
WWW.FESSMER.COM

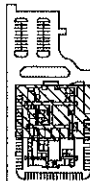
**1801 E Old Settlers Blvd
Round Rock, TX 78664**

MARK	DATE	DESCRIPTION
------	------	-------------

SHEET NUMBER
G201

- a. DRAWINGS ARE SCHEMATIC IN NATURE. VERIFY DIMENSIONS AND LOCATIONS IN THE FIELD. CONTRACTOR SHALL VERIFY EXACT LOCATION AND COMPOSITION OF EXISTING INSTALLATIONS TO REMAIN.
- b. IDENTIFY LAMINATED TERMINAL UNIT AND HEATING WATER VALVE IDENTIFICATION TAGS ON CEILING GRID. TAGS SHALL BE LOCATED ON GRID FOR BUILDING MAINTENANCE PERSONNEL TO QUICKLY IDENTIFY LOCATION OF TERMINAL UNITS AND VALVES.

1. REMOVE AND REPLACE EXISTING CEILING TILES WITH ROCKFON ARTIC 801.
2. EXISTING CEILING GRID TO BE REMAIN AND BE PROTECTED. CEILING GRID TO BE REPAIRED AS REQUIRED.
3. DEMOLISH EXISTING CEILING AND ASSOCIATED GRID.
4. EXISTING CEILING TILES AND GRID TO REMAIN.
5. REMOVE AND REPLACE EXISTING CEILING TILES WITH ROCKFON ARTIC 801.
6. EXISTING CEILING GRID TO BE REMAIN AND BE PROTECTED. CEILING GRID TO BE REPAIRED AS REQUIRED. EXISTING AROUND CEILING AROUND ROOM PERIMETER SHALL BE PROTECTED AND REMAIN.

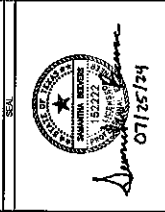


PRICE LISTING FOR THE FULL SIZE JACKET

GENERAL CEILING PLAN - AREA B

SCALE: 1/8" = 1'-0"

Ramirez - Simon
Engineering, LLC
Mechanical • Electrical • Plumbing
Texas Registered Engineering Firm E-14781
8905 Wilshire Dr., Houston, TX 77065
Office 832.561.1420



GESSNER
CORPORATE OFFICE
14100 WESTHEIMER BOULEVARD
SUITE 100
HOUSTON, TEXAS 77063
PHONE 281.415.1000
FAX 281.415.1001
WWW.GESSNER.COM

WILLIAMSON COUNTY
1546
PROJECT ISSUE
Williamson County Jester Annex
Roofing HVAC Unit Replacement
RUE PROJECT NO.
14-79
PROJECT ADDRESS
1801 E Old Settlers Blvd
Round Rock, TX 78664

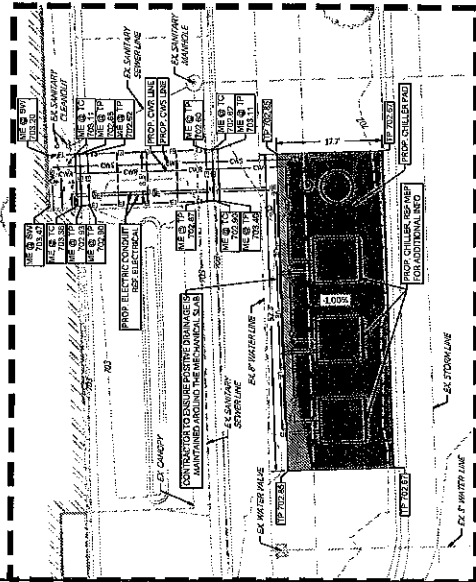
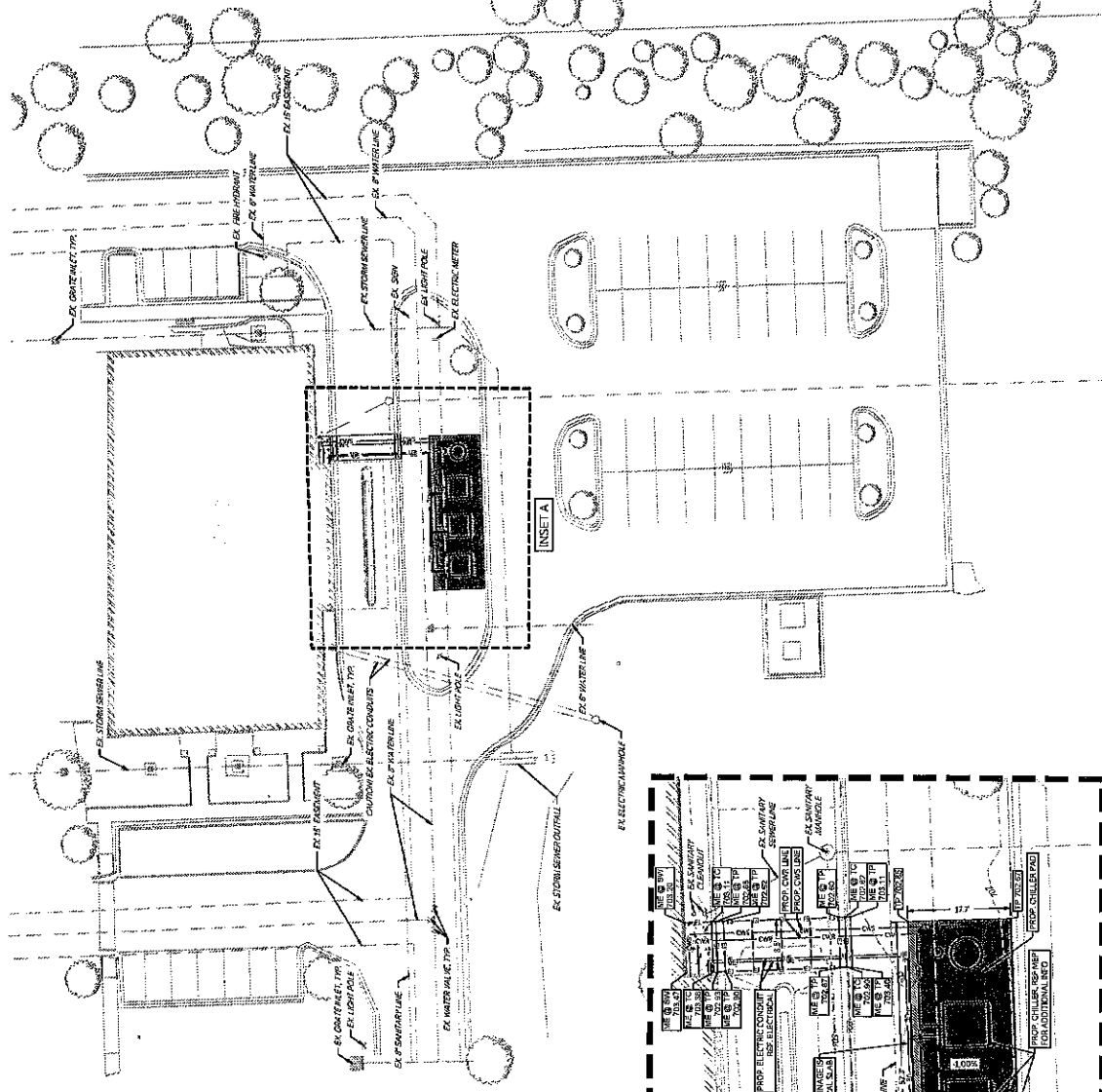
ISSUED FOR PERMIT
JUL 25, 2024
SITE PLAN
C-100

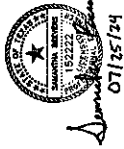
CAUTION: THIS PLAN IS FOR INFORMATION ONLY. IT IS NOT TO BE USED FOR CONSTRUCTION. THE USER ASSUMES ALL LIABILITY FOR ANY DAMAGE OR INJURY RESULTING FROM THE USE OF THIS PLAN. THE USER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND FOR COMPLYING WITH ALL APPLICABLE REGULATIONS AND ORDINANCES. THE USER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND FOR COMPLYING WITH ALL APPLICABLE REGULATIONS AND ORDINANCES.



- PROJECT BENCHMARK**
- BM1: BENCHMARK LOCATION
NORTHING: 1234567.89
EASTING: 987654.32
ELEVATION: 754.32
 - BM2: BENCHMARK LOCATION
NORTHING: 1234567.89
EASTING: 987654.32
ELEVATION: 754.32
 - BM3: BENCHMARK LOCATION
NORTHING: 1234567.89
EASTING: 987654.32
ELEVATION: 754.32
- DISSECT OF ADDITIONAL IMPROVEMENTS COVER WILL NOT NECESSARILY IMPACT DRAINAGE**

LEGEND
EXISTING BUILDING
PROPOSED 7" CONCRETE PAVEMENT
PROPOSED 4" CONCRETE SIDEWALK
REZ. STRUCTURAL PLANS & DETAILS
EXISTING PAVEMENT EDGE
PROPERTY LINE
EXISTING EASEMENT
PROPOSED EASEMENT
EXISTING CONTOURS
PROPOSED CONTOURS
EX. PROP. STORM LINE
EX. PROP. WATER LINE
EX. PROP. SANITARY SEWER LINE
EXISTING THERMAL
PROPOSED THERMAL
EX. PROP. GAS LINE
EX. PROP. DATA/TELECOM
EX. PROP. UNDERGROUND ELECTRIC
EX. PROP. FIBER OPTIC
EX. PROP. OVERHEAD ELECTRIC
EX. PROP. FIRE HYDRANT
EX. PROP. WATER METER
EX. PROP. GATE VALVE
CL. IRRIGATION CONTROL VALVE
PROPOSED FIRE DEPARTMENT CONNECTION
PROPOSED POST INDICATOR VALVE
PROPOSED HOSE LAY
EX. PROP. SANITARY SEWER MANHOLE
EX. PROP. SANITARY SEWER CLEANOUT
EX. PROP. STORM SEWER MANHOLE
PROPOSED STORM SEWER CLEANOUT
EX. PROP. LIGHT POLE
PROPOSED PUBLIC ACCESS EASEMENT
PROPOSED UTILITY EASEMENT





GESSNER

CORPORATE OFFICE
 401 W 16TH STREET
 DALLAS, TEXAS 75202
 1.877.655.8212
 WWW.REGISTRATIONNUMBERSTYPE.F.A.S.L.TEXAS.F-10252010



PROJECT NAME:
Williamson County Jester Annex
Rooftop HVAC Unit Replacement

RSC PROJECT No.
1479

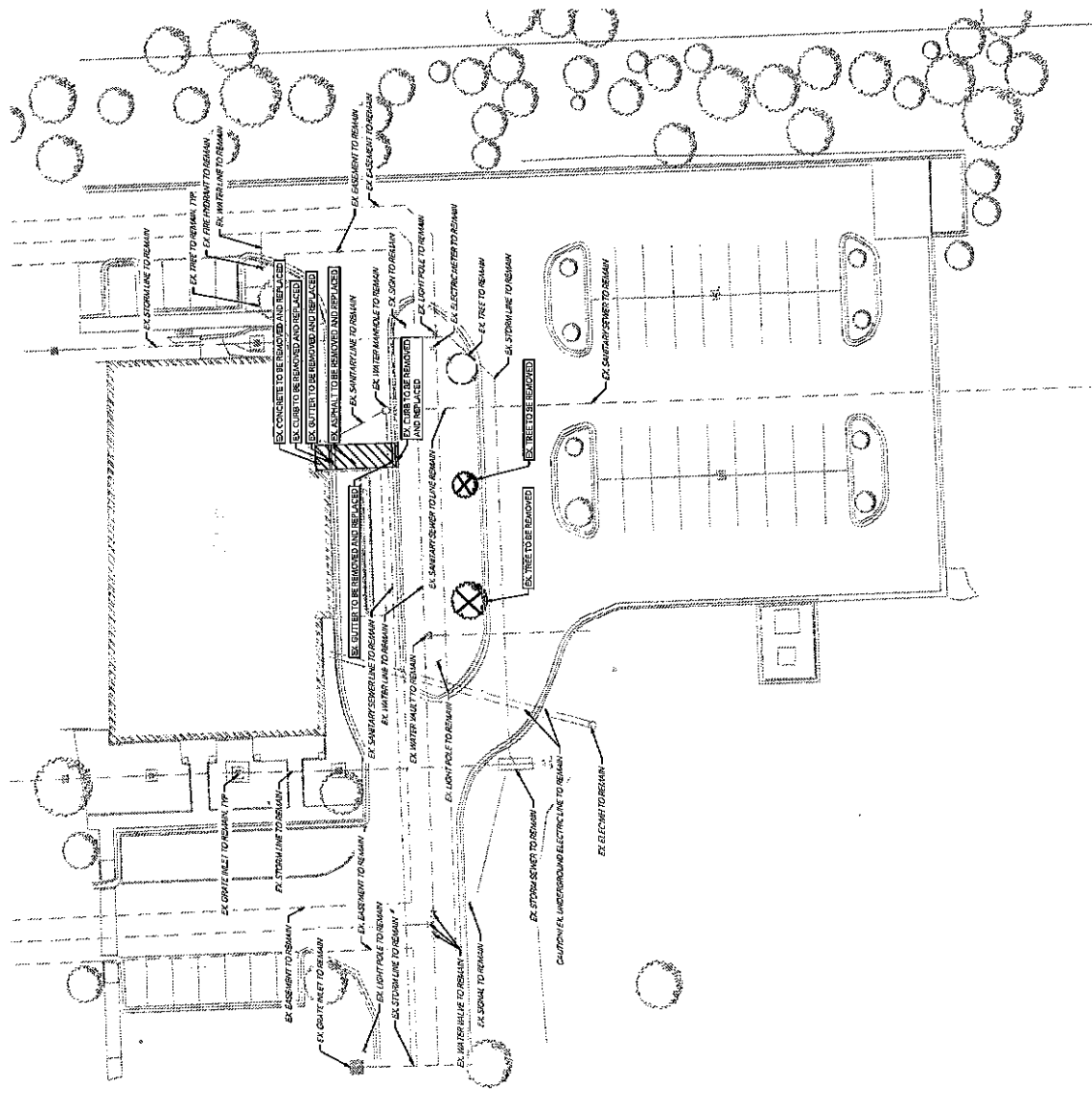
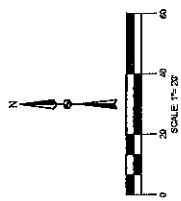
PROJECT ADDRESS:
1801 E Old Settlers Blvd
Round Rock, TX 78664

1952 JUL

ISSUED FOR
PERMIT
JUL 25, 2024

[illegible]

	PROF. TREE PROTECTION FENCE (TO PROTECT ALL DISCARNAT. ANIMALS) (HAS SOUNDING TRAIL)
	EX. TREE TO BE REMOVED
	EX. TREE TO REMAIN
	DISMANTLING AREA



Mechanical • Electrical • Plumbing
Texas Registered Engineering Firm F-14731
9305 Witham Dr. | Houston, TX 77063
Office: 832-261-1420



CONSULTANTS



GESSNER

CORPORATE OFFICE
401 W 26TH STREET
BOYAN, TEXAS 77803
LARRY GESSNER (409) 663-0
WWW.GESSNERENGINEERING.COM
FROM REGISTRATION NUMBER
TYPE 1-745L, 10P115-1055510



PROJECT NAME: Williamson County Jester Annex
Roof/HVAC Unit Replacement

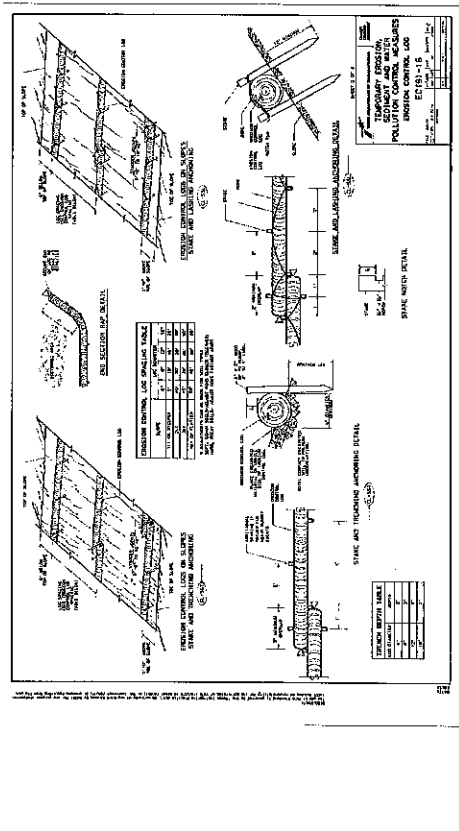
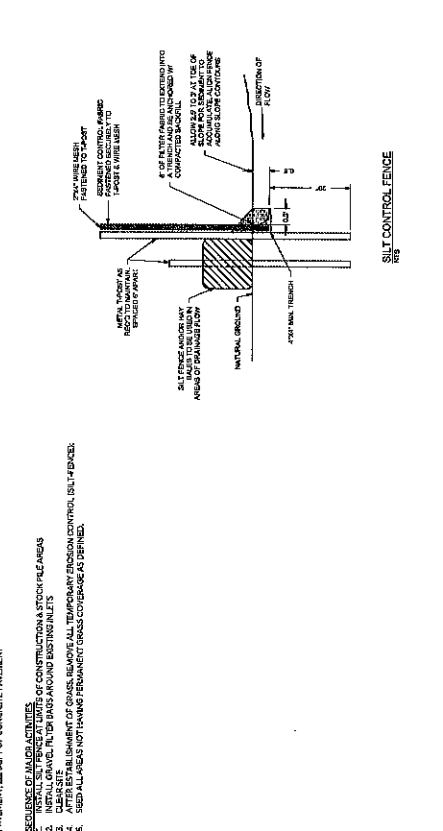
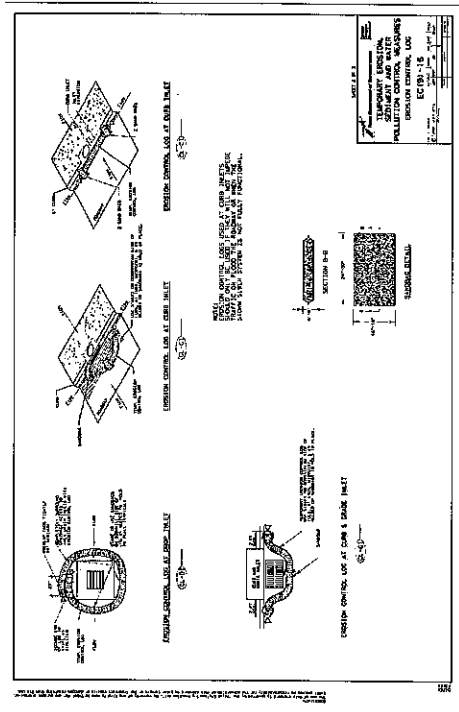
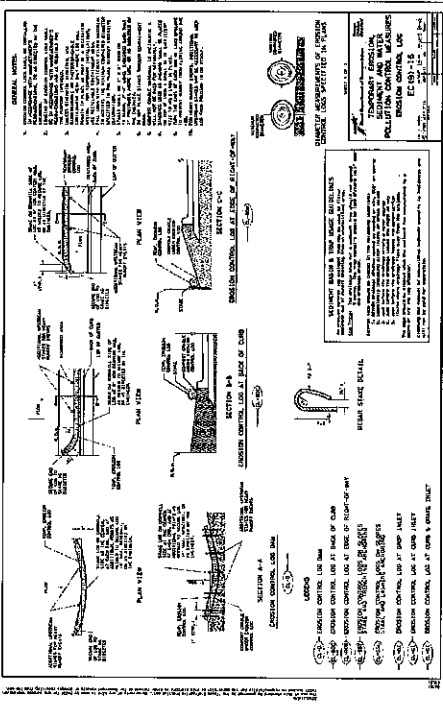
TEST No. _____

PROJECT ADDRESS:
1801 E Old Settlers Blvd
Round Rock, TX 78684

ISSUED FOR
PERMIT
JUL 25, 2024

[illegible]EROSION
CONTROL
NOTES

C-301

[illegible]



GESSNER

CORPORATE OFFICE
10000 GESSNER DRIVE
SUITE 100
HOUSTON, TEXAS 77036
P: 281.410.1234
F: 281.410.1235
WWW.GESSNERINC.COM



WILLIAMSON COUNTY
Texas

PROJECT NAME
WILLIAMSON COUNTY
Routemap 7740C Unit Replacement

PROJECT ADDRESS
1801 E Old Settlers Blvd
Round Rock, TX 78664

ISSUED FOR PERMIT
JUL 25, 2024

DATE OF ISSUE

DATE OF REVISION

DATE OF REVISION

DATE OF REVISION

DATE OF REVISION

DATE OF REVISION

DATE OF REVISION

DATE OF REVISION

DATE OF REVISION

DATE OF REVISION

DATE OF REVISION

DATE OF REVISION

DATE OF REVISION

DATE OF REVISION

DATE OF REVISION

DATE OF REVISION

DATE OF REVISION

DATE OF REVISION

DATE OF REVISION

DATE OF REVISION

DATE OF REVISION

DATE OF REVISION

DATE OF REVISION

DATE OF REVISION

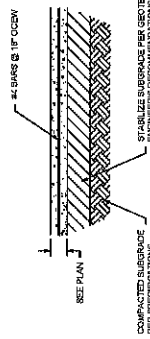
DATE OF REVISION

DATE OF REVISION

DATE OF REVISION

DATE OF REVISION

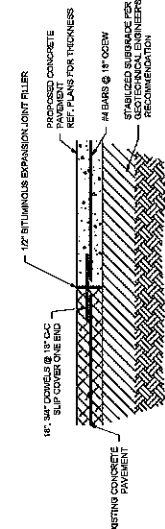
DATE OF REVISION



- NOTES:
1. SEE PLAN FOR JOINT SPACING, COMPRESSIVE STRENGTH, PAVEMENT THICKNESS, AND REINFORCING.
 2. SEE PLAN FOR JOINT SPACING, COMPRESSIVE STRENGTH, PAVEMENT THICKNESS, AND REINFORCING.
 3. SEE PLAN FOR JOINT SPACING, COMPRESSIVE STRENGTH, PAVEMENT THICKNESS, AND REINFORCING.

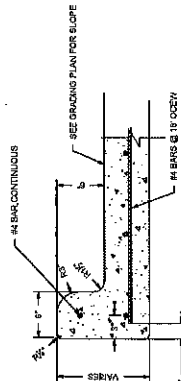
CONCRETE PAVEMENT
N/A

CONTROL JOINT
N/A

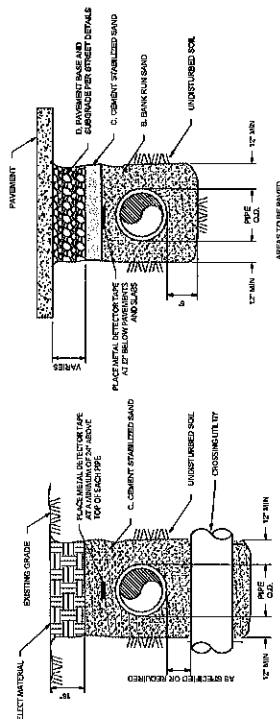


- NOTES:
1. SEE PLAN FOR THICKNESS OF EXISTING AND PROPOSED PAVEMENT.
 2. COMPRESSIVE STRENGTH OF 4000 PSI.

EXISTING CONCRETE TEIN
N/A



INTEGRAL CURB & GUTTER
N/A



- NOTES:
1. FOR BEDDING AND TRENCHING WITH ALL PAVED AREAS SEE DETAILS.
 2. ALL BEDDING SHALL BE IN ACCORDANCE WITH STANDARD SPECIFICATIONS FOR HOPE PIPE.
 3. ALL BEDDING SHALL BE IN ACCORDANCE WITH STANDARD SPECIFICATIONS FOR HOPE PIPE.
 4. ALL BEDDING SHALL BE IN ACCORDANCE WITH STANDARD SPECIFICATIONS FOR HOPE PIPE.
 5. ALL BEDDING SHALL BE IN ACCORDANCE WITH STANDARD SPECIFICATIONS FOR HOPE PIPE.
 6. ALL BEDDING SHALL BE IN ACCORDANCE WITH STANDARD SPECIFICATIONS FOR HOPE PIPE.
 7. ALL BEDDING SHALL BE IN ACCORDANCE WITH STANDARD SPECIFICATIONS FOR HOPE PIPE.

- GENERAL NOTES:
1. ALL BEDDING SHALL BE IN ACCORDANCE WITH STANDARD SPECIFICATIONS FOR HOPE PIPE.
 2. ALL BEDDING SHALL BE IN ACCORDANCE WITH STANDARD SPECIFICATIONS FOR HOPE PIPE.
 3. ALL BEDDING SHALL BE IN ACCORDANCE WITH STANDARD SPECIFICATIONS FOR HOPE PIPE.
 4. ALL BEDDING SHALL BE IN ACCORDANCE WITH STANDARD SPECIFICATIONS FOR HOPE PIPE.
 5. ALL BEDDING SHALL BE IN ACCORDANCE WITH STANDARD SPECIFICATIONS FOR HOPE PIPE.
 6. ALL BEDDING SHALL BE IN ACCORDANCE WITH STANDARD SPECIFICATIONS FOR HOPE PIPE.
 7. ALL BEDDING SHALL BE IN ACCORDANCE WITH STANDARD SPECIFICATIONS FOR HOPE PIPE.

BEDDING AND TRENCH FOR HOPE PIPE WITH NON-STRUCTURAL OR NEW PAVED AREAS

FULL SIZE (44x60) 220314

Ramirez - Simon
Engineering LLC

Mechanical • Electrical • Plumbing
Texas Registered Engineering Firm F-4281
9805 Wolkstein Dr., | Houston, TX 77063
Office: 832.261.1420



CONSULTANTS



GESSNER

MECHANICAL • ELECTRICAL • PLUMBING
10000 Katy Freeway, Suite 100
Houston, TX 77024
Tel: 281.440.1234
Fax: 281.440.1235
www.gessner-engineering.com

PROJECT INFORMATION

CLIENT NAME



WILLIAMSON COUNTY
1942

PROJECT NAME
Williamson County Justice Annex
Rooftop HVAC Unit Replacement

SITE PROJECT NO.

1479

PROJECT ADDRESS

1801 E Old Settlers Blvd
Round Rock, TX 78664

ISSUED FOR
PERMIT
JULY 25, 2024

DATE

DESCRIPTION

DATE

DESCRIPTION

DATE

DESCRIPTION

DATE

DESCRIPTION

DATE

DESCRIPTION

DATE

DESCRIPTION

DATE

DESCRIPTION

DATE

DESCRIPTION

DATE

DESCRIPTION

DATE

DESCRIPTION

DATE

DESCRIPTION

DATE

DESCRIPTION

ROOF FRAMING PLAN
SCALE = 1/8" = 1'-0"



PULL SIZE SHEET: 2200x

- NOTES:
1. BEAMS AND JOISTS ARE TYPICALLY CENTERED ON AND BRACED BETWEEN COLUMN CENTERS.
 2. PROVIDE ALL DIMENSIONS WITH EXISTING CONDITIONS.
 3. COORDINATE AND VERIFY ALL DIMENSIONS WITH EXISTING CONDITIONS.
 4. PROVIDE ALL DIMENSIONS WITH EXISTING CONDITIONS.
 5. PROVIDE ALL DIMENSIONS WITH EXISTING CONDITIONS.
 6. PROVIDE ALL DIMENSIONS WITH EXISTING CONDITIONS.
 7. PROVIDE ALL DIMENSIONS WITH EXISTING CONDITIONS.
 8. PROVIDE ALL DIMENSIONS WITH EXISTING CONDITIONS.
 9. PROVIDE ALL DIMENSIONS WITH EXISTING CONDITIONS.
 10. PROVIDE ALL DIMENSIONS WITH EXISTING CONDITIONS.
 11. PROVIDE ALL DIMENSIONS WITH EXISTING CONDITIONS.
 12. PROVIDE ALL DIMENSIONS WITH EXISTING CONDITIONS.
 13. PROVIDE ALL DIMENSIONS WITH EXISTING CONDITIONS.
 14. PROVIDE ALL DIMENSIONS WITH EXISTING CONDITIONS.
 15. PROVIDE ALL DIMENSIONS WITH EXISTING CONDITIONS.
 16. PROVIDE ALL DIMENSIONS WITH EXISTING CONDITIONS.
 17. PROVIDE ALL DIMENSIONS WITH EXISTING CONDITIONS.
 18. PROVIDE ALL DIMENSIONS WITH EXISTING CONDITIONS.
 19. PROVIDE ALL DIMENSIONS WITH EXISTING CONDITIONS.
 20. PROVIDE ALL DIMENSIONS WITH EXISTING CONDITIONS.
 21. PROVIDE ALL DIMENSIONS WITH EXISTING CONDITIONS.
 22. PROVIDE ALL DIMENSIONS WITH EXISTING CONDITIONS.
 23. PROVIDE ALL DIMENSIONS WITH EXISTING CONDITIONS.
 24. PROVIDE ALL DIMENSIONS WITH EXISTING CONDITIONS.
 25. PROVIDE ALL DIMENSIONS WITH EXISTING CONDITIONS.
 26. PROVIDE ALL DIMENSIONS WITH EXISTING CONDITIONS.
 27. PROVIDE ALL DIMENSIONS WITH EXISTING CONDITIONS.
 28. PROVIDE ALL DIMENSIONS WITH EXISTING CONDITIONS.
 29. PROVIDE ALL DIMENSIONS WITH EXISTING CONDITIONS.
 30. PROVIDE ALL DIMENSIONS WITH EXISTING CONDITIONS.
 31. PROVIDE ALL DIMENSIONS WITH EXISTING CONDITIONS.
 32. PROVIDE ALL DIMENSIONS WITH EXISTING CONDITIONS.
 33. PROVIDE ALL DIMENSIONS WITH EXISTING CONDITIONS.
 34. PROVIDE ALL DIMENSIONS WITH EXISTING CONDITIONS.
 35. PROVIDE ALL DIMENSIONS WITH EXISTING CONDITIONS.
 36. PROVIDE ALL DIMENSIONS WITH EXISTING CONDITIONS.
 37. PROVIDE ALL DIMENSIONS WITH EXISTING CONDITIONS.
 38. PROVIDE ALL DIMENSIONS WITH EXISTING CONDITIONS.
 39. PROVIDE ALL DIMENSIONS WITH EXISTING CONDITIONS.
 40. PROVIDE ALL DIMENSIONS WITH EXISTING CONDITIONS.
 41. PROVIDE ALL DIMENSIONS WITH EXISTING CONDITIONS.
 42. PROVIDE ALL DIMENSIONS WITH EXISTING CONDITIONS.
 43. PROVIDE ALL DIMENSIONS WITH EXISTING CONDITIONS.
 44. PROVIDE ALL DIMENSIONS WITH EXISTING CONDITIONS.
 45. PROVIDE ALL DIMENSIONS WITH EXISTING CONDITIONS.
 46. PROVIDE ALL DIMENSIONS WITH EXISTING CONDITIONS.
 47. PROVIDE ALL DIMENSIONS WITH EXISTING CONDITIONS.
 48. PROVIDE ALL DIMENSIONS WITH EXISTING CONDITIONS.
 49. PROVIDE ALL DIMENSIONS WITH EXISTING CONDITIONS.
 50. PROVIDE ALL DIMENSIONS WITH EXISTING CONDITIONS.
 51. PROVIDE ALL DIMENSIONS WITH EXISTING CONDITIONS.
 52. PROVIDE ALL DIMENSIONS WITH EXISTING CONDITIONS.
 53. PROVIDE ALL DIMENSIONS WITH EXISTING CONDITIONS.
 54. PROVIDE ALL DIMENSIONS WITH EXISTING CONDITIONS.
 55. PROVIDE ALL DIMENSIONS WITH EXISTING CONDITIONS.
 56. PROVIDE ALL DIMENSIONS WITH EXISTING CONDITIONS.
 57. PROVIDE ALL DIMENSIONS WITH EXISTING CONDITIONS.
 58. PROVIDE ALL DIMENSIONS WITH EXISTING CONDITIONS.
 59. PROVIDE ALL DIMENSIONS WITH EXISTING CONDITIONS.
 60. PROVIDE ALL DIMENSIONS WITH EXISTING CONDITIONS.
 61. PROVIDE ALL DIMENSIONS WITH EXISTING CONDITIONS.
 62. PROVIDE ALL DIMENSIONS WITH EXISTING CONDITIONS.
 63. PROVIDE ALL DIMENSIONS WITH EXISTING CONDITIONS.
 64. PROVIDE ALL DIMENSIONS WITH EXISTING CONDITIONS.
 65. PROVIDE ALL DIMENSIONS WITH EXISTING CONDITIONS.
 66. PROVIDE ALL DIMENSIONS WITH EXISTING CONDITIONS.
 67. PROVIDE ALL DIMENSIONS WITH EXISTING CONDITIONS.
 68. PROVIDE ALL DIMENSIONS WITH EXISTING CONDITIONS.
 69. PROVIDE ALL DIMENSIONS WITH EXISTING CONDITIONS.
 70. PROVIDE ALL DIMENSIONS WITH EXISTING CONDITIONS.
 71. PROVIDE ALL DIMENSIONS WITH EXISTING CONDITIONS.
 72. PROVIDE ALL DIMENSIONS WITH EXISTING CONDITIONS.
 73. PROVIDE ALL DIMENSIONS WITH EXISTING CONDITIONS.
 74. PROVIDE ALL DIMENSIONS WITH EXISTING CONDITIONS.
 75. PROVIDE ALL DIMENSIONS WITH EXISTING CONDITIONS.
 76. PROVIDE ALL DIMENSIONS WITH EXISTING CONDITIONS.
 77. PROVIDE ALL DIMENSIONS WITH EXISTING CONDITIONS.
 78. PROVIDE ALL DIMENSIONS WITH EXISTING CONDITIONS.
 79. PROVIDE ALL DIMENSIONS WITH EXISTING CONDITIONS.
 80. PROVIDE ALL DIMENSIONS WITH EXISTING CONDITIONS.
 81. PROVIDE ALL DIMENSIONS WITH EXISTING CONDITIONS.
 82. PROVIDE ALL DIMENSIONS WITH EXISTING CONDITIONS.
 83. PROVIDE ALL DIMENSIONS WITH EXISTING CONDITIONS.
 84. PROVIDE ALL DIMENSIONS WITH EXISTING CONDITIONS.
 85. PROVIDE ALL DIMENSIONS WITH EXISTING CONDITIONS.
 86. PROVIDE ALL DIMENSIONS WITH EXISTING CONDITIONS.
 87. PROVIDE ALL DIMENSIONS WITH EXISTING CONDITIONS.
 88. PROVIDE ALL DIMENSIONS WITH EXISTING CONDITIONS.
 89. PROVIDE ALL DIMENSIONS WITH EXISTING CONDITIONS.
 90. PROVIDE ALL DIMENSIONS WITH EXISTING CONDITIONS.
 91. PROVIDE ALL DIMENSIONS WITH EXISTING CONDITIONS.
 92. PROVIDE ALL DIMENSIONS WITH EXISTING CONDITIONS.
 93. PROVIDE ALL DIMENSIONS WITH EXISTING CONDITIONS.
 94. PROVIDE ALL DIMENSIONS WITH EXISTING CONDITIONS.
 95. PROVIDE ALL DIMENSIONS WITH EXISTING CONDITIONS.
 96. PROVIDE ALL DIMENSIONS WITH EXISTING CONDITIONS.
 97. PROVIDE ALL DIMENSIONS WITH EXISTING CONDITIONS.
 98. PROVIDE ALL DIMENSIONS WITH EXISTING CONDITIONS.
 99. PROVIDE ALL DIMENSIONS WITH EXISTING CONDITIONS.
 100. PROVIDE ALL DIMENSIONS WITH EXISTING CONDITIONS.

MECHANICAL OPTIONS

MECHANICAL OPTIONS

MECHANICAL OPTIONS

MECHANICAL OPTIONS

MECHANICAL OPTIONS

MECHANICAL OPTIONS

MECHANICAL OPTIONS

MECHANICAL OPTIONS

MECHANICAL OPTIONS

MECHANICAL OPTIONS

MECHANICAL OPTIONS

MECHANICAL OPTIONS

MECHANICAL OPTIONS

MECHANICAL OPTIONS

MECHANICAL OPTIONS

MECHANICAL OPTIONS

MECHANICAL OPTIONS

MECHANICAL OPTIONS

MECHANICAL OPTIONS

MECHANICAL OPTIONS

MECHANICAL OPTIONS

MECHANICAL OPTIONS

MECHANICAL OPTIONS

MECHANICAL OPTIONS

MECHANICAL OPTIONS

MECHANICAL OPTIONS

MECHANICAL OPTIONS

MECHANICAL OPTIONS

MECHANICAL OPTIONS

MECHANICAL OPTIONS

MECHANICAL OPTIONS

MECHANICAL OPTIONS

MECHANICAL OPTIONS

MECHANICAL OPTIONS

MECHANICAL OPTIONS

MECHANICAL OPTIONS

MECHANICAL OPTIONS

MECHANICAL OPTIONS

MECHANICAL OPTIONS

MECHANICAL OPTIONS

MECHANICAL OPTIONS

MECHANICAL OPTIONS

MECHANICAL OPTIONS

MECHANICAL OPTIONS

MECHANICAL OPTIONS

MECHANICAL OPTIONS

MECHANICAL OPTIONS

MECHANICAL OPTIONS

MECHANICAL OPTIONS

MECHANICAL OPTIONS

MECHANICAL OPTIONS

MECHANICAL OPTIONS

MECHANICAL OPTIONS

MECHANICAL OPTIONS

MECHANICAL OPTIONS

MECHANICAL OPTIONS

MECHANICAL OPTIONS

MECHANICAL OPTIONS

MECHANICAL OPTIONS

MECHANICAL OPTIONS

MECHANICAL OPTIONS

MECHANICAL OPTIONS

MECHANICAL OPTIONS

MECHANICAL OPTIONS

MECHANICAL OPTIONS

MECHANICAL OPTIONS

MECHANICAL OPTIONS

MECHANICAL OPTIONS

MECHANICAL OPTIONS

MECHANICAL OPTIONS

MECHANICAL OPTIONS

MECHANICAL OPTIONS

MECHANICAL OPTIONS

MECHANICAL OPTIONS

MECHANICAL OPTIONS

MECHANICAL OPTIONS

MECHANICAL OPTIONS

MECHANICAL OPTIONS

MECHANICAL OPTIONS

MECHANICAL OPTIONS

MECHANICAL OPTIONS

MECHANICAL OPTIONS

MECHANICAL OPTIONS

MECHANICAL OPTIONS

MECHANICAL OPTIONS

MECHANICAL OPTIONS

MECHANICAL OPTIONS

MECHANICAL OPTIONS

MECHANICAL OPTIONS

MECHANICAL OPTIONS

MECHANICAL OPTIONS

MECHANICAL OPTIONS

Ramirez - Simon
Engineering, LLC

Mechanical • Electrical • Plumbing
Texas Registered Engineering Firm 6-14781
9905 Whithorn Dr. | Houston, TX 77065
Office: 832.261.1420



CONSULTANTS



GESSNER

CORPORATE OFFICE
401 W 26TH STREET
BRYAN, TEXAS 77803
1-877-GESSNER-4377
www.gessner.org/central-g.com

AREA REGISTRATION NUMBERS:
TYPE E-2451, TYPE E-3019, N10

SUBJECT INFORMATION



PROJECT NAME:
Williamson County Jester Annex
Roof HVAC Unit Replacement

PRODUCT NO.

1479

POST ADDRESS:
801 E Old Settlers Blvd
Round Rock, TX 78664

517025

[illegible]

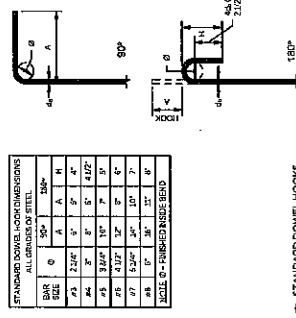
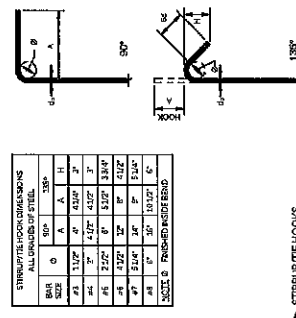
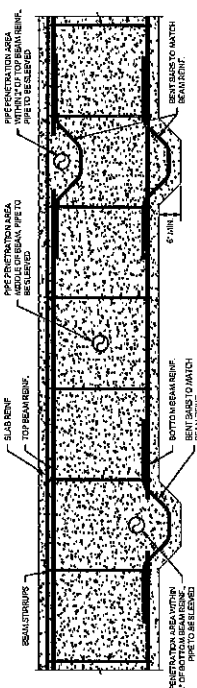
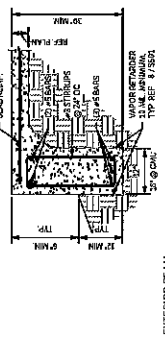
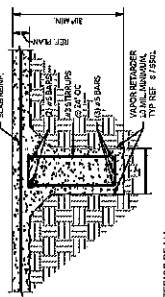
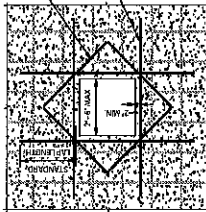
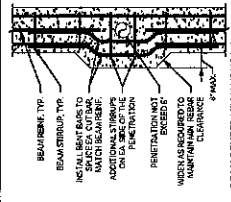
RS&E PROJECT NO: 1479
SHEET TITLE

FOUNDATION DETAILS

SUBJECT NUMBER

\$501

Figure 10



STIRRUP/HOOK DIMENSIONS ALL UNITS OF STEEL						
BAR SIZE	Ø	90°	A	A	H	135°
#3	1 1/2"	4"	4 1/2"	3"		
#4	2"	4 1/2"	5 1/2"	3"		
#5	2 1/2"	5"	6 1/2"	3 3/4"		
#6	3 1/2"	12"	8"	4 1/2"		
#7	5 1/4"	14"	8"	5 1/4"		
#8	6"	16"	10 1/2"	6"		

NOTE: Ø FINISHED INSIDE BEND

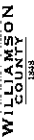
STANDARD DOWEL HOOK DIMENSIONS ALL GRADES OF STEEL				OTHER SPECIFICATIONS			
BAR SIZE	Ø	50°		30°		Ø	H
		A	M	A	M		
#3	2 3/8"	5"	4"	5"	4"		
#4	2"	5"	5"	5"	4 1/2"		
#5	3 3/4"	10"	7"	5"	5"		
#6	4 1/2"	12"	5"	5"	6"		
#7	5 3/4"	14"	10"	7"	7"		
#8	6 3/4"	16"	11"	8"	8"		

Mechanical • Electrical • Plumbing
Texas Registered Engineering Firm E-14731
9805 Whithorn Dr. | Houston, TX 77095
Office: 832.261.1420



CORPORATE OFFICE
400 W 26TH STREET
IRVING, TEXAS 77033
1.877.GESSNER (437.7637)
www.gessnerengineering.com

SUBJECT INFORMATION



PROJECT NAME:
Williamson County Jester Annex
Rooftop HVAC Unit Replacement

BASE PROJECT NO.
1479

PROJECT ADDRESS:
1801 E Old Settlers Blvd
Round Rock, TX 78664

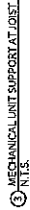
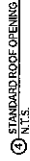
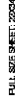
ISSUED FOR
PERMIT
JULY 25, 2024

[illegible]

ROOF FRAMING DETAILS

SHEET NUMBER

S502



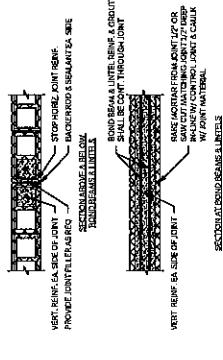


DATE	DESCRIPTION



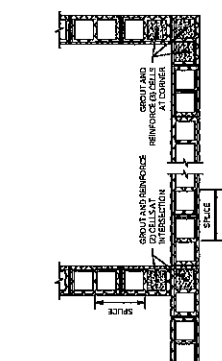
P.L. 0007 04/07/2024

NOTES:
1. SEE METAL CLIPPING AND BRIMMON Joints AT THE FOLLOWING MAX. SPACING UNITS:
A. 12" ON CENTER HORIZONTAL FULLY
B. 12" ON CENTER VERTICAL FULLY
C. WITHIN 12" TYPICAL JOINT SPACING FROM CMU WALL CORNERS OR INTERSECTIONS
ALONG INTERSECTING WALL.



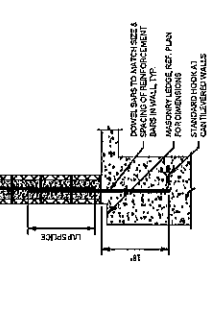
CMU CONTROL JOINT DETAIL
N.T.S.

NOTES:
1. SEE METAL CLIPPING AND BRIMMON Joints AT THE FOLLOWING MAX. SPACING UNITS:
A. 12" ON CENTER HORIZONTAL FULLY
B. 12" ON CENTER VERTICAL FULLY
C. WITHIN 12" TYPICAL JOINT SPACING FROM CMU WALL CORNERS OR INTERSECTIONS
ALONG INTERSECTING WALL.



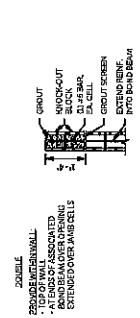
CMU WALL CORNER REINFORCING DETAIL
N.T.S.

NOTES:
1. SEE METAL CLIPPING AND BRIMMON Joints AT THE FOLLOWING MAX. SPACING UNITS:
A. 12" ON CENTER HORIZONTAL FULLY
B. 12" ON CENTER VERTICAL FULLY
C. WITHIN 12" TYPICAL JOINT SPACING FROM CMU WALL CORNERS OR INTERSECTIONS
ALONG INTERSECTING WALL.



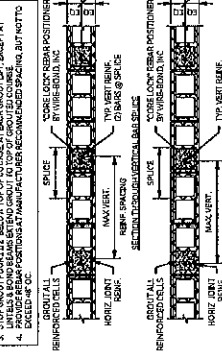
CMU WALL TO FOUNDATION
N.T.S.

NOTES:
1. SEE METAL CLIPPING AND BRIMMON Joints AT THE FOLLOWING MAX. SPACING UNITS:
A. 12" ON CENTER HORIZONTAL FULLY
B. 12" ON CENTER VERTICAL FULLY
C. WITHIN 12" TYPICAL JOINT SPACING FROM CMU WALL CORNERS OR INTERSECTIONS
ALONG INTERSECTING WALL.



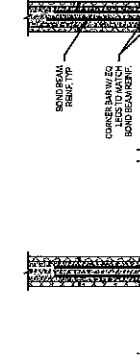
BOND BEAM SCHEDULE
N.T.S.

NOTES:
1. SEE METAL CLIPPING AND BRIMMON Joints AT THE FOLLOWING MAX. SPACING UNITS:
A. 12" ON CENTER HORIZONTAL FULLY
B. 12" ON CENTER VERTICAL FULLY
C. WITHIN 12" TYPICAL JOINT SPACING FROM CMU WALL CORNERS OR INTERSECTIONS
ALONG INTERSECTING WALL.



CMU WALL REINFORCING DETAIL
N.T.S.

NOTES:
1. SEE METAL CLIPPING AND BRIMMON Joints AT THE FOLLOWING MAX. SPACING UNITS:
A. 12" ON CENTER HORIZONTAL FULLY
B. 12" ON CENTER VERTICAL FULLY
C. WITHIN 12" TYPICAL JOINT SPACING FROM CMU WALL CORNERS OR INTERSECTIONS
ALONG INTERSECTING WALL.



CMU BOND BEAM CORNER REINFORCING DETAIL
N.T.S.

Ramirez - Simon Engineering, LLC		Mechanical • Electrical • Plumbing Texas Registered Engineering Firm E-12981 9840 South Loop West, Suite 1000, Houston, TX 77095 OFFICE 281.261.1400		SEAL 		CONSULTANTS		GESSNER CORPORATE OFFICE 10000 Katy Freeway, Suite 100 Spring, Texas 77479 281.499.9999 www.gessnerinc.com FIRM REGISTRATION NUMBER STATE FIRM REG. NO. 00000000		PROJECT INFORMATION		CLIENT NAME WILLIAMSON COUNTY 1840  PROJECT NAME Williamson County Jester Annex Rooftop HVAC Unit Replacement PROJECT NUMBER 1479 FIRM PROJECT NO. 1479 PROJECT ADDRESS 1801 E Old Settlers Blvd Round Rock, TX 78664		DATE ISSUED FOR PERMIT JULY 26, 2024		<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>NAME</th> <th>DATE</th> <th>DESCRIPTION</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </tbody> </table>		NAME	DATE	DESCRIPTION																															PROJECT TITLE MECHANICAL LEGEND AND GENERAL INFORMATION		SHEET NUMBER M001	
NAME	DATE	DESCRIPTION																																																				

GENERAL NOTES

1. THESE NOTES APPLY TO ALL MECHANICAL SHEETS.
2. PROVIDE ACCESS DOORS ON WALLS, CEILINGS OR CHASES TO ACCESS CONCEALED EQUIPMENT, PIPING, DUCTS, OR ELECTRICAL CONNECTIONS. ACCESS DOOR SIZES SHALL MATCH CLASSIFICATION OF WALL AND CEILING PRECASTING.
3. FURNISH ALL NECESSARY BRITISH STANDARD INVERTS, ELBOWS AND HANGING DEVICES TO COORDINATE WITH ALL BUILDING TRADES TO AVOID CONFLICTS AND TO MAINTAIN EQUIPMENT ACCESS AND SERVICEABILITY.
4. PROVIDE ACCESS DOORS TO ALL MECHANICAL ROOMS, CHASES, DUCTS, AND EQUIPMENT. COORDINATE WITH STRUCTURAL.
5. DETAILS ILLUSTRATED ON THE DRAWINGS SHALL BE APPLIED IN ALL CASES WHERE THE FEATURE OCCURS IN THE SYSTEM DESIGN.
6. DRAWINGS ARE SUBMITTED ON THE ASSUMPTION THAT ALL MECHANICAL EQUIPMENT OPERATES IN THE MANNER INTENDED BY THE MANUFACTURER. THE CONTRACTOR SHALL VERIFY THE OPERATION OF ALL EQUIPMENT AND MAKE NECESSARY ADJUSTMENTS TO THE DRAWINGS IF ANYTHING IS REQUIRED. ALL TYPE SHALL BE ROUTED AS REQUIRED TO AVOID CONFLICTS WITH BUILDING TRADES.
7. ALL DRAWING CHANGES SHALL BE FIELD MARKED BY CONTRACTOR. CONDITIONS SHALL CHANGES MAY EXIST DUE TO CHANGES IN LOADS, CONFINEMENT, OR SPACE REQUIREMENTS.
8. ALL DRIP SIZES SHOWN ARE NOMINAL. DRAINAGE IN INCHES, DRIP ARE INTERNALLY INSULATED. CONTINUATION IS REQUIRED TO COORDINATE ACTUAL PIPE SIZES WITH BUILDING TRADES. ALL DRAINAGE SHALL BE FIELD MARKED BY CONTRACTOR AND COORDINATE WITH OTHER TRADES.
9. MAJOR EQUIPMENT SHOWN ON THE PLANS AND ELEVATIONS ILLUSTRATE THE GENERAL CONCEPTS OF THE SYSTEM. THE CONTRACTOR SHALL PROVIDE THE NECESSARY ADJUSTMENTS TO THE DRAWINGS TO COORDINATE WITH ALL BUILDING TRADES TO AVOID CONFLICTS AND TO MAINTAIN EQUIPMENT ACCESS AND SERVICEABILITY. THE CONTRACTOR SHALL VERIFY THE OPERATION OF ALL EQUIPMENT AND MAKE NECESSARY ADJUSTMENTS TO THE DRAWINGS IF ANYTHING IS REQUIRED. ALL TYPE SHALL BE ROUTED AS REQUIRED TO AVOID CONFLICTS WITH BUILDING TRADES.
10. COORDINATE ALL PIPING WITH STRUCTURAL AND ELECTRICAL SYSTEMS AND PROVIDE ACCESS DOORS TO ALL MECHANICAL ROOMS, CHASES, DUCTS, AND EQUIPMENT. COORDINATE WITH STRUCTURAL.
11. CONTRACTOR SHALL MAINTAIN THE PRE-PROTECTION SYSTEM OF THE CENTRE BUILDING IN WORKING ORDER FOR THE DURATION OF THE PROJECT. NOTIFY COUNTY OF ANY DAMAGE TO THE PRE-PROTECTION SYSTEM OF THE CENTRE BUILDING OR OBSERVED OUTSIDE THE CENTRE BUILDING. REPORT OF DAMAGE SHALL BE SUBMITTED TO THE COUNTY OF THE CENTRE BUILDING.
12. CONTRACTOR SHALL MAINTAIN THE PRE-PROTECTION SYSTEM OF THE CENTRE BUILDING IN WORKING ORDER FOR THE DURATION OF THE PROJECT. NOTIFY COUNTY OF ANY DAMAGE TO THE PRE-PROTECTION SYSTEM OF THE CENTRE BUILDING OR OBSERVED OUTSIDE THE CENTRE BUILDING. REPORT OF DAMAGE SHALL BE SUBMITTED TO THE COUNTY OF THE CENTRE BUILDING.

[illegible]

MECHANICAL	
	CEILING DIFFUSERS WITH ROUND DUCT CONNECTION
	CEILING DIFFUSERS WITH ROUND FLEX DUCT CONNECTION
	CEILING SUPPLY AIR DEVICE (DOWN AND 1X12)
	CEILING RETURN AIR DEVICE (DOWN AND 1X12)
	CEILING EXHAUST AIR DEVICE (DOWN AND 1X12)
	1-WAY THROW CEILING AIR DEVICE
	2-WAY THROW CEILING AIR DEVICE
	3-WAY THROW CEILING AIR DEVICE
	INDIVIDUAL EXHAUST OR RETURN AIR GRILLE OR REGISTER
	INDIVIDUAL SUPPLY REGISTER
	MANUAL VOLUME DAMPER
	MOTORIZED DAMPER
	FIRE DAMPER
	COMBINATION FIRE/SMOKE DAMPER
	SMOKE DAMPER
	DUCT MOUNTED SMOKE DETECTOR
	FLEXIBLE DUCT CONNECTION
	DUCT TRANSITION
	DUCT TRANSITION FROM RECTANGULAR TO ROUND
	DUCT RESIN IN DIRECTION OF AIRFLOW
	DUCT DROP IN DIRECTION OF AIRFLOW
	VANE (SHOWN PROVIDED ALL SQUARE OR RECTANGULAR ELBOWS WITH VANE) EXCEPT TRANSFER AIR (SHOWN BELOW)
	LONG RADIUS DUCT ELBOW
	AIR DUCT SPLITTER
	ACOUSTICAL FREE LINED DUCT
	BRANCH CONNECTION TO MAIN WITH VOLUME DAMPER
	DUCT WITH VOLUME DAMPER

NOTE: NOT ALL SYMBOLS MAY BE USED ON THIS PROJECT.

[illegible][illegible]



GESSNER

CORPORATE OFFICE
401 W. 26TH STREET
BRYAN, TEXAS 77803
1.877.335.5568 (1.877.76.
www.dressforchange.org)
FROM REGISTRATION NUMBER
THE FASH. T8815-1-001



**WILLIAMSON
COUNTY**
1848

PROJECT NAME:
Williamson County Jester Annex
Rooftop HVAC Unit Replacement

RISE PROJECT No.
1178

PROJECT ADDRESS:
1801 E Old Settlers Blvd
Round Rock, TX 78664

1997

ISSUED FOR
PERMIT
JULY 25, 2024

[illegible]

MECHANICAL
DEMOLITION FLOOR
PLAN - AREA B

MD201

GENERAL NOTES

- A. DRAWINGS ARE SCHEMATIC IN NATURE. VERIFY DIMENSIONS AND EQUIPMENT LOCATIONS IN THE FIELD. CONTRACTOR SHALL VERIFY EXACT LOCATION AND CONFIGURATION OF EXISTING INSTALLATIONS TO REMAIN.

SHEET KEYED NOTES

1. DEMOLISH EXISTING CEILING GRID AND TILES ALONG WITH AIR DEVICES. STORAGE ROOM WILL BE CHANGED TO A MECHANICAL ROOM WITHOUT A CEILING.
2. EXISTING AIR DEVICES TO BE REWORKED AND RELOCATED, DEMOLISH ASSOCIATED DUCTWORK.
3. DEMOLISH EXISTING TEST-AT AND ASSOCIATED CONTROL WIRING, PROVIDE BLANK OFF PLATE OVER WALL OPENING.
4. DEMOLISH EXISTING TEST-AT AND ASSOCIATED CONTROL WIRING.

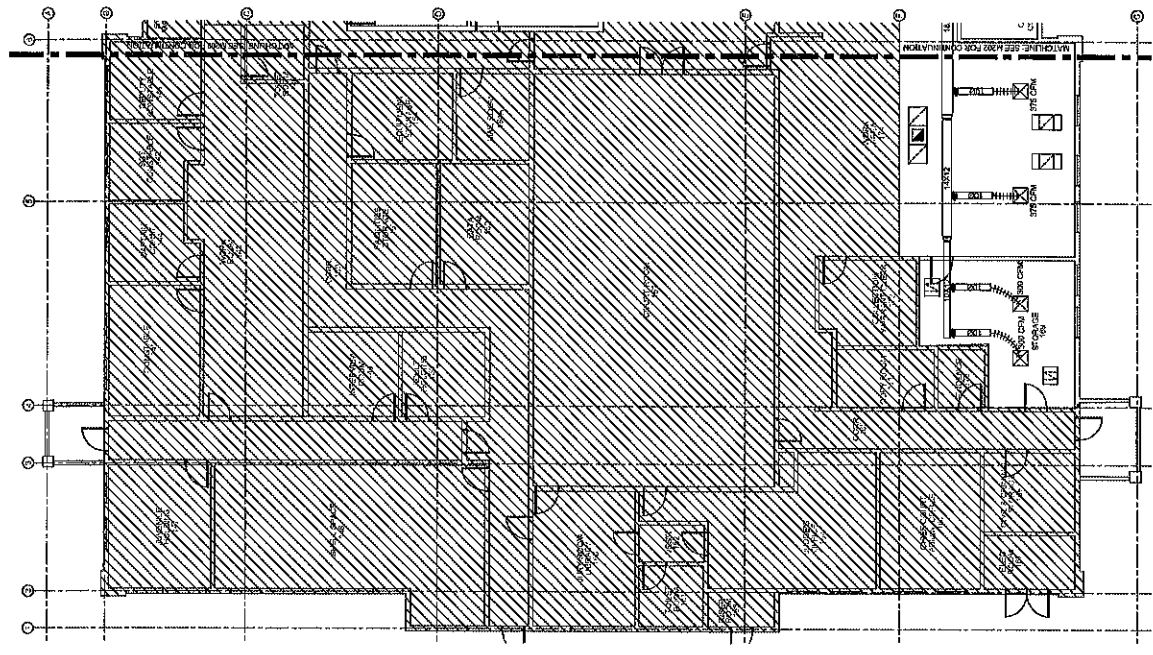


FULL SIZE SHEET: 22X34

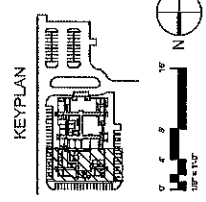
1 MECHANICAL DEMOLITION FLOOR PLAN -- AREA B
SCALE: 1/8" = 1'-0"

MECHANICAL
SCALING 1/8" = 1'-0"

- A. DRAWINGS ARE SCHEMATIC IN NATURE. VERIFY DIMENSIONS AND EQUIPMENT LOCATIONS IN THE FIELD. CONTRACTOR SHALL VERIFY EXACT LOCATION AND CONFIGURATION OF EXISTING INSTALLATIONS TO REMAIN.
- B. REBALANCE EXISTING DIFFUSERS TO CFW SHOWN ON PLAN.



1 MECHANICAL RENOVATION FLOOR PLAN - AREA A
SCALE: 1/8" = 1'-0"



Ramirez - Simon  Engineering, LLC Mechanical • Electrical • Plumbing Texas Registered Engineering Firm E-14981 9805 Whitaker Road, Suite 100 Dallas, Texas 75248 Office: 469.231.1425	
SEAL 	CONSULTANTS  GESSNER CORPORATE OFFICE 10000 West Loop South, Suite 100 Houston, Texas 77042 Tel: 281.416.7503 Fax: 281.416.7504 www.gessnerinc.com 15401 West Loop South, Suite 100 Houston, Texas 77042 Tel: 281.416.7503 Fax: 281.416.7504 www.gessnerinc.com
CLIENT NAME  WILLIAMSON COUNTY TEXAS PROJECT NAME Williamson County Jester Annex Rooftop HVAC Unit Replacement PROJECT NO. 1479 PROJECT ADDRESS 1801 E Old Settlers Blvd Round Rock, TX 78664	PROJECT INFORMATION CLIENT NAME  WILLIAMSON COUNTY TEXAS PROJECT NAME Williamson County Jester Annex Rooftop HVAC Unit Replacement PROJECT NO. 1479 PROJECT ADDRESS 1801 E Old Settlers Blvd Round Rock, TX 78664
ISSUED FOR PERMIT JULY 25, 2024	
SHEET NO. 1	SHEET TITLE MECHANICAL RENOVATION FLOOR PLAN - AREA A
SHEET NUMBER M201	

GENERAL NOTES	
A. DRAWINGS ARE SCHEMATIC IN NATURE. VERIFY DIMENSIONS AND LOCATION OF ALL EQUIPMENT, MATERIALS, AND FINISHES. VERIFY LOCATION AND COORDINATION OF EXISTING INSTALLATIONS TO REMAIN. B. REBALANCE EXISTING DIFFUSERS TO OPR SHOWN ON PLAN.	SHEET KEYED NOTES 1. PROVIDE NEW VAV, AND ASSOCIATED CONTROL, WIRING, DUCT. 2. PROVIDE NEW RETURN AIR GRILLE AND ASSOCIATED SOUND ATTENUATING DUCT. 3. PROVIDE HEAVY STAINLESS STEEL PALE AND ROUTE TO ROOF. REFER TO MANUFACTURER'S INSTALLATION REQUIREMENTS. 4. PROVIDE NEW VAV STAINLESS STEEL. AIR INTAKE VENT AND ROUTE TO ROOF. REFER TO MANUFACTURER'S INSTALLATION REQUIREMENTS. 5. PROVIDE NEW SUPPLY DIFFUSER AND MATCH EXISTING DIFFUSER TYPE. 6. RELOCATE EXISTING SUPPLY DIFFUSER.

KEY PLAN

1/8" = 1'-0"

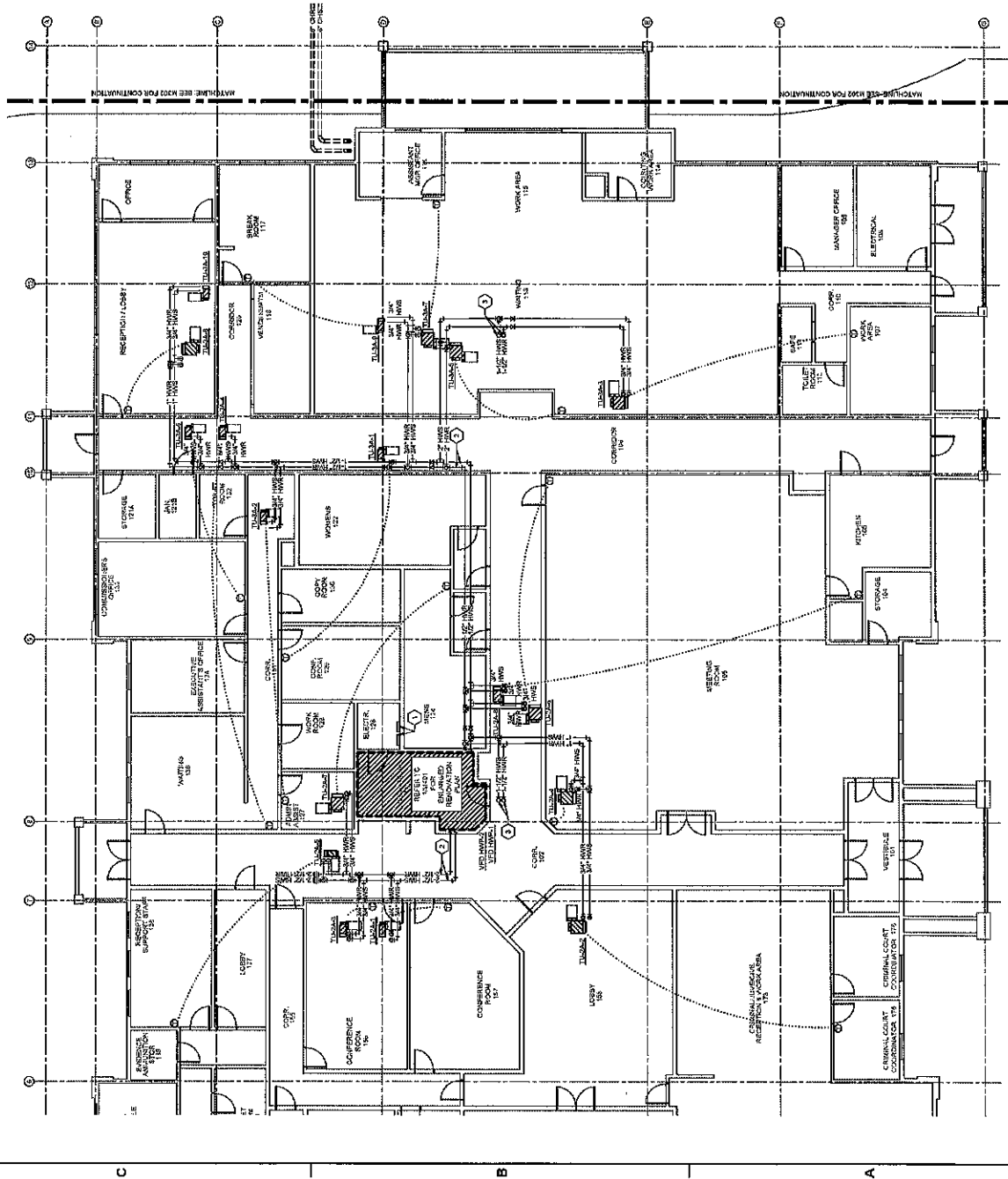
PULL SIZE SHEET: 2230A



[illegible]

4

4



1 MECHANICAL RENOVATION PIPING FLOOR PLAN - AREA B
DWG. 157-01-07



GESSNER
 CORPORATE OFFICE
 14793 WILSON BLVD., SUITE 100
 BRYAN, TEXAS 77803
 817.783.8861 / 817.783.7373
 FAX: 817.783.8862
 HENRY REGISTRATION NUMBER: 12861-17-001, TPLD-P-005890

WILLIAMSON COUNTY
 1848
 PROJECT NAME:
 Williamson County Jester Annex
 Rooftop HVAC Unit Replacement

PROJECT ADDRESS:
 1479
 1801 E Old Settlers Blvd
 Round Rock, TX 76684

ISSUED FOR
 PERMIT
 JULY 23, 2024

NO.	DATE	DESCRIPTION

MECHANICAL
 RENOVATION PIPING
 ROOF PLAN - AREA B

SHEET NUMBER
M303

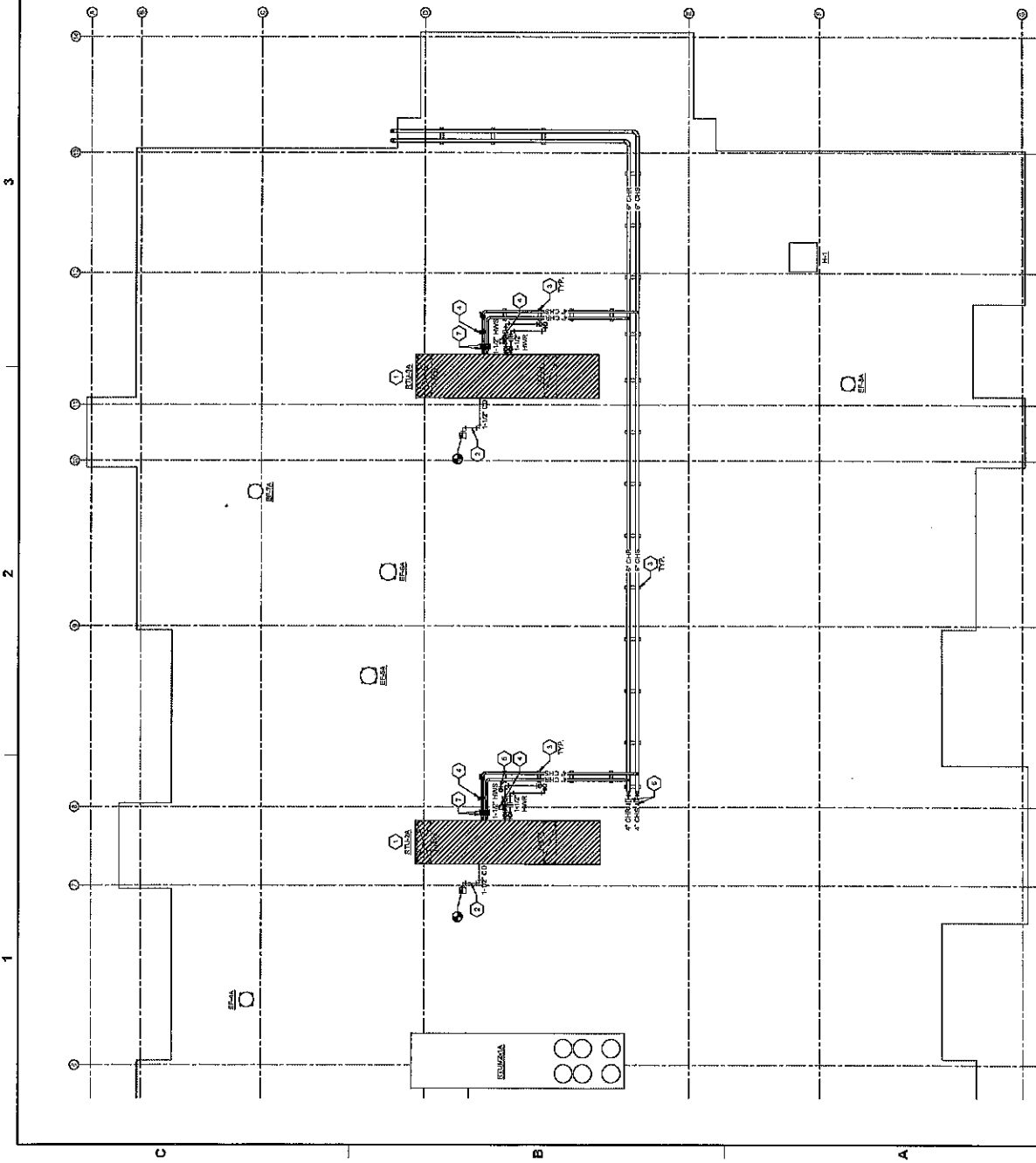
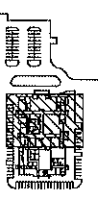
GENERAL NOTES

A. DRAWINGS ARE SCHEMATIC IN NATURE. VERIFY DIMENSIONS AND MATERIALS ON SITE. LOCATE AND COMPARE WITH EXISTING INSTALLATIONS TO REMAIN.

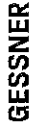
SHEET KEYED NOTES

1. PROVIDE NEW RVT AND ASSOCIATED DUCTWORK TRANSMISSION.
2. PROVIDE NEW 1/4" CONDENSATE DRAIN PIPING.
3. PROVIDE NEW CHILLED WATER PIPING SUPPORTS ON ROOF.
4. PROVIDE NEW MOTORIZED CONTROL VALVE IN 4" CHW PIPING.
5. ROUTE NEW 1" CHILLED WATER MAINS PIPING TO 4" CHW HEAT TRACER PIPING.
6. PROVIDE RING FLANGE AND ISOLATION VALVE IN CHILLED WATER PIPING.
7. PROVIDE ISOLATION VALVE IN CHILLED WATER PIPING.

KEY PLAN



1 MECHANICAL RENOVATION PIPING ROOF PLAN - AREA B
 SCALE: 1/8" = 1'-0"



CORPORATE OFFICE
 401 W 35TH STREET
 BRYAN, TEXAS 77803
 1.877.7E.S.S.N.E.R (437.7637)
www.essnecorp.com
 FROM REGISTRATION NUMBERS
 TABLE 1-211, TEMPLS 1-210, 1995Q

CLIENT NAME



**WILLIAMSON
COUNTY**
IN 18

PROJECT NAME:
Williamson County Jester Annex
Rooftop HVAC Unit Replacement

PG&E PROJECT NO.
1479

PROJECT ADDRESS
1801 E Old Settlers Blvd
Round Rock, TX 78664

Discussion

ISSUED FOR
PERMIT
JULY 25, 2024

[illegible]

MECHANICAL
RENOVATION ENLARGED
PIPING PLAN

SHEET NUMBER

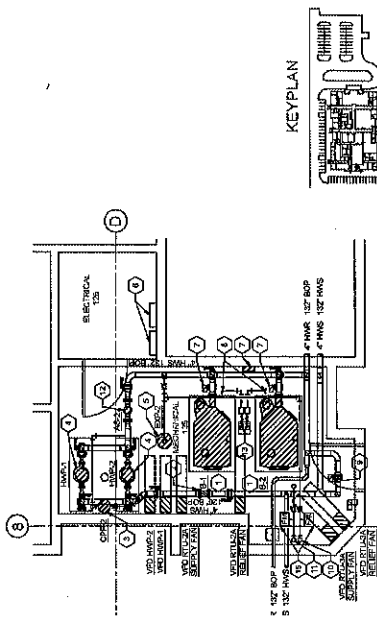
M401

GENERAL NOTES

A. DRAWINGS ARE SCHEMATIC IN NATURE. VERIFY DIMENSIONS AND EQUIPMENT LOCATIONS IN THE FIELD. CONTRACTOR SHALL VERIFY EXACT LOCATION AND CONFIGURATION OF EXISTING INSTALLATIONS TO REMAIN.

SHEET KEYED NOTES

1. PROVIDE NEW SOLID AND UNBOPARTED 4" CONCRETE HOUSING/ENCLOSURE.
2. PROVIDE NEW FLOW METER IN 4" HOUSING PUMP.
3. PROVIDE NEW CHEMICAL PUMP FEEDER AND ROUTE ASSOCIATED 1" PIPING TO THE PUMP FEEDER. PROVIDE 1" PIPING LOCATED AT THE ELUTION AND DISCHARGE OF THE PUMP.
4. PROVIDE NEW HEATING WATER PUMP OR ASSOCIATED 4" CONCRETE HOUSING/ENCLOSURE PUMP.
5. PROVIDE NEW TRANSMISSION DRAIN AND SUPPLYING SLOPE STRUCTURES ABOVE DOOR PUMPING AND/OR CONFLICT WITH EXISTING DUCTS AND VALVES UNUSUALLY.
6. PROVIDE NEW GAS CONTROL VALVE.
7. PROVIDE NEW GAS CONTROL VALVE IN HEATING WATER PUMP.
8. PROVIDE 1/2" SOLID DRAIN PUMP WITH PUMP AND ROUTE TO DRAIN.
9. PROVIDE MATEORIZED CONTROL VALVE IN HEATING WATER PUMP BRANCH.
10. CONNECT 1" HEATING WATER MATEORIZED PUMP TO DRAIN PUMP.
11. CONNECT 1" CALLED WATER MATEORIZED PUMP TO DRAIN PUMP.
12. PROVIDE NEW AIR AND DIRT SEPARATOR ABOVE DOOR PUMP.
13. PROVIDE A CO MOTOR/SEPARATOR VALVE FOR DRAIN PUMP.
14. PROVIDE A CO MOTOR/SEPARATOR VALVE TO MODEL 8002 BY OSHA ON OR A DUCT SHALL BE INSTALLED AT 4" AIR.
15. PROVIDE FLOW METER IN MATEORIZED WATER PUMP.



1 MECHANICAL RENOVATION ENLARGED PIPING PLAN
SCALE 1/4" = 1'-0"



FULL SIZE SHEET: 2203

1 FLOOR STRUCTURE, SEE ANCHOR DETAIL FOR TYPICAL

2 WATER STOP FOR FLOOR GRADE PENETRATION

3 ROADSIDE OR APPROVED FINE PENETRATION, MIN. 4" BOTH SIDES

4 PIPE INSULATION (WATER REQUIRED)

5 ALL LIFTED BULKHEAD FLOOR OR BETWEEN PIPE AND PIPE ELVES

6 INSULATION FOR FLOOR PENETRATION, MIN. 4" BOTH SIDES

7 FLOOR PENETRATION

8 IF BULKHEAD FLOOR NOT USED AS SHOWN, SEAL WITH ELASTIC SEALANT

9 PARTITION OR WALL, SEE ANCHOR DETAIL FOR TYPICAL

10 ANCHOR ONE PIPE DIAMETER LONG AT APART

11 ANCHOR ONE PIPE DIAMETER LONG AT OUTSIDE WALL

PIPE PENETRATION THRU FIRE RATED BARRIER DETAIL

SCALE: N.T.S.

1 FLOOR PENETRATION

2 WALL PENETRATION

3 WALL PENETRATION

4 WALL PENETRATION

5 WALL PENETRATION

6 WALL PENETRATION

7 WALL PENETRATION

8 WALL PENETRATION

9 WALL PENETRATION

10 WALL PENETRATION

11 WALL PENETRATION

12 WALL PENETRATION

13 WALL PENETRATION

14 WALL PENETRATION

15 WALL PENETRATION

16 WALL PENETRATION

17 WALL PENETRATION

18 WALL PENETRATION

19 WALL PENETRATION

20 WALL PENETRATION

21 WALL PENETRATION

22 WALL PENETRATION

23 WALL PENETRATION

24 WALL PENETRATION

25 WALL PENETRATION

26 WALL PENETRATION

27 WALL PENETRATION

28 WALL PENETRATION

29 WALL PENETRATION

30 WALL PENETRATION

31 WALL PENETRATION

32 WALL PENETRATION

33 WALL PENETRATION

34 WALL PENETRATION

35 WALL PENETRATION

36 WALL PENETRATION

37 WALL PENETRATION

38 WALL PENETRATION

39 WALL PENETRATION

40 WALL PENETRATION

41 WALL PENETRATION

42 WALL PENETRATION

43 WALL PENETRATION

44 WALL PENETRATION

45 WALL PENETRATION

46 WALL PENETRATION

47 WALL PENETRATION

48 WALL PENETRATION

49 WALL PENETRATION

50 WALL PENETRATION

51 WALL PENETRATION

52 WALL PENETRATION

53 WALL PENETRATION

54 WALL PENETRATION

55 WALL PENETRATION

56 WALL PENETRATION

57 WALL PENETRATION

58 WALL PENETRATION

59 WALL PENETRATION

60 WALL PENETRATION

61 WALL PENETRATION

62 WALL PENETRATION

63 WALL PENETRATION

64 WALL PENETRATION

65 WALL PENETRATION

66 WALL PENETRATION

67 WALL PENETRATION

68 WALL PENETRATION

69 WALL PENETRATION

70 WALL PENETRATION

71 WALL PENETRATION

72 WALL PENETRATION

73 WALL PENETRATION

74 WALL PENETRATION

75 WALL PENETRATION

76 WALL PENETRATION

77 WALL PENETRATION

78 WALL PENETRATION

79 WALL PENETRATION

80 WALL PENETRATION

81 WALL PENETRATION

82 WALL PENETRATION

83 WALL PENETRATION

84 WALL PENETRATION

85 WALL PENETRATION

86 WALL PENETRATION

87 WALL PENETRATION

88 WALL PENETRATION

89 WALL PENETRATION

90 WALL PENETRATION

91 WALL PENETRATION

92 WALL PENETRATION

93 WALL PENETRATION

94 WALL PENETRATION

95 WALL PENETRATION

96 WALL PENETRATION

97 WALL PENETRATION

98 WALL PENETRATION

99 WALL PENETRATION

100 WALL PENETRATION

101 WALL PENETRATION

102 WALL PENETRATION

103 WALL PENETRATION

104 WALL PENETRATION

105 WALL PENETRATION

106 WALL PENETRATION

107 WALL PENETRATION

108 WALL PENETRATION

109 WALL PENETRATION

110 WALL PENETRATION

111 WALL PENETRATION

112 WALL PENETRATION

113 WALL PENETRATION

114 WALL PENETRATION

115 WALL PENETRATION

116 WALL PENETRATION

117 WALL PENETRATION

118 WALL PENETRATION

119 WALL PENETRATION

120 WALL PENETRATION

121 WALL PENETRATION

122 WALL PENETRATION

123 WALL PENETRATION

124 WALL PENETRATION

125 WALL PENETRATION

126 WALL PENETRATION

127 WALL PENETRATION

128 WALL PENETRATION

129 WALL PENETRATION

130 WALL PENETRATION

131 WALL PENETRATION

132 WALL PENETRATION

133 WALL PENETRATION

134 WALL PENETRATION

135 WALL PENETRATION

136 WALL PENETRATION

137 WALL PENETRATION

138 WALL PENETRATION

139 WALL PENETRATION

140 WALL PENETRATION

141 WALL PENETRATION

142 WALL PENETRATION

143 WALL PENETRATION

144 WALL PENETRATION

145 WALL PENETRATION

146 WALL PENETRATION

147 WALL PENETRATION

148 WALL PENETRATION

149 WALL PENETRATION

150 WALL PENETRATION

151 WALL PENETRATION

152 WALL PENETRATION

153 WALL PENETRATION

154 WALL PENETRATION

155 WALL PENETRATION

156 WALL PENETRATION

157 WALL PENETRATION

158 WALL PENETRATION

159 WALL PENETRATION

160 WALL PENETRATION

161 WALL PENETRATION

162 WALL PENETRATION

163 WALL PENETRATION

164 WALL PENETRATION

165 WALL PENETRATION

166 WALL PENETRATION

167 WALL PENETRATION

168 WALL PENETRATION

169 WALL PENETRATION

170 WALL PENETRATION

171 WALL PENETRATION

172 WALL PENETRATION

173 WALL PENETRATION

174 WALL PENETRATION

175 WALL PENETRATION

176 WALL PENETRATION

177 WALL PENETRATION

178 WALL PENETRATION

179 WALL PENETRATION

180 WALL PENETRATION

181 WALL PENETRATION

182 WALL PENETRATION

183 WALL PENETRATION

184 WALL PENETRATION

185 WALL PENETRATION

186 WALL PENETRATION

187 WALL PENETRATION

188 WALL PENETRATION

189 WALL PENETRATION

190 WALL PENETRATION

191 WALL PENETRATION

192 WALL PENETRATION

193 WALL PENETRATION

194 WALL PENETRATION

195 WALL PENETRATION

196 WALL PENETRATION

197 WALL PENETRATION

198 WALL PENETRATION

199 WALL PENETRATION

200 WALL PENETRATION

201 WALL PENETRATION

202 WALL PENETRATION

203 WALL PENETRATION

204 WALL PENETRATION

205 WALL PENETRATION

206 WALL PENETRATION

207 WALL PENETRATION

208 WALL PENETRATION

209 WALL PENETRATION

210 WALL PENETRATION

211 WALL PENETRATION

212 WALL PENETRATION

213 WALL PENETRATION

214 WALL PENETRATION

215 WALL PENETRATION

216 WALL PENETRATION

217 WALL PENETRATION

218 WALL PENETRATION

219 WALL PENETRATION

220 WALL PENETRATION

221 WALL PENETRATION

222 WALL PENETRATION

223 WALL PENETRATION

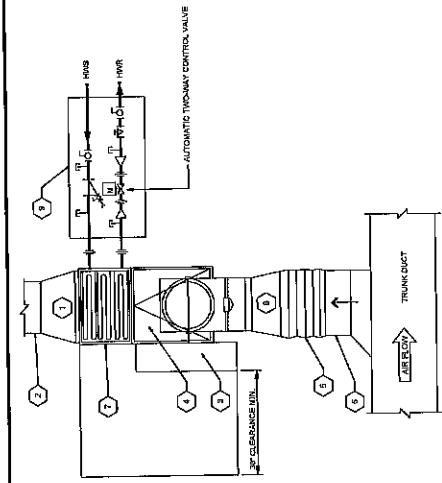
224 WALL PENETRATION

225 WALL PENETRATION

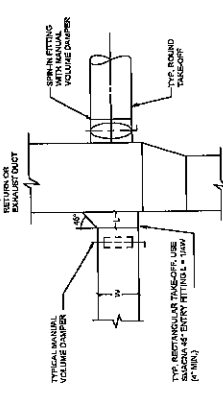
226 WALL PENETRATION

227 WALL PENETRATION

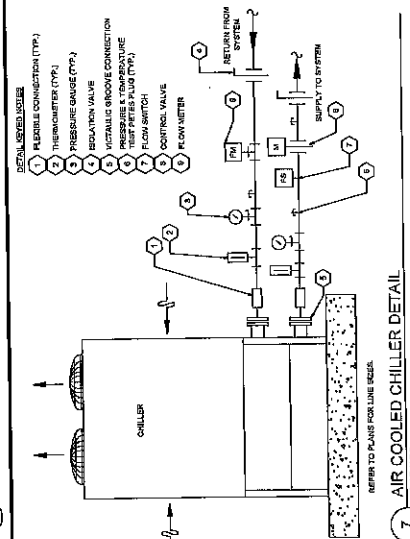
228 WALL PENETRATION

[illegible]

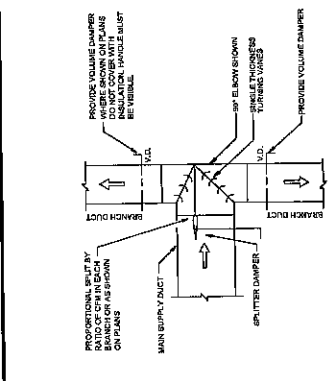
- [illegible]



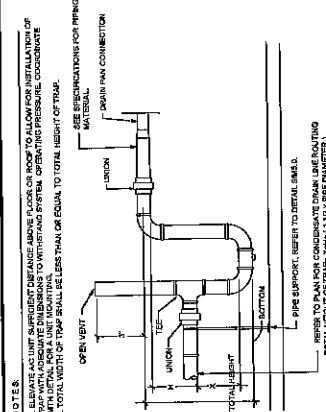
- 5 DUCT BRANCH TAKE OFF DETAIL
SECTION



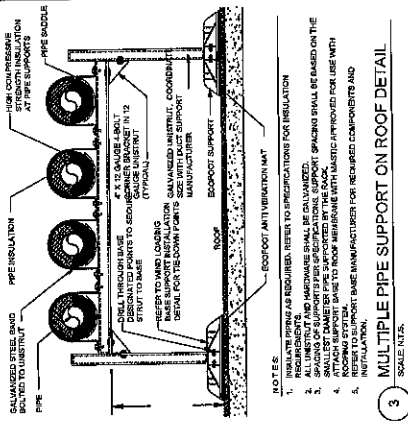
- ## 7 AIR COOLED CHILLER DETAILS



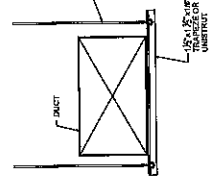
- 4 AIR DUCT SPLITTER DETAIL
SCALE: N.T.S.



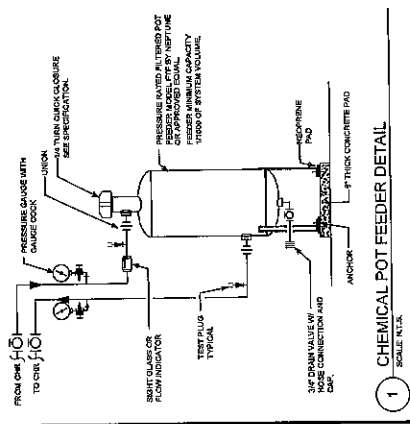
- CONDENSATE DRAIN PIPING ON ROOF DETAILS
- FOR DOWN THRU UNITS
 X2 MIN. TIC H (PREPARED X-1)
 H= NEGATIVE STATIC PRESSURE -1"
- FOR BLOW THRU UNITS
 X2 MIN. TIC H (PREPARED X-1)
 X2 MIN. STATIC PRESSURE -1" MIN. 1"
- SCALE: 1/2" = 1'-0"



-

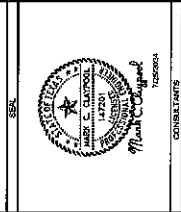


- 2 DUCT SUPPORT DETAIL
SCALE N.T.S.



- 1
CHEMICAL POT FEEDER DETAILS
SCALE: N.T.S.

Ramirez - Simon Engineering, LLC
Mechanical • Electrical • Plumbing
Texas Registered Engineering Firm F-14731
9503 Whitham Dr. | Houston, TX 77055
Office 832.251.1420



GESSNER
CORPORATE OFFICE
10000 GESSNER BLVD
SUITE 100
HOUSTON, TX 77036
713.465.1000
FAX 713.465.1000

WILLIAMSON COUNTY
1801 E. Old Settlers Blvd
Round Rock, TX 78664
PROJECT NAME
Williamson County Junior Annex
Rooftop HVAC Unit Replacement
PROJECT NO.
1479
PROJECT DATE
1/17/24
PROJECT ADDRESS

ISSUED FOR
PERMIT
JULY 23, 2024

DATE DATE DESCRIPTION

ISSUE

MECHANICAL SCHEDULES

SHEET NUMBER
M702

SINGLE DUCT TERMINAL UNIT SCHEDULE (HOT WATER)

UNIT TAG	RTU NUMBER	MANUFACTURER	MODEL	BOX TYPE	MAXIMUM COOLING CAP. (TONS)		S.P. AT RAIL (IN. W.G.)		DUCT RUNOUT TO BOX		HEATING HOT WATER COIL		REMARKS			
					MAX. P.D. (THRU DUCT) W.G.	SOV. VALVE SIZE (IN.)	ROUND	ALTERNATE RECTANGULAR	EAT (°F)	LAT (°F)	BTU/H	V/P/H/°Z				
TU2A-1	RTU-2A	PRICE	SDV	WAV	500	200	1.0	2	8	10	200	95	9,072	1.1	120/1160	ALL
TU2A-2	RTU-2A	PRICE	SDV	WAV	1,000	400	1.0	2	14	16	768	95	34,474	2.3	120/1160	ALL
TU2A-3	RTU-2A	PRICE	SDV	WAV	500	200	1.0	2	8	10	-	95	9,072	1.1	120/1160	ALL
TU2A-4	RTU-2A	PRICE	SDV	WAV	2,050	1,020	1.0	2	16	18	24,412	95	46,397	5.1	120/1160	ALL
TU2A-5	RTU-2A	PRICE	SDV	WAV	800	200	1.0	3	10	12	1,686	95	14,515	1.1	120/1160	ALL
TU2A-6	RTU-2A	PRICE	SDV	WAV	1,000	600	1.0	2	12	14	2,208	95	22,410	1.4	120/1160	ALL
TU2A-7	RTU-2A	PRICE	SDV	WAV	1,000	600	1.0	2	12	14	2,208	95	22,412	1.4	120/1160	ALL
TU2A-8	RTU-2A	PRICE	SDV	WAV	1,000	600	1.0	2	12	14	2,208	95	22,412	1.4	120/1160	ALL
TU2A-9	RTU-2A	PRICE	SDV	WAV	300	100	1.0	2	6	8	100	95	8,242	0.5	120/1160	ALL
TU2A-10	RTU-2A	PRICE	SDV	WAV	300	100	1.0	2	6	8	100	95	8,242	0.5	120/1160	ALL
TU3A-1	RTU-3A	PRICE	SDV	WAV	800	400	1.0	3	10	16	1,686	95	14,515	1.1	120/1160	ALL
TU3A-2	RTU-3A	PRICE	SDV	WAV	1,200	400	1.0	5	12	14	2,208	95	22,410	1.4	120/1160	ALL
TU3A-3	RTU-3A	PRICE	SDV	WAV	400	160	1.0	2	8	10	400	95	8,168	0.5	120/1160	ALL
TU3A-4	RTU-3A	PRICE	SDV	WAV	1,950	740	1.0	5	14	16	33,910	95	36,960	2.2	120/1160	ALL
TU3A-5	RTU-3A	PRICE	SDV	WAV	700	200	1.0	2	8	10	740	95	12,701	1.1	120/1160	ALL
TU3A-7	RTU-3A	PRICE	SDV	WAV	1,600	600	1.0	5	12	14	2,208	95	22,716	1.8	120/1160	ALL
TU3A-8	RTU-3A	PRICE	SDV	WAV	220	220	1.0	25	10	16	1,686	95	14,515	1.1	120/1160	ALL
TU3A-9	RTU-3A	PRICE	SDV	WAV	700	260	1.0	2	8	10	200	95	12,701	1.1	120/1160	ALL
TU3A-10	RTU-3A	PRICE	SDV	WAV	300	120	1.0	2	6	8	100	95	5,443	0.5	120/1160	ALL

- NOTES:
1. CONTROLS SHALL BE MOUNTED BY MANUFACTURER.
 2. PROVIDE CONTROL VOLTAGE TRANSFORMER.
 3. PROVIDE WITH FACTORY INSTALLED ELECTRICAL DISCONNECT.
 4. TERMINAL CASING - FF - FEET FREE FOAM INSULATION SYSTEM.
 5. PROVIDE NEXUS COIL VALVE PACKAGE INCLUDE COV.
 6. PROVIDE WITH MULTI-POINT FLOW SENSOR.

AIR SEPARATOR SCHEDULE

MARK	SERVICE	MANUFACTURER	MODEL	DESIGN CAPACITY (GPM)	SYSTEM CONNECTION (IN)	TANK WATER TEMP (°F)	REMARKS
AS-1	CHILLED WATER	SPROUTHERM	VT620	240	4	42	ALL
AS-2	HEATING WATER	SPROUTHERM	VT620	240	4	110	ALL

NOTES:
1. PROVIDE WITH INSULATION MATCHING PIPE INSULATION.

BUFFER TANK SCHEDULE

MARK	SERVICE	TYPE	TANK VOLUME (GALLS)	TANK DIAMETER (IN)	TANK HEIGHT (IN)	TANK INSULATION	TANK WATER TEMP (°F)	MANUFACTURER	MODEL	REMARKS
BT-1	CHILLED WATER	VERTICAL	200	30	74	2"	42	CEMLINE	VEBOWNS-6F-C-20-A	ALL

NOTES:
1. INCLUDE 6" FLANGE CONNECTION.
2. PROVIDE WITH FACTORY ALUMINUM JACKET AND 2" ELASTOMER INSULATION.

AIR DEVICE SCHEDULE

MARK	TYPE	MANUFACTURER	MODEL	PRICE AND	REMARKS
A	ARCHITECTURAL SQUARE PANEL SUPPLY AIR DIFFUSER	PRICE AND			200/4" OR 120/4" FACE AREA. AIR PATTERN SHALL BE 4-WAY THROWN IN UNIFORM. OTHERWISE NOTE ON DRAWINGS. PROVIDE SUPPLYING DUCT TO BE SAME AS NECK SIZE. PROVIDE WHITE FINISH. PROVIDE DIFFUSER WITH INSULATED BACK (EXTERNAL TO AIRFLOW).
B	ARCHITECTURAL SQUARE PANEL RETURN AIR DIFFUSER	PRICE AND			200/4" OR 120/4" FACE AREA. PROVIDE WHITE FINISH. PROVIDE DIFFUSER WITH INSULATED BACK (EXTERNAL TO AIRFLOW).
C	LOUVERED FACE SQUARE PANEL SUPPLY OR RETURN	PRICE 2D			200/4" OR 120/4" FACE AREA. PROVIDE WHITE FINISH. PROVIDE DIFFUSER WITH INSULATED BACK (EXTERNAL TO AIRFLOW).
D	LOUVERED FACE SQUARE PANEL EXHAUST GRILLE	PRICE 6D			200/4" OR 120/4" FACE AREA. PROVIDE WHITE FINISH. PROVIDE DIFFUSER WITH INSULATED BACK (EXTERNAL TO AIRFLOW).

NOTES:
1. CEILING DIFFUSERS ARE 4-WAY UNLESS NOTED OTHERWISE IN THE DRAWINGS.
2. PROVIDE OPTIONAL BLOW CURBS FOR 3-WAY, 2-WAY AND 1-WAY THROWS.
3. AIR DEVICE FRAME AND STYLE SHALL MATCH CEILING TYPE. COORDINATE WITH ARCHITECTURAL REPLEATED CEILING PLAN.

EXPANSION TANK SCHEDULE

MARK	SERVICE	MANUFACTURER	MODEL	TYPE	TANK VOLUME (GALLS)	TANK DIAMETER (IN)	TANK HEIGHT (IN)	TANK WATER TEMP (°F)	REMARKS
EXP-1	CHILLED WATER	BELL & GOSSETT	9-S-1A	VERTICAL	13	12	37	42	42
EXP-2	HEATING WATER	BELL & GOSSETT	9-S-1A	VERTICAL	13	12	37	170	42

NOTES:
1. PROVIDE WITH INSULATION MATCHING PIPE INSULATION.



GENSSE

CORPORATE OFFICE
400 W 26TH STREET
BRYAN, TEXAS 77803
1.977.655.5291 (437.7637)
www.gasstationreporting.com



PROJECT NAME: Williamson County Jester Annex
Roofing HVAC Unit Replacement

ROSE PROJECT No.

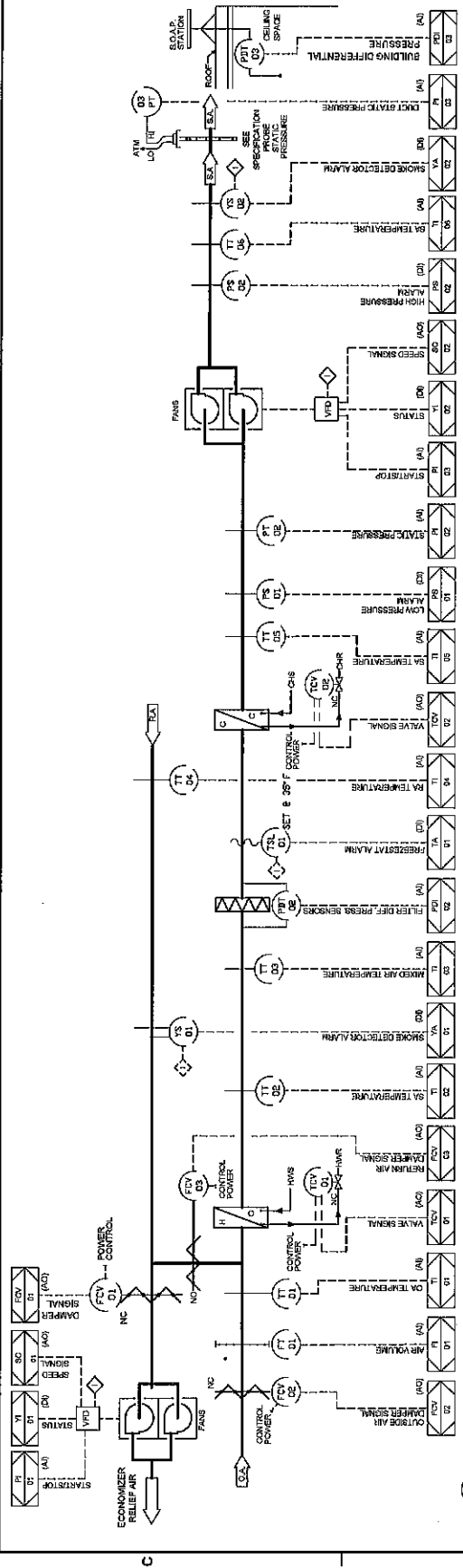
PROJECT ADDRESS:
1801 E Old Settlers Blvd
Round Rock, TX 78664

ISSUED FOR
PERMIT
JULY 25, 2024

MECHANICAL CONTROLS

M802
SHEET NUMBER

FULL SIZE SHEET: 22034



SEQUENCE OF OPERATION FOR VAV ROOFTOP UNIT

SMOKE DETECTOR
SMOKE DETECTORS LOCATED IN THE SUPPLY AND RETURN AIR STREAMS, SMOKE DETECTOR SHALL STOP THE FANS THROUGH THE FIRE ALARM SYSTEM. IF AN ALARM CONDITION IS DETECTED, WHEN THE FANS ARE STOPPED, THE CONTROLS SHALL POSITION THE DAMPERS TO THEIR NORMAL STATE, COORDINATE WITH THE ALARM PANEL.

SAFETY SWITCHES INSTALLED IN THE SUPPLY AND RETURN AIR DUCTS FOR EACH UNIT SHALL ALARM THE FMS IF THE DUCT PRESSURE IS ABOVE THE HIGH ALARM SETPOINT. THE HIGH ALARM SETPOINT SHALL BE 150% OF THE NORMAL OPERATING PRESSURE OF THE SYSTEM. IF THE FMS SENSES AN ALARM CONDITION, THE FMS SHALL STOP THE ASSOCIATED FAN,

PRESET/STAT

HOT WATER VALVE EXERCISE
PROVIDE AUTOMATIC HOT WATER VALVE EXERCISE (OPEN AND CLOSE) WEEKLY. SET ORIGINAL TIME FOR FRIDAYS AT 12AM ADJUSTABLE).

THE FMS SHALL MONITOR OUTSIDE AIR TEMPERATURE AND RELATIVE HUMIDITY. THE AHU SHALL BE PROVIDED WITH A HIGH-LIMIT SWITCH TO SHUT-OFF CONTROL SETTING FOR A FIXED ENTHALPY OF 28 BTU/LB AND A FIXED OUTSIDE AIR TEMPERATURE OF 73°F. AHU SHALL SWITCH TO ECONOMIZER MODE WHEN THE OUTDOOR AIR CONDITIONS DROP BELOW THE ENTHALPY AND TEMPERATURE

CHILLED WATER VALVE SHALL MODULATE TO MAINTAIN THE LEAVING AIR CONDITION SETPOINT IN THE SCHEDULES. IF OUTSIDE AIR TEMPERATURE DROPS BELOW 50°F, THE FAS SHALL EXIT ECONOMIZER MODE BY MODULATING OUTSIDE AIR DAMPER TO MINIMUM SETTING AND BY MODULATING RETURN AIR DAMPER.

OUTDOOR AIR DAMPER: WHEN THE ECONOMIZER IS DISABLED, WHEN ONE OF THE FOLLOWING OCCURS, THE DISCHARGE AIR TEMPERATURE IS 12°F OR BELOW, WHEN THIS CONDITION OCCURS THE OUTSIDE AIR DAMPER SHALL CLOSE TO THE MINIMUM AIR FLOW REQUIRED AND THE RETURN AIR DAMPER SHALL OPEN TO THE NORMAL POSITION.

RELIEF AIR FANS
THE RELIEF AIR FAN SHALL BE ENABLED ONLY WHEN ECONOMIZER MODE IS ENABLED AND SPEED SHALL BE CONTROLLED IN PROPORTION TO THE BUILDING PRESSURE DIFFERENTIAL. PRESSURE WITH RESPECT TO THE RELIEF AIR FAN SHALL CONTINUOUSLY MONITOR THE DIFFERENTIAL PRESSURE AND SEND OUTPUT SIGNAL TO THE BUILDING PRESSURE SENSOR SET TO MAINTAIN BUILDING PRESSURE WITH RESPECT TO THE RELIEF AIR FAN.

WILL OPEN MODULATE RELIEF AIR FAN SPEED AS NEEDED TO MAINTAIN POSITIVE PRESSURE DIFFERENTIAL SETPOINT RELATIVE TO AMBIENT AS SENSED BY MONITOR.

SYSTEM STATUS DISPLAY

THE RPLS SHALL PROVIDE OPERATING STATUS FOR THE SYSTEM. THE DISPLAY SHALL INCLUDE ALL POINTS REQUIRED TO ACHIEVE THE FINES OF OPERATIONS. THE AIR HANDLING UNIT CONTROL AND STATUS EGHTS SHALL BE RECORDED IN THE CONTROL EVENT LOG TO FACILITATE TROUBLESHOOTING. THIS SHALL BE ABLE TO DENOMINATE INDIVIDUAL UNITS AS BEING IN

POWER FAILURE RECOVERY

OCCUPANCY CONTROL. THE FAS SHALL BE SETUP WITH AN OCCUPANCY SCHEDULE FOR DIFFERENT AREAS OF THE FACILITY. THE OWNER SHALL BE INTERVIEWED BY THE CONTRACTOR AT STARTUP TO ESTABLISH THESE SCHEDULES.

THE OUTSIDE AIR VOLUME SHALL BE CONTROLLED BY THE FLOW MONITORING STATION THAT MEASURES THE OUTSIDE AIR VOLUME. THE FMS SHALL MODULATE THE OUTSIDE RETURN AIR DAMPERS TO MAINTAIN THE OUTSIDE AIR VOLUME SETPOINT SPECIFIED ON SCHEDULES. IF THE AIR HANDLING UNIT IS STOPPED, THE FMS SHALL CLOSE THE OUTSIDE DAMPER.

SUPPLY AIR TEMPERATURE SETPOINT CONTROL.

SETPOINT: CONTROLS CONTRACTOR SHALL REFER TO TANKU USES RESET SCHEDULE.

SUPPLY AIR TEMPERATURE CONTROL:

SUPPLY FAN CONTROL

THE FAN SHALL MODULATE THE WILLOW WATER GUL VALVE TO MAINTAIN THE TEMPERATURE SETPOINTS SPECIFIED ON SCHEDULES.

THE SPACE PROGRAM OPERATING AND SHUT-DOWN SET POINTS ARE BASED ON AN OCCUPIED SPACE. IF THE SPACE PROGRAMMED INTO THE FMS, THE FAN SHALL OPERATE CONTINUOUSLY THROUGH SCHEDULE, IF COOLING UNOCCUPIED HOURS, ANY OF THE SPACE TEMPERATURES RISE ABOVE THE UNOCCUPIED COOLING SETPOINT OR FALL BELOW THE UNOCCUPIED HEATING SETPOINT, THE AIR HANDLING UNIT SHALL START AND OPERATE TO CHANGE THE SPACE TEMPERATURES TO ADJUSTABLE BEFORE STOPPING.

SUPPLY FAN VFD CONTROL

SUPPLY FAN LIGHTING
THE VFD OPERATION SHALL BE INDICATED TO THE PMS THROUGH A SET OF CONTACTS IN THE VFD. IF AN ALARM CONDITION IS ZERO TO UNDESIRABLE PERCENT CONTACT SIGNAL UNAVAILABLE, THE VFD SHALL NOT EXCEED THE WARNING USER'S RECOMMENDED REQUIREMENTS.

FILTER MONITORING

SEQUENCE OF OPERATION

[illegible]

HEATING WATER PUMP CONTROL
THE HEATING WATER PUMP SHALL OPERATE ANYTIME THE HEATING WATER SYSTEM IS ENGAGED. DIFFERENTIAL PRESSURE
THE PUMP SHALL MODULATE TO MAINTAIN THE SYSTEM
DIFFERENTIAL PRESSURE AT SETPOINT FOR THE CONTROLLING ZONE. THE
CONTROLLING ZONE SHALL BE THE DIFFERENTIAL PRESSURE SENSOR WHICH

HEATING WATER SYSTEM MINIMUM FLOW CONTROL VALVE
THE PHS SHALL MONITOR THE HEATING WATER SYSTEM FLOW RATE. IF THE
FLOW RATE FALLS BELOW THE MINIMUM FLOW RATE REQUIRED BY THE
OPERATING BOILER, THE PHS SHALL MODULATE OPEN THE BY-PASS FLOW
CONTROL VALVE TO MAINTAIN THE MINIMUM FLOW RATE FOR THE OPERATING
IS FURTHER) BELOW ITS SETPOINT.

OUTSIDE AIR AND HUMIDITY (OR WB AND RH) THE FUS SHALL CONTINUOUSLY MONITOR, TEND AND DISPLAY THE AMBIENT AIR DRY BULB (DB) TEMPERATURE, RELATIVE HUMIDITY (RH) AND WET BULB TEMPERATURE (WB).

HEATING WATER SUPPLY SHALL BE RESET BASED ON OUTSIDE AIR TEMPERATURE

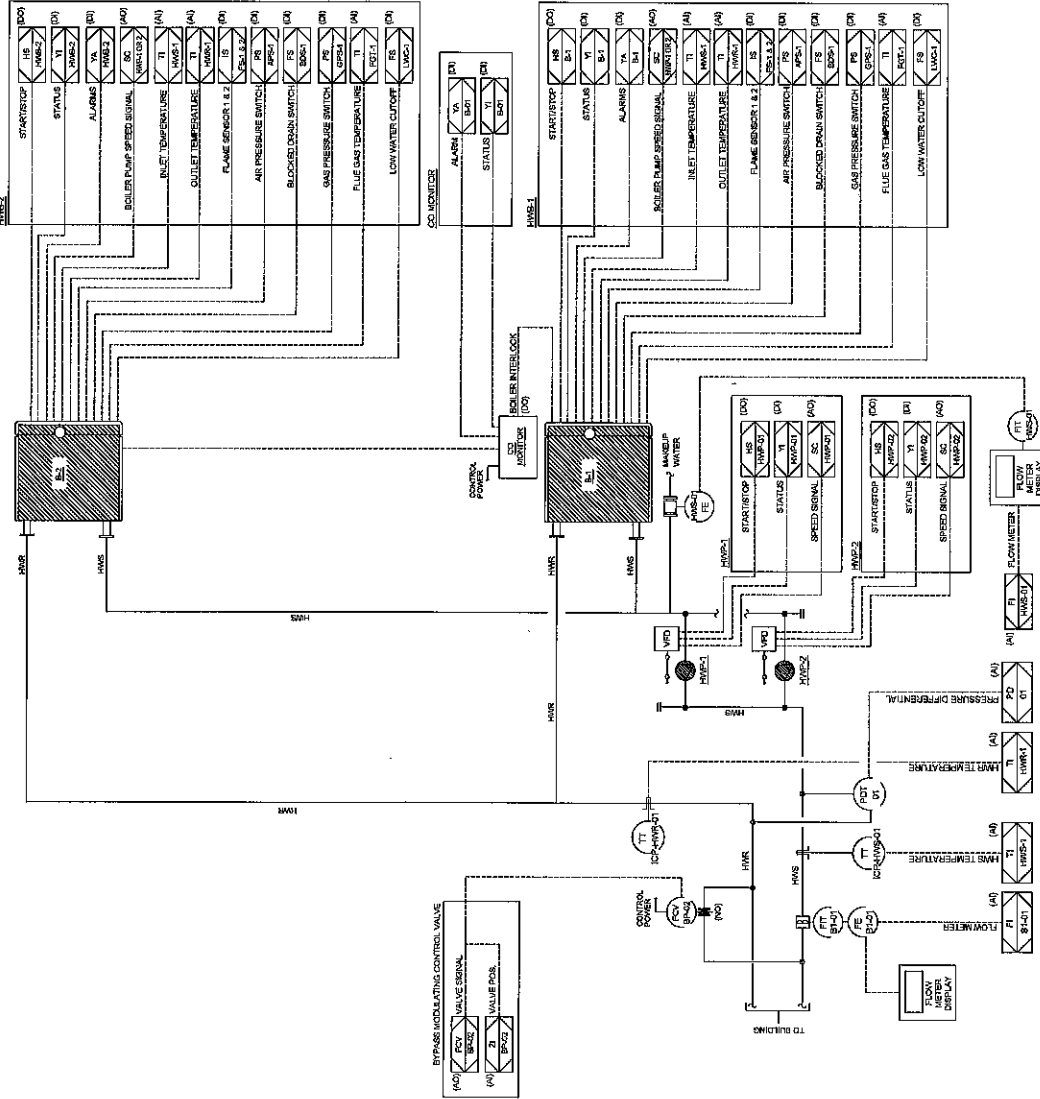
144V TEMP = 140 DEG F	144V TEMP = 140 DEG F
145V TEMP = 135 DEG F	145V TEMP = 135 DEG F
146V TEMP = 130 DEG F	146V TEMP = 130 DEG F
147V TEMP = 125 DEG F	147V TEMP = 125 DEG F
148V TEMP = 120 DEG F	148V TEMP = 120 DEG F
149V TEMP = 115 DEG F	149V TEMP = 115 DEG F
150V TEMP = 110 DEG F	150V TEMP = 110 DEG F
151V TEMP = 105 DEG F	151V TEMP = 105 DEG F
152V TEMP = 100 DEG F	152V TEMP = 100 DEG F
153V TEMP = 95 DEG F	153V TEMP = 95 DEG F
154V TEMP = 90 DEG F	154V TEMP = 90 DEG F
155V TEMP = 85 DEG F	155V TEMP = 85 DEG F
156V TEMP = 80 DEG F	156V TEMP = 80 DEG F
157V TEMP = 75 DEG F	157V TEMP = 75 DEG F
158V TEMP = 70 DEG F	158V TEMP = 70 DEG F
159V TEMP = 65 DEG F	159V TEMP = 65 DEG F
160V TEMP = 60 DEG F	160V TEMP = 60 DEG F
161V TEMP = 55 DEG F	161V TEMP = 55 DEG F
162V TEMP = 50 DEG F	162V TEMP = 50 DEG F
163V TEMP = 45 DEG F	163V TEMP = 45 DEG F
164V TEMP = 40 DEG F	164V TEMP = 40 DEG F
165V TEMP = 35 DEG F	165V TEMP = 35 DEG F
166V TEMP = 30 DEG F	166V TEMP = 30 DEG F
167V TEMP = 25 DEG F	167V TEMP = 25 DEG F
168V TEMP = 20 DEG F	168V TEMP = 20 DEG F
169V TEMP = 15 DEG F	169V TEMP = 15 DEG F
170V TEMP = 10 DEG F	170V TEMP = 10 DEG F
171V TEMP = 5 DEG F	171V TEMP = 5 DEG F
172V TEMP = 0 DEG F	172V TEMP = 0 DEG F
173V TEMP = -5 DEG F	173V TEMP = -5 DEG F
174V TEMP = -10 DEG F	174V TEMP = -10 DEG F
175V TEMP = -15 DEG F	175V TEMP = -15 DEG F
176V TEMP = -20 DEG F	176V TEMP = -20 DEG F
177V TEMP = -25 DEG F	177V TEMP = -25 DEG F
178V TEMP = -30 DEG F	178V TEMP = -30 DEG F
179V TEMP = -35 DEG F	179V TEMP = -35 DEG F
180V TEMP = -40 DEG F	180V TEMP = -40 DEG F
181V TEMP = -45 DEG F	181V TEMP = -45 DEG F
182V TEMP = -50 DEG F	182V TEMP = -50 DEG F
183V TEMP = -55 DEG F	183V TEMP = -55 DEG F
184V TEMP = -60 DEG F	184V TEMP = -60 DEG F
185V TEMP = -65 DEG F	185V TEMP = -65 DEG F
186V TEMP = -70 DEG F	186V TEMP = -70 DEG F
187V TEMP = -75 DEG F	187V TEMP = -75 DEG F
188V TEMP = -80 DEG F	188V TEMP = -80 DEG F
189V TEMP = -85 DEG F	189V TEMP = -85 DEG F
190V TEMP = -90 DEG F	190V TEMP = -90 DEG F
191V TEMP = -95 DEG F	191V TEMP = -95 DEG F
192V TEMP = -100 DEG F	192V TEMP = -100 DEG F
193V TEMP = -105 DEG F	193V TEMP = -105 DEG F
194V TEMP = -110 DEG F	194V TEMP = -110 DEG F
195V TEMP = -115 DEG F	195V TEMP = -115 DEG F
196V TEMP = -120 DEG F	196V TEMP = -120 DEG F
197V TEMP = -125 DEG F	197V TEMP = -125 DEG F
198V TEMP = -130 DEG F	198V TEMP = -130 DEG F
199V TEMP = -135 DEG F	199V TEMP = -135 DEG F
200V TEMP = -140 DEG F	200V TEMP = -140 DEG F

ALARMS
IF BOILER SUPPLY WATER TEMPERATURE EXCEEDS A HIGH WATER TEMPERATURE SETPOINT OF 180° F (AQU) OR LOW TEMPERATURE OF 120° F, AN ALARM SHALL BE SENT THROUGH THE DCS SYSTEM.

GENERAL NOTES

1. IT IS NECESSARY TO DISCONNECT ALL FACTORS OF THE CONTROL SYSTEM FROM THE MAIN POWER SUPPLY AND TO DISCONNECT THE POWER SUPPLY ON PLANS AND DRAWINGS IN ALL OF THE FOLLOWING CASES:
 - a. WHEN THE DOCUMENTS AND PROVIDE A COMPLETE AUTOMATED SYSTEM.
 - b. WHEN THE EQUIPMENT IS TO BE REPAIRED.
 - c. WHEN THE EQUIPMENT IS TO BE MAINTAINED.
 - d. WHEN THE EQUIPMENT IS TO BE TESTED.
 - e. WHEN THE EQUIPMENT IS TO BE DEMONSTRATED.
 - f. WHEN THE EQUIPMENT IS TO BE DISMANTLED.
 - g. WHEN THE EQUIPMENT IS TO BE RELOCATED.
 - h. WHEN THE EQUIPMENT IS TO BE REWired.
 - i. WHEN THE EQUIPMENT IS TO BE REPAIRED.
 - j. WHEN THE EQUIPMENT IS TO BE MAINTAINED.
 - k. WHEN THE EQUIPMENT IS TO BE TESTED.
 - l. WHEN THE EQUIPMENT IS TO BE DEMONSTRATED.
 - m. WHEN THE EQUIPMENT IS TO BE DISMANTLED.
 - n. WHEN THE EQUIPMENT IS TO BE RELOCATED.
 - o. WHEN THE EQUIPMENT IS TO BE REWired.
 - p. WHEN THE EQUIPMENT IS TO BE REPAIRED.
 - q. WHEN THE EQUIPMENT IS TO BE MAINTAINED.
 - r. WHEN THE EQUIPMENT IS TO BE TESTED.
 - s. WHEN THE EQUIPMENT IS TO BE DEMONSTRATED.
 - t. WHEN THE EQUIPMENT IS TO BE DISMANTLED.
 - u. WHEN THE EQUIPMENT IS TO BE RELOCATED.
 - v. WHEN THE EQUIPMENT IS TO BE REWired.
 - w. WHEN THE EQUIPMENT IS TO BE REPAIRED.
 - x. WHEN THE EQUIPMENT IS TO BE MAINTAINED.
 - y. WHEN THE EQUIPMENT IS TO BE TESTED.
 - z. WHEN THE EQUIPMENT IS TO BE DEMONSTRATED.

HEATING WATER SYSTEM CONTROL DIAGRAM



Ramirez - Simon  Engineering, LLC		Mechanical • Electrical • Plumbing Texas Registered Engineering Firm E-14791 1805 Williams Blvd. Suite 100 Houston, Texas 77063 Office: 832.261.1420	
SEAL			
CONTRACT NO.			
GESSNER CORPORATE OFFICE 10000 Katy Freeway, Suite 100 Houston, Texas 77059 Phone: 281.444.7903 Fax: 281.444.7904 Email: info@gessner.com WWW.GESSNER.COM		PROJECT INFORMATION CLIENT NAME  WILLIAMSON COUNTY 1447 PROJECT NAME Williamson County Jester Annex Rooftop HVAC Unit Replacement 1478 ESE PROJECT NO. 1478 PROJECT ADDRESS 1801 E Old Settlers Blvd Round Rock, TX 78664	
ISSUED FOR PERMIT JULY 25, 2024		1478	
MARK DATE DESCRIPTION		REF PROJECT NO. 1478 SHEET TITLE	
MECHANICAL CONTROLS		SHEET NUMBER M804	

[illegible][illegible]

SYMBOL		DESCRIPTION	ABBREVIATION
                                   	DOUBLE INSULATED RECEPTACLE WITH GROUNDING PIN	DOUBLE INSULATED RECEPTACLE WITH GROUNDING PIN	
	DOUBLE INSULATED RECEPTACLE WITH GROUNDING PIN AND GROUNDING PIN	DOUBLE INSULATED RECEPTACLE WITH GROUNDING PIN AND GROUNDING PIN	
                                   	DOUBLE INSULATED RECEPTACLE WITH GROUNDING PIN AND GROUNDING PIN	DOUBLE INSULATED RECEPTACLE WITH GROUNDING PIN AND GROUNDING PIN	
DOUBLE INSULATED RECEPTACLE WITH GROUNDING PIN AND GROUNDING PIN	DOUBLE INSULATED RECEPTACLE WITH GROUNDING PIN AND GROUNDING PIN	DOUBLE INSULATED RECEPTACLE WITH GROUNDING PIN AND GROUNDING PIN	
                   			

FIRE ALARM SYMBOLS		SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
1	FIRE ALARM CONTROL PANEL	2	FIRE ALARM INDICATOR ON PANEL	3	FULL ALARM
4	WALL	5	WALL	6	WALL
7	WALL	8	WALL	9	WALL
10	WALL	11	WALL	12	WALL
13	WALL	14	WALL	15	WALL
16	WALL	17	WALL	18	WALL
19	WALL	20	WALL	21	WALL
22	WALL	23	WALL	24	WALL
25	WALL	26	WALL	27	WALL
28	WALL	29	WALL	30	WALL
31	WALL	32	WALL	33	WALL
34	WALL	35	WALL	36	WALL
37	WALL	38	WALL	39	WALL
40	WALL	41	WALL	42	WALL
43	WALL	44	WALL	45	WALL
46	WALL	47	WALL	48	WALL
49	WALL	50	WALL	51	WALL
52	WALL	53	WALL	54	WALL
55	WALL	56	WALL	57	WALL
58	WALL	59	WALL	60	WALL
61	WALL	62	WALL	63	WALL
64	WALL	65	WALL	66	WALL
67	WALL	68	WALL	69	WALL
70	WALL	71	WALL	72	WALL
73	WALL	74	WALL	75	WALL
76	WALL	77	WALL	78	WALL
79	WALL	80	WALL	81	WALL
82	WALL	83	WALL	84	WALL
85	WALL	86	WALL	87	WALL
88	WALL	89	WALL	90	WALL
91	WALL	92	WALL	93	WALL
94	WALL	95	WALL	96	WALL
97	WALL	98	WALL	99	WALL
100	WALL	101	WALL	102	WALL
103	WALL	104	WALL	105	WALL
106	WALL	107	WALL	108	WALL
109	WALL	110	WALL	111	WALL
112	WALL	113	WALL	114	WALL
115	WALL	116	WALL	117	WALL
118	WALL	119	WALL	120	WALL
121	WALL	122	WALL	123	WALL
124	WALL	125	WALL	126	WALL
127	WALL	128	WALL	129	WALL
130	WALL	131	WALL	132	WALL
133	WALL	134	WALL	135	WALL
136	WALL	137	WALL	138	WALL
139	WALL	140	WALL	141	WALL
142	WALL	143	WALL	144	WALL
145	WALL	146	WALL	147	WALL
148	WALL	149	WALL	150	WALL
151	WALL	152	WALL	153	WALL
154	WALL	155	WALL	156	WALL
157	WALL	158	WALL	159	WALL
160	WALL	161	WALL	162	WALL
163	WALL	164	WALL	165	WALL
166	WALL	167	WALL	168	WALL
169	WALL	170	WALL	171	WALL
172	WALL	173	WALL	174	WALL
175	WALL	176	WALL	177	WALL
178	WALL	179	WALL	180	WALL
181	WALL	182	WALL	183	WALL
184	WALL	185	WALL	186	WALL
187	WALL	188	WALL	189	WALL
190	WALL	191	WALL	192	WALL
193	WALL	194	WALL	195	WALL
196	WALL	197	WALL	198	WALL
199	WALL	200	WALL	201	WALL
202	WALL	203	WALL	204	WALL
205	WALL	206	WALL	207	WALL
208	WALL	209	WALL	210	WALL
211	WALL	212	WALL	213	WALL
214					

[illegible][illegible]

Ramirez - Simon
Engineering, LLC

Mechanical • Electrical • Plumbing
Texas Registered Engineer Firm F-14781
9803 Whitham Dr. | Houston, TX 77055
Office: 832.261.1420



CONSULTANTS



GESSNER

COMPANY OFFICE
13001 KATY AVENUE
SUITE 100
HOUSTON, TEXAS 77055
WWW.GESSNERINC.COM
FIRM REGISTRATION NUMBER
TXBE-1482, TXPL-13, TXAE-2020

CLIENT NAME



WILLIAMSON
COUNTY
1342

PROJECT NAME

Williamson County Jester Annex
Reedley HVAC Unit Replacement

PROJECT NO.

1478

PROJECT ADDRESS

1801 E Old Settlers Blvd
Round Rock, TX 78664

DATE

ISSUED FOR
PERMIT
JULY 23, 2024

DATE | DATE | DESCRIPTION



KEY PLAN



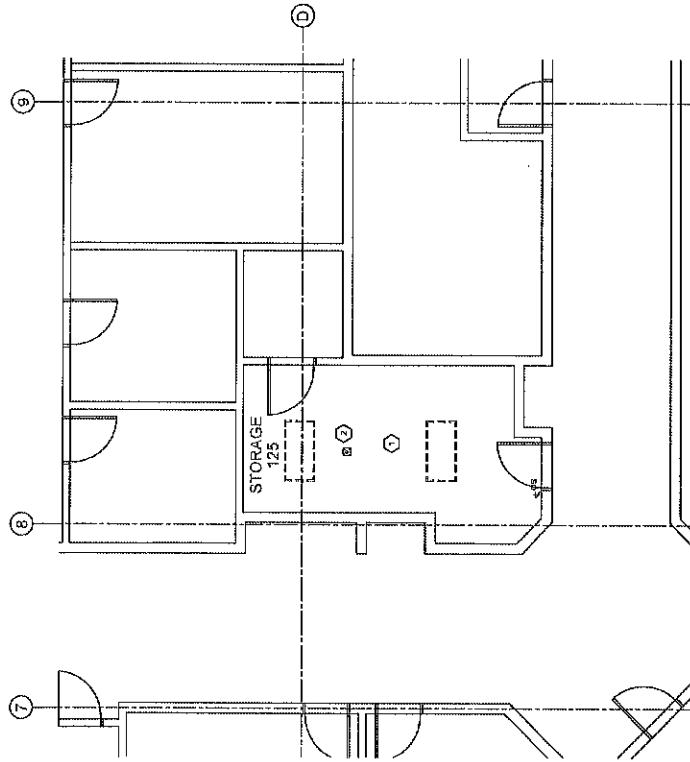
PLA. SIZE: SHEET: 22x34

GENERAL NOTES

- NOTES TO ELECTRICAL LEGEND SHEET 800 FOR PROJECT GENERAL NOTES.
- REMARKS AND COMMENTS IN THE FIELD. CONTRACTOR SHALL VERIFY EXACT LOCATION AND CONFIGURATION OF EXISTING INSTALLATIONS TO REMAIN. EXISTING CONDITIONS.
- TO BEGIN THE DEMOLITION/CONCRETE THAT THE CONTRACTOR ACCEPTS EXISTING CONDITIONS.

SHEET KEYED NOTES

- ALL WORK TO BE DEMOLISHED. DEMOLITION SHALL BE COMPLETED IN THE ROOM TO BE DEMOLISHED. CONTRACTOR SHALL DEMOLISH ALL EXISTING ELECTRICAL AND MECHANICAL EQUIPMENT IN THIS ROOM, EXCEPT THE EXISTING LIGHT FIXTURES SHALL BE REUSED FOR NEW LIGHTING.
- DEMOLISH FIRE ALARM DEVICE AS SHOWN.



1 ENLARGED ELECTRICAL DEMOLITION PLAN
SCALE: 1/4" = 1'-0"

Ramirez - Simon
Engineering, LLC

Mechanical • Electrical • Plumbing
Texas Registered Engineering Firm F-14781
9805 Waltham Dr. | Houston, TX 77095
Office: 832.261.1420



CONSULTANTS



GESSNER

CORPORATE OFFICE
901 W. 25TH STREET
DALLAS, TEXAS 75203
1-877-655-6111
www.assessnet.org/assnet/eng.htm



CLIENT NAME:

PROJECT NAME: Williamson County Jester Annex
Roof HVAC Unit Replacement

PROJECT NAME

PROJECT No.

1170

五

PROJECT ADDRESS:
1801 E Old Settlers Blvd
Round Rock, TX 78664

1988/89

ISSUED FOR
PERMIT
JULY 25, 2024

[illegible]

FILE: 8077 SHAFIT: 22036

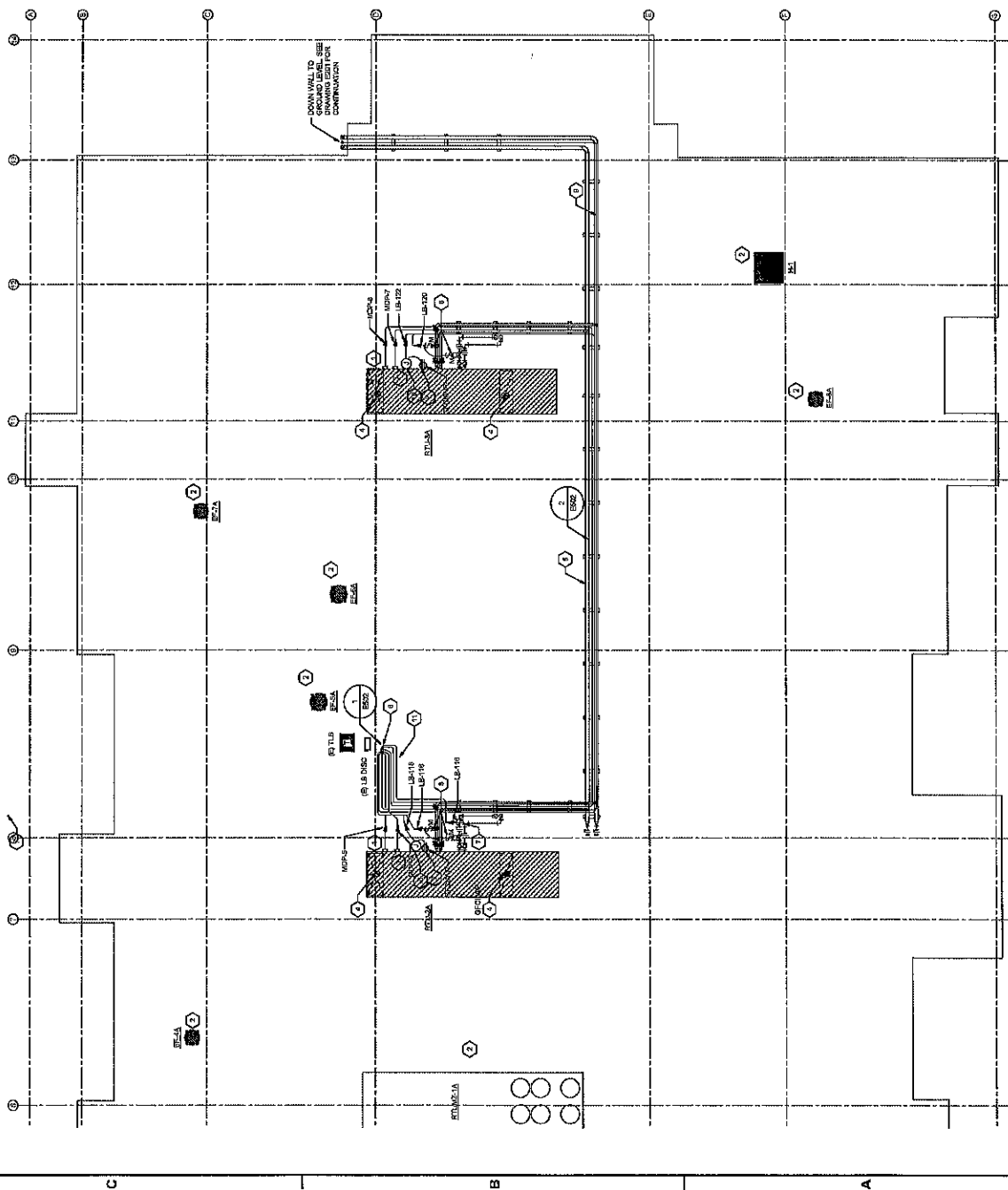
A

GENERAL NOTES

- a. REFER TO ELECTRICAL LEGEND SHEET ENCL. FOR REQUIRED GENERAL NOTES.
- b. DRAWINGS AND SPECIFICATIONS ARE NOT TO BE USED FOR REQUIRED GENERAL NOTES, EQUIPMENT, OR MATERIALS. CONTRACTOR SHALL VERIFY EXACT LOCATION AND COORDINATION OF EXISTING INSTALLATIONS TO REMAIN.
- c. ELECTRICAL EQUIPMENT AND DEVICES SHOWN ON THIS SHEET HAVE BEEN FIELD VERIFIED AND FOUND TO BE IN PLACE AND NOT REFERRED TO ON THIS SHEET. THE CONTRACTOR WILL BE RESPONSIBLE FOR REMAINING WORK TO BE FIELD VERIFIED AND FOUND TO BE IN PLACE. PROVIDE ADEQUATE PROTECTION FOR REMAINING WORK WITH NEW CONSTRUCTION.
- d. FIELD VERIFY EXIST. LOCATIONS OF EXISTING DEVICES ON THE EXISTING REFERRED TO REMAIN IN WORKING ORDER. PROVIDE PROTECTIVE CONSTRUCTION TO MAINTAIN EXISTING DEVICES REMAINING IN WORKING ORDER.
- e. REMAINING DEVICES SHALL BE FIELD VERIFIED AND FOUND TO BE IN WORKING ORDER. PROVIDE PROTECTIVE CONSTRUCTION TO MAINTAIN DEVICES REMAINING IN WORKING ORDER.
- f. REMAINING DEVICES SHALL BE FIELD VERIFIED AND FOUND TO BE IN WORKING ORDER. PROVIDE PROTECTIVE CONSTRUCTION TO MAINTAIN DEVICES REMAINING IN WORKING ORDER.
- g. CONTRACTOR TO FIELD VERIFY ALL REMAINING DEVICES REMAINING IN WORKING ORDER. PROVIDE PROTECTIVE CONSTRUCTION TO MAINTAIN DEVICES REMAINING IN WORKING ORDER.

SHEET KEYED NOTES

- [illegible]





GESSNER

CORPORATE OFFICE
 401 W 25TH STREET
 DRYAN, TEXAS 77803
 1877 GESSNER (437-7637)
 WWW.GESSNERENGINEERING.COM
 FROM REGISTRATION NUMBER
 TYPE F-7451 TBPLS F-1015



WILLIAMSON
COUNTY
TENN.

PROJECT NAME: Williamson County Jester Annex
Rooftop HVAC Unit Replacement

RSE PROJECT No.
1178

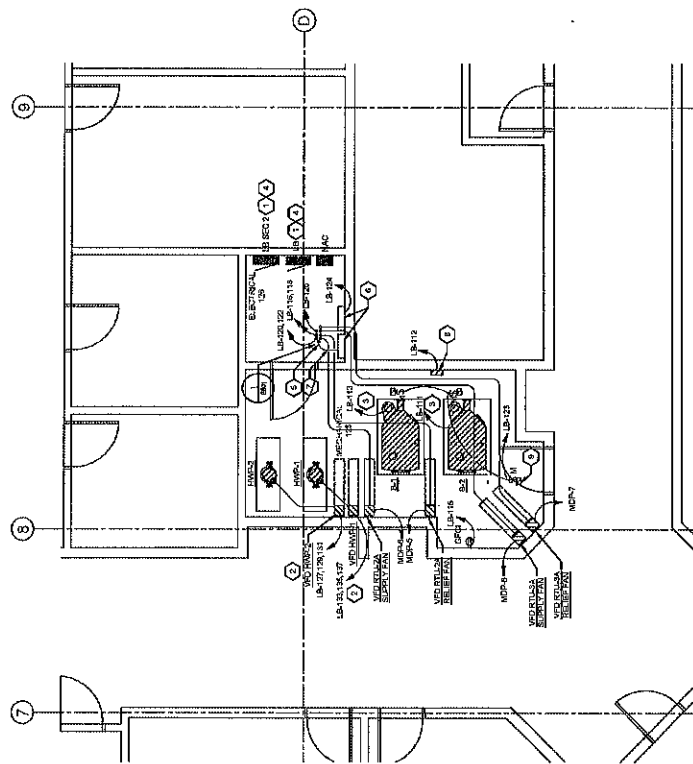
PROJECT ADDRESS:
1801 E Old Settlers Blvd
Round Rock, TX 78664

Page 10

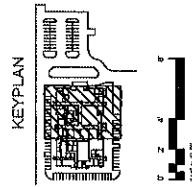
ISSUED FOR
PERMIT
JULY 25, 2024

[illegible][illegible]

1. EXISTING TO REMAIN, POINT FOR REFERENCE ONLY.
2. FURNISH AND INSTALL POWER TO SERIES PANEL. WPS SHALL BE PROVIDED BY THE CONTRACTOR. PROVIDE ELECTRICAL CONNECTIONS AS REQUIRED.
3. FURNISH AND INSTALL POWER TO SERIES WIRE. PROVIDE A WIRE RATED 30% FOR LOCAL UNBALANCING. PROVIDE ELECTRICAL CONNECTIONS AS REQUIRED.
4. PROVIDE NEW BREAKERS IN EXISTING 800V MTA PANEL. BOARD REFER TO PANEL SCHEDULE FOR ADDITIONAL INFORMATION.
5. PROVIDE NEW WIRE PENETRATION TO POWER PANEL CONDUITS UP TO 10' PANEL SCHEDULE FOR ADDITIONAL INFORMATION.
6. FURNISH AND INSTALL 100 AMP PANEL. PROVIDE 100 AMP WPS. PANELS PROVIDED BY CONTRACTOR. COORDINATE INSTALL W/IN DIVISION 28.
7. EXISTING 100 AMP WPS. RAILING FROM POWER CONTROL IN ELECTRICAL ROOM TO CHILLER AND CONTROL PANEL.
8. FURNISH AND INSTALL 1000 PWS TO SERVE CHILLER COMPRESSOR DETECTOR. PROVIDE 1000 PWS TO SERVE CHILLER COMPRESSOR DETECTOR. EXACT LOCATION TO BE DETERMINED.
9. FURNISH AND INSTALL 1000 POWER TO SERVE MOTORIZED VALVES.



1 ENLARGED ELECTRICAL RENOVATION FLOOR PLAN - ENLARGED MECHANICAL ROOM
SCALE: 1/8" = 1'-0"





GESSNER

CORPORATE OFFICE
401 W 23TH STREET
DALLAS, TEXAS 75203
1.877.635.5511 (TOLL FREE)
972.355.3333 (DALLAS)
FIRM REGISTRATION NUMBERS

CLIENT NAME:



WILLIAMSON
COUNTY
TENN.

PROJECT NAME

**Williamson County Jester Annex
Rooftop HVAC Unit Replacement**

REGISTRATION

1479
PROJECT ADDRESS:
1801 E Old Settlers Blvd
Round Rock, TX 78664

TABLE III

ISSUED FOR
PERMIT
JULY 25, 2024

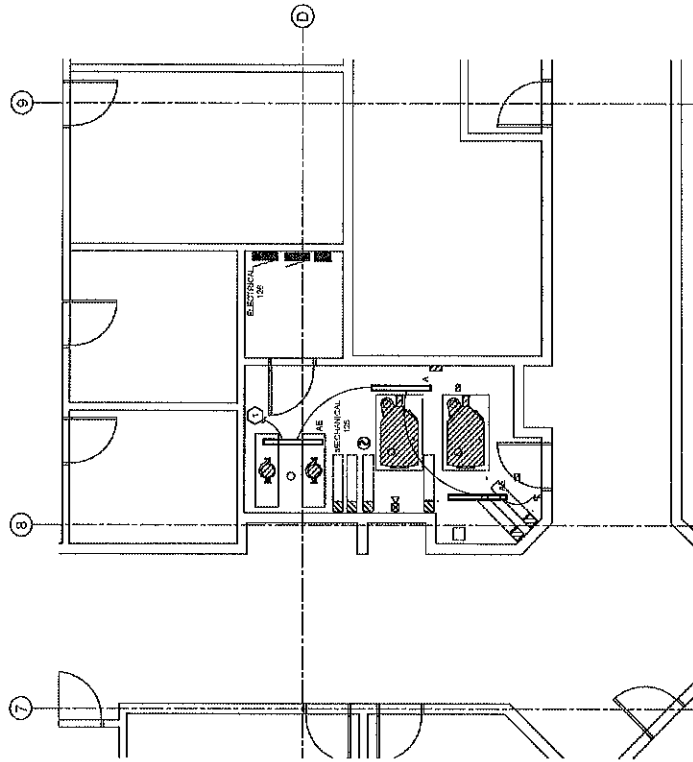
[illegible]ELECTRICAL
ENLARGED PLAN

E402

- a. REFER TO ELECTRICAL LEGEND SHEET E001 FOR PROJECT GENERAL NOTES
- b. DRAWINGS ARE SCHEMATIC IN NATURE. VERIFY DIMENSIONS AND EQUIPMENT LOCATIONS IN THE FIELD. CONTRACTOR SHALL VERIFY EXISTING CONDITIONS AND CONFIGURATION OF EXISTING INSTALLATIONS TO REMAIN.
- c. FREE ALARM DEVICE SIGNALING IS INTENDED TO IDENTIFY ANY COMPONENTS OF THE FIRE ALARM SYSTEM. A CERTIFIED FIRE ALARM CONTRACTOR WILL REVIEW DRAWINGS AND DESIGN A FREE ALARM SYSTEM IN COMPLIANCE WITH NFPA, LOCAL CODES AND AUTHORITY HAVING JURISDICTION. THE CERTIFIED FIRE ALARM CONTRACTOR SHALL OBTAIN A SHOP DRAWING REQUEST, CALCULATIONS AND WIRING DIAGRAMS AND SUBMIT ALL REQUIRED CALCULATIONS AND WIRING DIAGRAMS FOR REVIEW. ALL COMPLETE WORKINGS ARE REQUIRED.

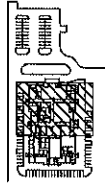
SHEET KEYED NOTES

1. CONNECT NEW LIGHTING TO EXISTING LIGHTING CIRCUIT SERVING THE AREA.



1 ENLARGED ELECTRICAL RENOVATION FLOOR PLAN - LIGHTING PLAN
SCALE: 1/4" = 1'-0"

KEYWORDS AND



ALL INFORMATION CONTAINED HEREIN IS UNCLASSIFIED



CONSULTANTS



GESSNER

CONSULTING OFFICE
1407 GESSNER BLVD.
SUITE 100
HOUSTON, TEXAS 77053
PHONE: 281.462.1000
FAX: 281.462.1001
WWW.GESSNER.COM

CLIENT NAME



WILLIAMSON COUNTY
1868

PROJECT NAME

Williamson County Jester Annex
Roadway HVAC Unit Replacement

PROJECT NO.

1479

PROJECT ADDRESS

1801 E Old Settlers Blvd
Round Rock, TX 76664

ISSUE

ISSUED FOR
PERMIT
JULY 25, 2024

DATE

DESCRIPTION

PROJECT NO.

1479

PROJECT TITLE

ELECTRICAL GROUNDING
RISER DIAGRAM

SHEET NUMBER

E602

PULL E602 SHEET 2334

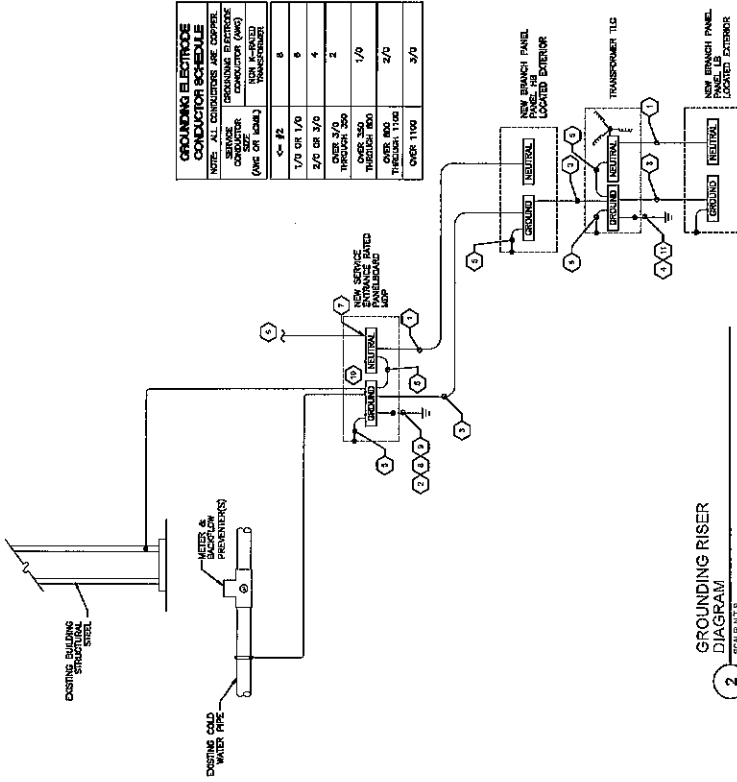
GENERAL NOTES

1. INSTALL GROUNDING CONNECTIONS TO BUILDING STRUCTURE AND EQUIPMENT GROUNDING BUS IN ACCORDANCE WITH THE FOLLOWING NOTES AND THE NATIONAL ELECTRICAL CODE (NEC) AND THE NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) 70B.
2. INSTALL INSULATED THREAT GROUNDING BUSWORK ON EACH FLOOR AND IN THE BASE OF EACH EQUIPMENT GROUNDING BUS. EQUIPMENT GROUNDING BUSWORK SHALL BE INSTALLED IN ACCORDANCE WITH THE FOLLOWING NOTES AND THE NATIONAL ELECTRICAL CODE (NEC) AND THE NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) 70B.
3. EQUIPMENT GROUNDING BUSWORK SHALL BE INSTALLED IN ACCORDANCE WITH THE FOLLOWING NOTES AND THE NATIONAL ELECTRICAL CODE (NEC) AND THE NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) 70B.
4. EQUIPMENT GROUNDING BUSWORK SHALL BE INSTALLED IN ACCORDANCE WITH THE FOLLOWING NOTES AND THE NATIONAL ELECTRICAL CODE (NEC) AND THE NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) 70B.
5. EQUIPMENT GROUNDING BUSWORK SHALL BE INSTALLED IN ACCORDANCE WITH THE FOLLOWING NOTES AND THE NATIONAL ELECTRICAL CODE (NEC) AND THE NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) 70B.

KEYED NOTES

1. REFER TO THE NATIONAL ELECTRICAL CODE (NEC) AND THE NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) 70B FOR THE FOLLOWING NOTES AND THE NATIONAL ELECTRICAL CODE (NEC) AND THE NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) 70B.
2. EQUIPMENT GROUNDING BUSWORK SHALL BE INSTALLED IN ACCORDANCE WITH THE FOLLOWING NOTES AND THE NATIONAL ELECTRICAL CODE (NEC) AND THE NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) 70B.
3. EQUIPMENT GROUNDING BUSWORK SHALL BE INSTALLED IN ACCORDANCE WITH THE FOLLOWING NOTES AND THE NATIONAL ELECTRICAL CODE (NEC) AND THE NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) 70B.
4. EQUIPMENT GROUNDING BUSWORK SHALL BE INSTALLED IN ACCORDANCE WITH THE FOLLOWING NOTES AND THE NATIONAL ELECTRICAL CODE (NEC) AND THE NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) 70B.
5. EQUIPMENT GROUNDING BUSWORK SHALL BE INSTALLED IN ACCORDANCE WITH THE FOLLOWING NOTES AND THE NATIONAL ELECTRICAL CODE (NEC) AND THE NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) 70B.
6. EQUIPMENT GROUNDING BUSWORK SHALL BE INSTALLED IN ACCORDANCE WITH THE FOLLOWING NOTES AND THE NATIONAL ELECTRICAL CODE (NEC) AND THE NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) 70B.
7. EQUIPMENT GROUNDING BUSWORK SHALL BE INSTALLED IN ACCORDANCE WITH THE FOLLOWING NOTES AND THE NATIONAL ELECTRICAL CODE (NEC) AND THE NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) 70B.
8. EQUIPMENT GROUNDING BUSWORK SHALL BE INSTALLED IN ACCORDANCE WITH THE FOLLOWING NOTES AND THE NATIONAL ELECTRICAL CODE (NEC) AND THE NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) 70B.
9. EQUIPMENT GROUNDING BUSWORK SHALL BE INSTALLED IN ACCORDANCE WITH THE FOLLOWING NOTES AND THE NATIONAL ELECTRICAL CODE (NEC) AND THE NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) 70B.
10. EQUIPMENT GROUNDING BUSWORK SHALL BE INSTALLED IN ACCORDANCE WITH THE FOLLOWING NOTES AND THE NATIONAL ELECTRICAL CODE (NEC) AND THE NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) 70B.
11. EQUIPMENT GROUNDING BUSWORK SHALL BE INSTALLED IN ACCORDANCE WITH THE FOLLOWING NOTES AND THE NATIONAL ELECTRICAL CODE (NEC) AND THE NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) 70B.

GROUNDING ELECTRODE CONDUCTOR SCHEDULE		
NOTE: ALL CONDUCTORS ARE COPPER UNLESS OTHERWISE NOTED		
CONDUCTOR (AWG)	NON-FUSED DISCONNECT	NON-FUSED DISCONNECT
(AWG OR KCMIL)	THRU 350	THRU 350
1/0 OR 1/0	6	6
2/0 OR 2/0	4	4
THRU 350	2	2
THRU 350	1/0	1/0
THRU 1100	2/0	2/0
OVER 1100	3/0	3/0



GROUNDING RISER
DIAGRAM

SCALE N/A

Ramirez - Simon
Engineering, LLC

Mechanical • Electrical • Plumbing
Texas Registered Engineering Firm 5-14781
9805 Whithorn Dr. | Houston, TX 77065
Office: 832.261.1420



CONSULTANTS



GESSNER
CORPORATE OFFICE
401 W. 25TH STREET
BRYAN, TEXAS 77803
1.877.GESSNER.1 (437.7637)
www.gessnerreg.com

SUBJECT INFORMATION



PROJECT NAME: Williamson County Jester Annex
3000 HVAC Unit Basement

ROSE PROJECT NO.
1479

PROJECT ADDRESS
1801 E Old Settlers Blvd
Round Rock, TX 78664

ISSUED FOR
PERMIT
JULY 25, 2024

[illegible]

ELECTRICAL SCHEDULES

1

3023

[illegible][illegible]

Ramirez - Simon
Engineering, LLC

Mechanical • Electrical • Plumbing
Texas Registered Engineering Firm E-14781
9805 Whithorn Dr. | Houston, TX 77055
Office: 832.261.1420



GESSNER
CONSTRUCTION
1479
1801 E Old Settlers Blvd
Round Rock, TX 78664



WILLIAMSON COUNTY
1479
PROJECT NAME
Williamson County Justice Annex
Roofing HVAC Unit Replacement
PROJECT NO.
1479
PROJECT ADDRESS
1801 E Old Settlers Blvd
Round Rock, TX 78664

ISSUED FOR PERMIT
JULY 25, 2024

SHEET NO.	DATE	DESCRIPTION
1	7/25/24	PLUMBING DEMOLITION ROOF PLAN - AREA B

PLUMBING DEMOLITION
ROOF PLAN - AREA B

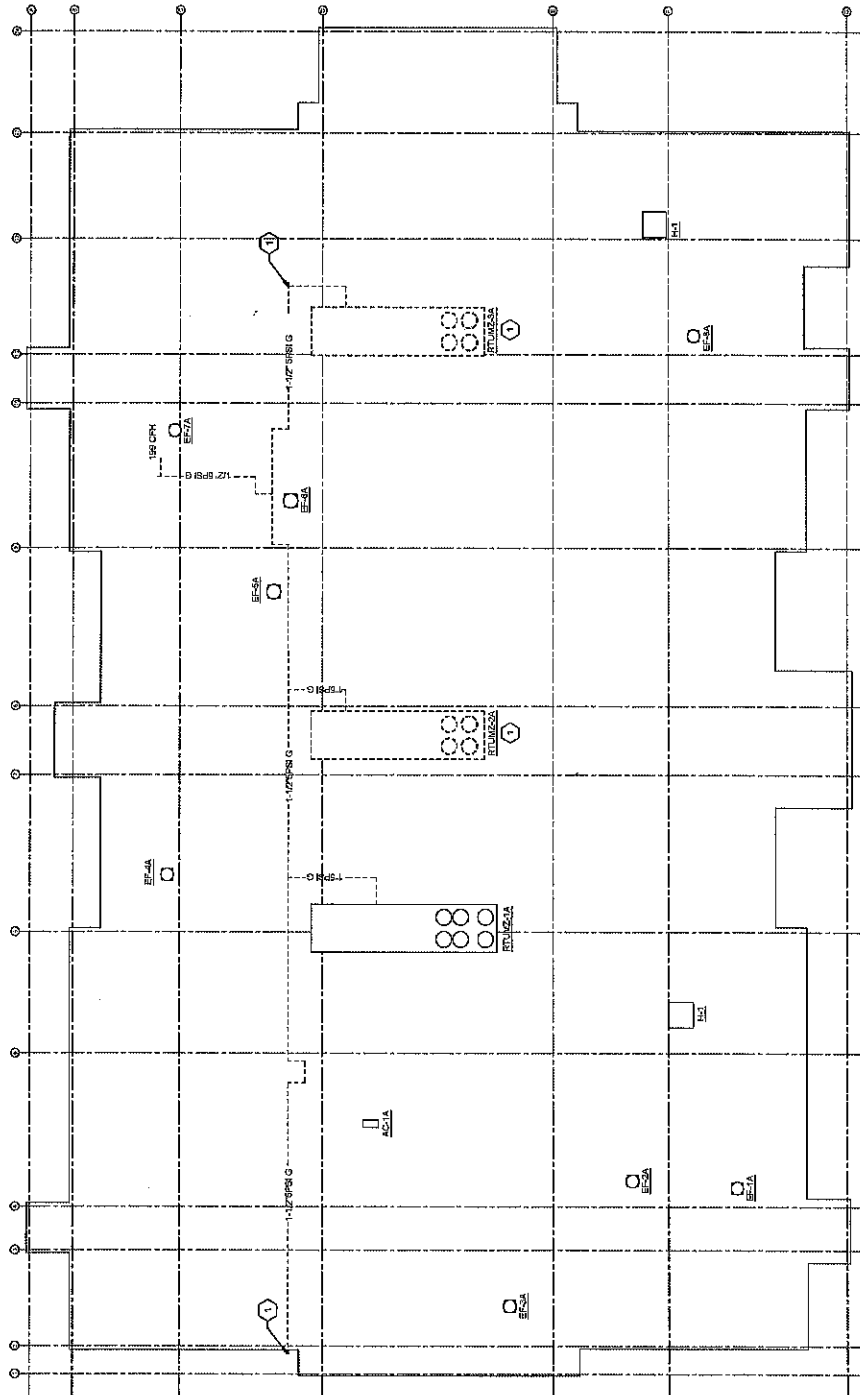
PD201

GENERAL NOTES

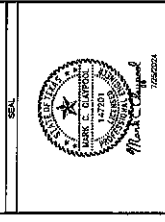
1. REMOVE ALL GAS PIPE BACK TO METAL.

SHEET KEYED NOTES

1. REMOVE ALL GAS PIPE BACK TO METAL.



1 PLUMBING DEMOLITION ROOF PLAN - AREA B
SCALE: 3/8\"/>



GESSNER

CONSULTANT
 14731
 1801 E OH Settlers Blvd
 Round Rock, TX 78664

WILLIAMSON COUNTY
 1446

PROJECT NAME
 Williamson County Justice Annex
 Rooftop HVAC Unit Replacement

PROJECT NO.
 1479

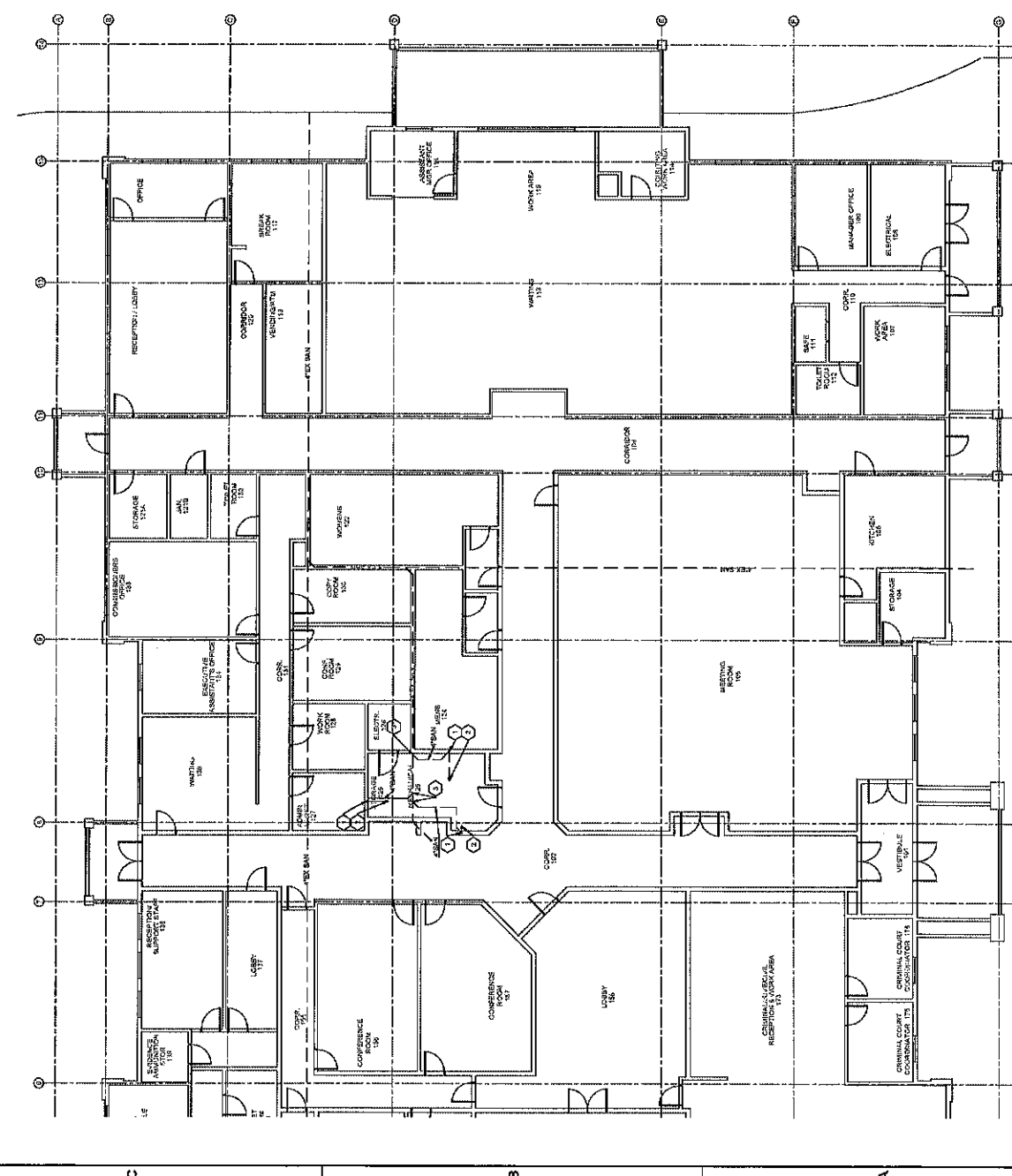
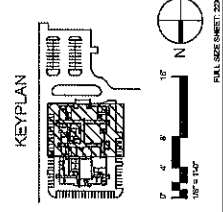
PROJECT ADDRESS
 1801 E OH Settlers Blvd
 Round Rock, TX 78664

ISSUED FOR
 PERMIT
 JULY 25, 2024

PLUMBING RENOVATION
 UNDER FLOOR PLAN -
 AREA B

SHEET NUMBER
PU201

- GENERAL NOTES**
1. DRAWINGS ARE SUBMITTED IN ACCORDANCE WITH THE REQUIREMENTS OF THE TEXAS REGISTERED ENGINEERING ACT AND THE TEXAS REGISTERED PROFESSIONAL ENGINEERING ACT. THE EXACT LOCATION AND COMPOSITION OF EXISTING INSTALLATIONS TO REMAIN.
- SHEET KEYED NOTES**
1. 4" SANITARY DRAIN 2" VENT UP.
2. 4" SANITARY UP TO DRAIN ABOVE.
3. CONNECT TO EXISTING SANITARY HERE.

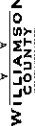


1 PLUMBING RENOVATION UNDER FLOOR PLAN - AREA B
 SCALE: 1/8" = 1'-0"

Mechanical • Electrical • Plumbing
Texas Registered Engineering Firm P-14781
9805 Whitthorn Dr. | Houston, TX 77095
Office: 832.751.1420



CORPORATE OFFICE
401 W 25TH STREET
IRVING, TEXAS 76032
1.800.765.5181 (437.765181)
WWW.C-2800-2800@msdcorp.com



PROJECT NAME:
Williamson County Jester Annex
Rooftop HVAC Unit Replacement

ROSE PROJECT NO.:
1479

PROJECT ADDRESS:
1801 E Old Settlers Blvd
Round Rock, TX 78664

ISSUED FOR
PERMIT
JULY 25, 2024

[illegible]

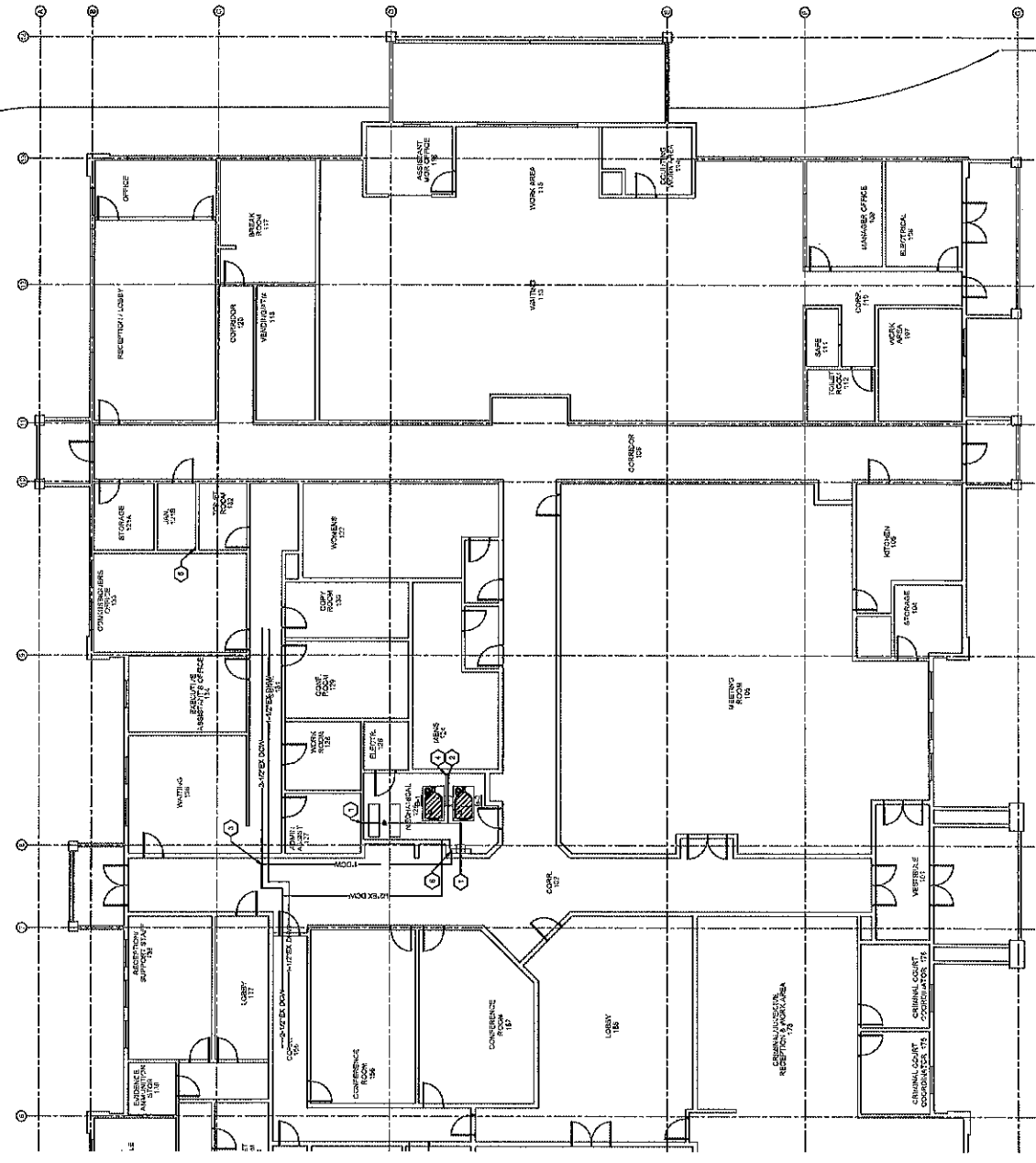
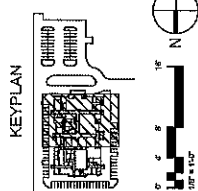
PLUMBING RENOVATION
FLOOR PLAN - AREA B

SHEET NUMBER
P201

A. DRAWINGS ARE SCHEMATIC IN NATURE. VERIFY DIMENSIONS AND EQUIPMENT LOCATIONS IN THE FIELD. CONTRACTOR SHALL VERIFY EXACT LOCATION AND CONFIGURATION OF EXISTING INSTALLATIONS TO REMAIN.

1. 2" VENT FROM BELOW.
2. 2" VENT FROM BELOW AND 2" VENT UP THROUGH ROOF.

3. CONNECT TO EXHAUSTING COLD WATER PIPE OF EQUAL OR GREATER SIZE HERE.
4. 1-2" 5 PSI GAS FROM ROOF ABOVE TO FIELD BOILERS.
5. NEW 2" FROM ROOF ABOVE TO FIELD EXHAUSTING GAS WATER HEATER.
6. 1" MAKE-UP WATER CONNECTION FOR MECHANICAL COORDINATE WITH MECHANICAL CONTRACTOR.



1 PLUMBING RENOVATION FLOOR PLAN - AREA B
0'-0" 1'-0" 2'-0" 3'-0" 4'-0" 5'-0" 6'-0" 7'-0" 8'-0" 9'-0" 10'-0"



CORPORATE OFFICE
401 W 26TH STREET
BRYAN, TEXAS 77803
1.817.765.3900
WWW.DRESS-TO-IMPRESS.COM
FARM REGISTRATION NUMBER
TSP# F-2351, TBPLS F-103358
PROJECT INFORMATION



ROSE PROJECT No.
1479

PROJECT ADDRESS:
1801 E Old Settlers Blvd
Round Rock, TX 78664

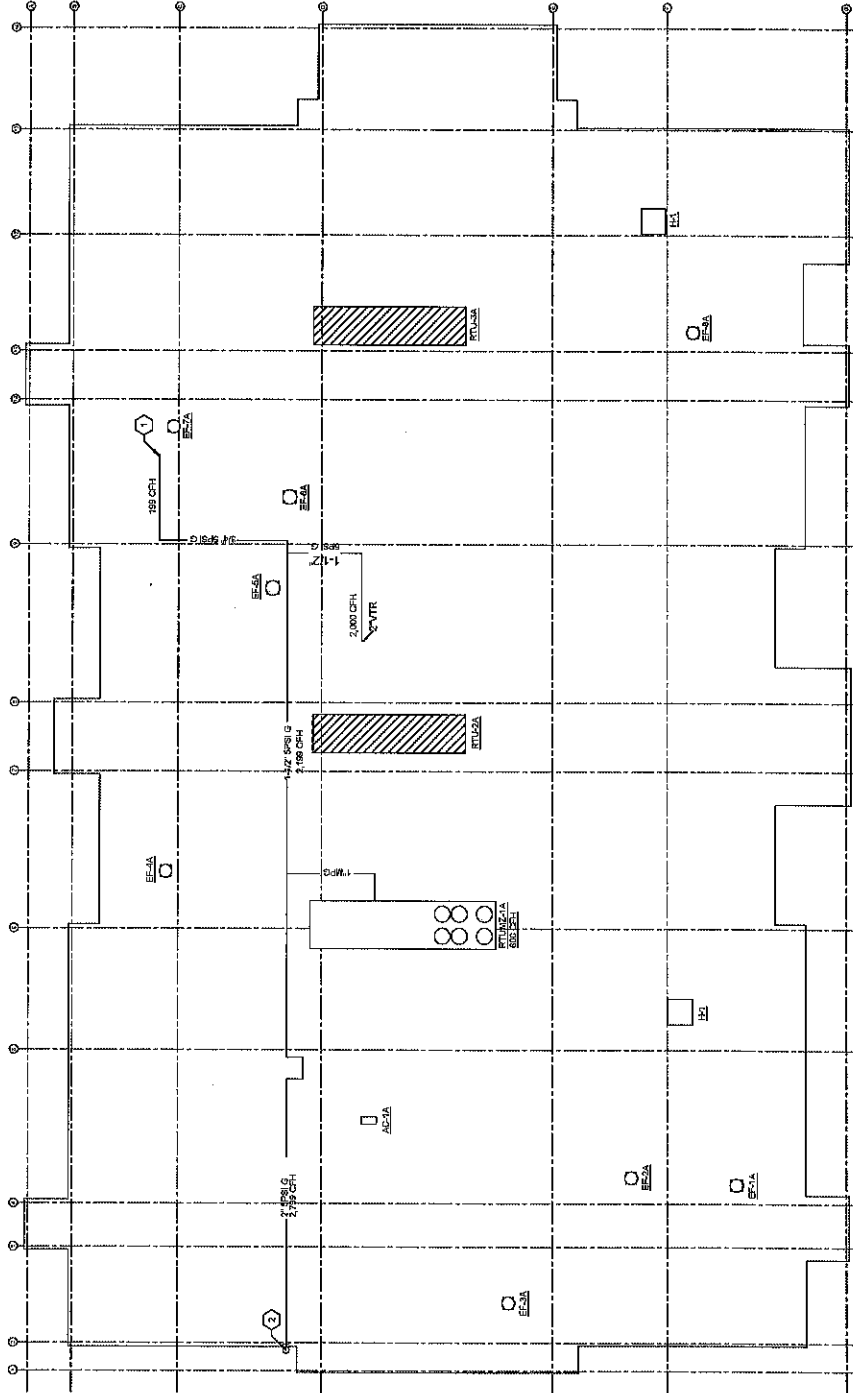
ISSUED FOR
PERMIT
JULY 25, 2024

[illegible]

SHEET NUMBER
P202

A. DRAWINGS ARE SCHEMATIC IN NATURE. VERIFY DIMENSIONS AND EQUIPMENT LOCATIONS IN THE FIELD. CONTRACTOR SHALL VERIFY EXACT LOCATION AND CONFIGURATION OF EXISTING INSTALLATIONS TO REMAIN.

1. 3/4" GAS DOWN TO WATER HEATER BELOW.
2. 2" S POL GAS @ 2,769 CFH WITH A TOTAL DEVELOPMENTAL LENGTH OF 1600'



1 PLUMBING RENOVATION ROOF PLAN - AREA B



CONSULTANT



GESSNER

CORPORATE OFFICE
401 W 26TH STREET
DALLAS, TEXAS 75223
1-877-553-6611 (437-7627)
1-800-849-5461 (606-0602-2307)
FAX 1-800-849-5461
TELETYPE 1-800-849-5461

PROJECT INFORMATION



WILLIAMSON
COUNTY
TENN.

PROJECT NAME
Williamson County Jester Annex
Rooftop HVAC Unit Replacement

REEL PROJECT NO.
1479

PROJECT ADDRESS
1801 E Old Settlers Blvd
Round Rock, TX 78664

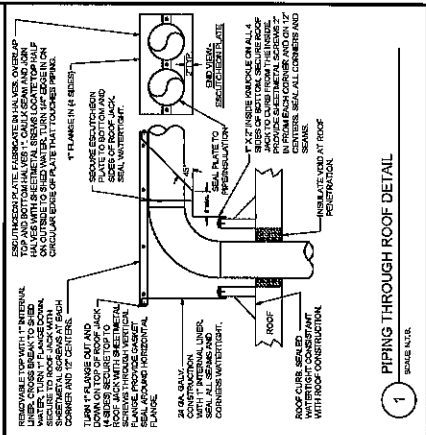
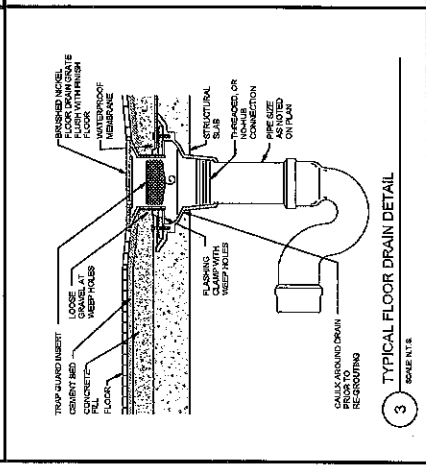
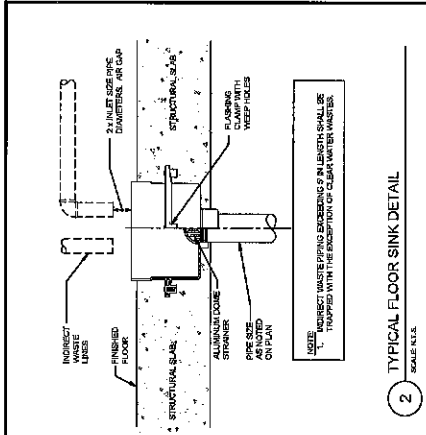
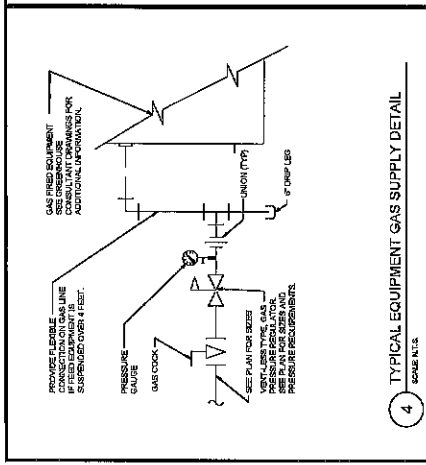
RESULTS

ISSUED FOR
PERMIT
JULY 25, 2024

[illegible]

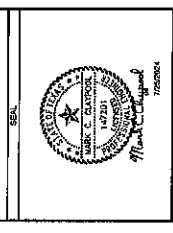
PLUMBING DETAILS

SHEET NUMBER
P501



Ramirez - Simon
Engineering, LLC

Mechanical • Electrical • Plumbing
Texas Registered Engineering Firm P-14291
9803 Whithorn Dr., Houston, TX 77055
Office: 282.263.1420



GESSNER
CORPORATE OFFICE
1577 GESSNER BLVD. SUITE 100
HOUSTON, TEXAS 77055
PHONE: 282.263.1420
FAX: 282.263.1421
PROJECT INFORMATION

WILLIAMSON COUNTY
1843
PROJECT NAME:
Williamson County Jester Annex
Rooftop HVAC Unit Replacement
DATE PROJECT Began:
1479
PROJECT ADDRESS:
1801 E Old Settlers Blvd
Round Rock, TX 78664

ISSUED FOR PERMIT
JULY 28, 2024
DATE
DESCRIPTION
DATE PROJECT Began: 1479
PROJECT TITLE

PLUMBING SCHEDULES
SHEET NUMBER
P701

PLUMBING FIXTURE SCHEDULE

TYPE	SYMBOL	DESCRIPTION	NOTES
1	1	1	1
2	2	2	2
3	3	3	3
4	4	4	4

BACKFLOW PREVENTER SCHEDULE

TYPE	SYMBOL	DESCRIPTION	NOTES
1	1	1	1
2	2	2	2
3	3	3	3
4	4	4	4

Project Title: **Williamson County Jester Annex – Rooftop HVAC Unit Replacement**
RSE Project #: **1479**
Issue: **Addendum 1**
Date: **05/23/2025**

This **Addendum 1** shall modify, amend, extend and become a part of the Contract Documents dated 07/25/2024 prepared by Ramirez Simon Engineering, LLC (RSE) in accordance with the terms therein, as if written out in full therein and bound originally therewith.

Questions concerning this **Addendum 1** or the Contract Documents, should be addressed to RSE by email to Mark Claypool (mcclaypool@ramirez-simon.com).

In cases of conflict, the Addendum shall take precedence over previously issued Contract Documents.

Questions

1. The specifications address material types for Chilled Water Piping but no Heating Water Piping. Does the Chilled Water Piping section also apply to Heating Hot Water?

RSE Response:

The chilled water piping specification section only applies to chilled water piping. Refer to attached specification section 23 2113 for heating hot water piping requirements.

2. The chilled water piping specification does not address the below grade chilled water piping. Is it pre-insulated? If so, can you please provide material for carrier pipe and type of pre-insulation?

RSE Response:

The chilled water piping below grade can be pre-insulated or insulated underground with mineral powder insulation. Refer to attached specification section 23 2120 and section 23 2119 as well as mechanical detail sheet M505 for more information.

Mechanical Drawings

1. Sheet G001 – GENERAL INFORMATION
 - a. Added sheet M505 – Mechanical Details to sheet list.
2. Sheet M302 – MECHANICAL RENOVATION PIPING FLOOR PLAN – AREA C
 - a. Revised keynote 11.
3. Sheet M505 – MECHANICAL DETAILS
 - a. Added sheet.

Electrical Drawings

1. Sheet E203 – ELECTRICAL RENOVATION ROOF PLAN – AREA A
 - a. Revised keynote tag number to reference keynote 3 for heat tracing.
 - b. Revised circuit tag for heat tracing.

- c. Removed floating keynote from plan.
- d. Removed floating text from plan.

Plumbing Drawing

- 1. Sheet PU201 – PLUMBING RENOVATION UNDER FLOOR PLAN – AREA B
 - a. Revised keynote 1.
 - b. Revised keynote 2.
 - c. Revised keynote 3.

Specifications

- 1. Table of Contents, Division 22
 - a. Add Specification Section 22 7000 Facility Natural Gas System.
- 2. Table of Contents, Division 23
 - a. Add Specification Section 23 2113 Heating Hot Water System and Equipment.
 - b. Add Specification Section 23 2119 Underground Thermal Distribution Systems.
 - c. Add Specification Section 23 2120 Underground Thermal Pipe Insulation.
- 3. Section 23 6423, Paragraph 1.2.E.
 - a. Add sentence, “**Acceptable Manufacturer: Carrier, Trane, and JCI.**”
- 4. Section 23 6423, Paragraph 2.1.M.8.
 - a. Delete paragraph in its entirety.
- 5. Section 22 0500, Paragraph 2.4.C.
 - a. Delete, “**Refer to Division 9 for additional information**” from paragraph.

END OF ADDENDUM 1



GESSNER

CORPORATE OFFICE
1877 GESSNER BLVD
IRVING, TEXAS 76038
PH: 972.440.1000
FAX: 972.440.1001
WWW.GESSNER.COM

SHEET NUMBER



WILLIAMSON COUNTY
TEXAS

PROJECT NAME

Williamson County Jester Annex
Rooftop HVAC Unit Replacement

SHEET PROJECT NO.

1478

PROJECT ADDRESS

1801 E Old Settlers Blvd
Round Rock, TX 78664

JULY 25, 2024

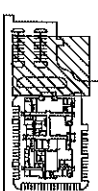
GENERAL NOTES

1. DRAWINGS ARE SCHEMATIC IN NATURE. VERIFY DIMENSIONS AND LOCATIONS ON SITE PRIOR TO CONSTRUCTION. CONTRACTOR SHALL VERIFY EXISTING CONDITIONS AND PROVIDE AS-BUILT DRAWINGS TO OWNER.
2. OWNER SHALL PROVIDE ALL NECESSARY PERMITS AND APPROVALS TO INSURE.
3. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS TO INSURE.

SHEET KEYED NOTES

1. PROVIDE NEW CHILLED WATER PUMP WITH INTEGRATED PUMP.
2. PROVIDE NEW CHILLED WATER PIPING ABOVE GRADE.
3. PROVIDE PIPE SUPPORTS.
4. EXISTING UNDERGROUND DOWNSIDE PIPING IS SHOWN FOR INFORMATION PURPOSES.
5. PROVIDE NEW FLOW METER IN 6" CH PIPING.
6. PROVIDE NEW AUTOMATED CONTROL VALVE IN 6" CH PIPING.
7. PROVIDE NEW ISOLATION VALVES IN CHILLED WATER PIPING.
8. PROVIDE NEW CONDENSATE TANK AND MOUNT ON GRADE. ROUTE 1" PIPING TO 6" CH PIPING AND PROVIDE ISOLATION VALVE.
9. PROVIDE NEW CHILLED WATER PIPING AND MOUNT ON GRADE. ROUTE 1" PIPING TO 6" CH PIPING AND PROVIDE ISOLATION VALVE.
10. PROVIDE NEW CHILLED WATER TANK AND MOUNT ON GRADE.
11. PROVIDE NEW CHILLED WATER PIPING BELOW GRADE. REFER TO DETAIL 11.1 FOR CHILLED WATER PIPING BELOW GRADE.
12. PROVIDE NEW AUTOMATED CONTROL VALVE IN CHILLED WATER PIPING.

KEY PLAN



1 MECHANICAL RENOVATION PIPING FLOOR PLAN - AREA C

SCALE: 1/8" = 1'-0"

Ramirez - Simon
Engineering, LLC

Mechanical • Electrical • Plumbing
Texas Registered Engineering Firm: F-14781
9905 Whithorn Dr. | Houston, TX 77095
Office: 832-261-1420



CONSULTANTS



GESSNER
CORPORATE OFFICE
401 W 25TH STREET
BRYAN, TEXAS 77802
1.877.GESSNER (437.7637)
WWW.GESSNERENGINEERING.COM

PROJECT INFORMATION

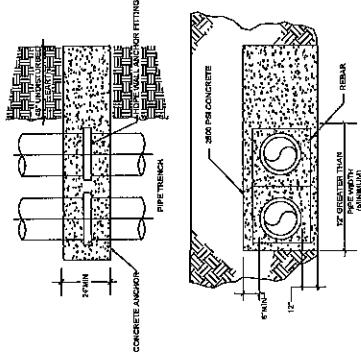


PROJECT NAME
Williamson County Jester Annex
Rooftop HVAC Unit Replacement

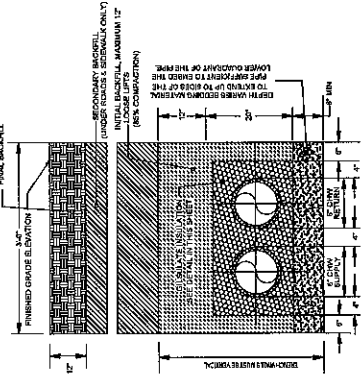
RUE PROJECT No.
1479

PROJECT ADDRESS
1801 E Old Settlers Blvd
Round Rock, TX 78654

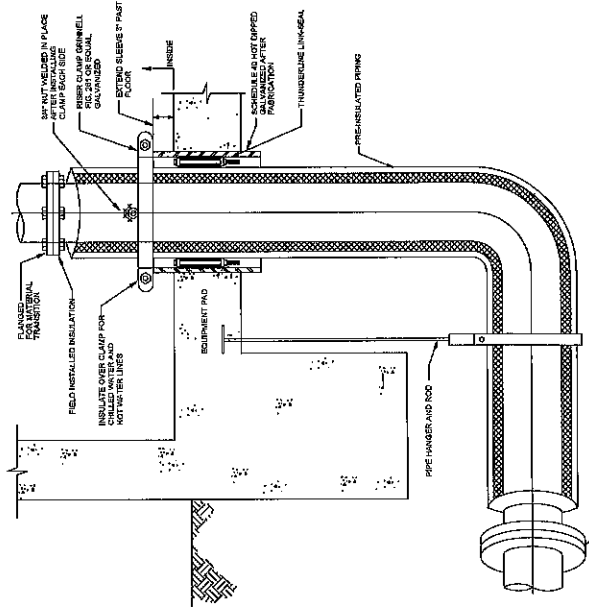
ISSUED FOR
PERMIT
JULY 25 2024

[illegible]

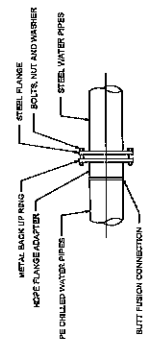
2 TYPICAL PIPE ANCHORING CONCRETE BLOCK
SCALE: 1/8" = 1'-0"



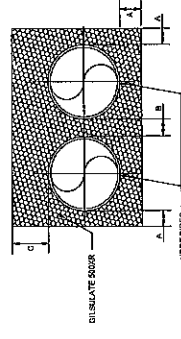
4 THERMAL WATER LINES TRENCH



1. PROVIDE PREINSULATED HYDRONIC PIPE UNDER CONCRETE SLAB.



5 PIPE MATERIAL TRANSITION



TYPICAL HDPE WATER PIPE INSULATION

INSULATION SCHEDULE				
NOMINAL PIPE SIZE	CHILLED WATER			
	A	B	C	D

[illegible]

1 ELECTRICAL RENOVATION ROOF PLAN - AREA B
SCALE 3/8" = 1'-0"

PLUMBING
DOMINIC 408-241-77

SECTION 22 7000
FACILITY NATURAL GAS SYSTEM

PART 1 - GENERAL

1.1 REQUIREMENTS

- A. Conform with applicable provisions of the General Conditions and Supplemental General Conditions.

1.2 SCOPE

- A. Connect to existing building natural gas system and extend piping to serve new HVAC roof-mounted equipment. Work shall include all necessary, piping, regulators, supports, anchoring, miscellaneous accessories coordination with roofing, coordination with mechanical equipment, and coordination with other utilities. All outages shall be coordinated with Owner and the Contractor shall verify that all existing equipment affected by the outage is back to normal operation.

PART 2 - PRODUCTS

2.1 PIPING

- A. All underground gas piping shall be minimum SDR-11 High Density Polyethylene (HDPE) plastic pipe and fittings, ASTM D-2513, with heat-fused socket or butt-fused joints. Piping shall be intended for natural gas use.
- B. Provide connection between buried plastic gas service piping and metallic riser in accordance with the gas code. Provide metallic riser consisting of HDPE fused coating on steel pipe for connection to above ground building distribution piping. Underground horizontal metallic portion of riser shall be at least twenty-four inches in length before connection to the plastic service pipe. An approved transition fitting or adaptor meeting design pressure rating and plastic pipe manufacturers recommendations shall be used where the plastic joins the metallic riser.
- C. All-natural gas piping shall be painted yellow.
- D. Above Ground Piping Outside of Building
 1. Piping 1½ inches and smaller shall be seamless Schedule 40 black steel, ASTM A106 or ASTM A53 Type "S", Grade A or B, with Class 150 black malleable iron threaded fittings conforming to ASME B16.3.
 2. Piping 2 inches and larger shall be Type "S" seamless or Type "E" electric resistance welded Schedule 40 black steel, ASTM A53, Grade A or B, with Schedule 40 wrought carbon steel fittings, ASTM A 234 and butt weld joints.
 3. Provide factory-applied, three-layer coating of epoxy, adhesive, and PE or field applied primer and epoxy paint coating on all pipe and fittings. Field applied coating is restricted to fittings and short sections of pipe necessarily stripped for threading or welding. Field coating shall be manufactured by Amercoat Type 240 or approved equal and applied in accordance with manufacturer's recommendations. Galvanizing shall not be considered adequate protection.

E. Above Ground Piping Exposed Inside of Building:

1. Piping 1½ inches and smaller shall be seamless Schedule 40 black steel, ASTM A106 or ASTM A53 Type "S", Grade A or B, with Class 150 black malleable iron threaded fittings conforming to ASME B16.3.
2. Piping 2 inches and larger shall be Type "S" seamless or Type "E" electric resistance welded Schedule 40 black steel, ASTM A53, Grade A or B, with Schedule 40 wrought carbon steel fittings, ASTM A 234 and butt weld joints.

EXCEPTIONS:

- a. All exposed piping 1½ inches and smaller located within areas utilized as return air plenums shall have welded joints with Schedule 40 socket welded forged steel fittings conforming to ASME B16.11.

F. Above Ground Piping Concealed Inside of Building (Includes above all ceilings, within partitions, within chases, and all non-accessible locations):

1. Piping 2 inches and larger shall be Type "S" seamless or Type "E" electric resistance welded Schedule 40 black steel, ASTM A53, Grade A or B, with Schedule 40 wrought carbon steel fittings, ASTM A 234 and butt weld joints.

EXCEPTIONS:

- a. Threaded piping 1½ inches and smaller may be installed in lieu of welded provided that all piping is encased within steel sleeve vented to the exterior of the building. Sleeve piping shall be Schedule 10 black steel pipe conforming to ASTM A53, Grade A or B, electric resistance welded or seamless, with roll-grooved ends. Sleeve pipe couplings shall be Victaulic Style 75 with Grade T nitrile gasket. Sleeve fittings shall be Victaulic grooved malleable or steel. Sleeve piping and fittings must be two pipe sizes, but not less than 1 inch larger than encased gas piping.

2.2 FITTINGS

- A. Fittings for steel piping 2" and smaller shall be threaded or welded as described in Section 2.1 above. Threaded fittings shall be Class 150 standard black malleable iron conforming to ANSI B16.3. Weld fittings shall be either standard weight steel butt-weld fittings conforming to ANSI B16.9, or forged steel socket-weld fittings, 2000-pound Schedule 40 conforming to ANSI B16.11. Fittings for steel piping 2-1/2" and larger shall be standard weight steel butt-weld fittings conforming to ANSI B16.9.

2.3 FLANGES

- A. Flanges for steel piping system shall be forged steel, weld neck, or slip-on, 1/16" raised face Class 150 flanges conforming to ANSI B16.5.
- B. Flange connections for valves and equipment shall match the rating and drilling of the valves and equipment furnished.
- C. Where specifically required by the application, black cast iron Class 125 standard threaded plain face companion flanges may be utilized for flanged connections in threaded piping systems.
- D. Gaskets shall be 1/16" thick full face non-asbestos material suitable for the temperatures and pressure application.
- E. Flange bolting shall be carbon steel machine bolts or studs and hex nuts, ASTM A307, Grade B.

2.4 VALVES

- A. Valves shall be as specified in Section 22 0523, Valves.
- B. Valves used in conjunction with gas piping shall be approved for the required service.

2.5 GAS METERS

- A. Natural gas meters shall be furnished and installed by the natural gas utility company. All required permits and fees shall be secured and paid for by the Contractor in accordance with Section 22 0500. Gas meter shall be the type and capacity required for the application and shall be located as indicated on the drawings and in accordance with utility company requirements and applicable codes and ordinances.
- B. All natural gas meters shall be preceded by a main gas supply shut-off valve serviceable and accessible outside the building.

2.6 NATURAL GAS REGULATOR

- A. The incoming system natural gas pressure regulator shall be furnished and installed with the gas meter by the utility company, set for the required gas leaving pressure shown on the drawings.
- B. Line gas pressure regulators shown on these documents shall be contractor furnished. Size the regulators per manufacturer recommendations for flow quantities and pressure as shown on the drawings. Provide Fisher/Emerson EZR, SENSUS 243, or approved equal.
- C. Install pressure gauge adjacent to and downstream of each line pressure regulator.
- D. Secondary natural gas appliance and equipment regulators required by the equipment manufacturer shall be furnished by the equipment manufacturer or supplier and sized for the system inlet pressure and the required appliance operating pressure.
- E. Gas regulators located indoors shall be vented to the outdoors and termination point shall be 3ft above roof a minimum of 10ft separated from outdoor air intakes.

2.7 PIPING SUPPORTS

- A. Piping hangers and supports shall be in accordance with Section 22 0504. Roof-mounted pipe supports shall be coordinated with roofing system to maintain existing warranty, if in place. Roof work shall be coordinated with SSC Services.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Piping installation shall conform to the requirements of Section 22 0500, Common Work Requirements for HVAC, and Section 22 0504, Pipe and Pipe Fittings. Installation of specialties shall conform to the requirements of Section 22 0505, Piping Specialties.
- B. Installation of piping and equipment shall be in accordance with applicable codes and regulations, including International Plumbing Code, International Mechanical Code, International Fuel and Gas Code, and NFPA No. 54.

- C. No gas piping shall be installed in or on the ground under any building or structure, and all exposed gas piping shall be at least 6-inches above grade.
- D. Gas piping supplying the building or facility shall be provided with a shut-off valve located outside the building and readily accessible. Where gas piping supplies multiple buildings or facilities, each building shall be provided with a shut-off valve as described herein.

3.2 EQUIPMENT AND APPLIANCE CONNECTIONS

- A. All gas fired equipment and appliances shall be connected to the gas piping system in an approved manner and shall be furnished with a shut-off valve and union installed ahead of the unit. Connections shall in no case be less than the unit inlet connection size and shall be rigidly connected, except as otherwise shown on the drawings and allowed by codes and regulations.

3.3 DRIPS

- A. Accessible capped drip pockets shall be furnished at low points in piping system, connections to appliances and equipment, and other locations where condensation may tend to collect.

3.4 VENTS

- A. All gas regulators and other required devices installed within the building shall be vented to the outside of the building in accordance with manufacturer's requirements, codes, and regulations.

3.5 TESTS

- A. All gas piping shall be pressure tested using air, CO₂, or nitrogen in accordance with the applicable codes and regulations, including International Plumbing, Mechanical Code, NFPA No. 54.
- B. All new rough-in distribution piping and affected portions of existing systems connected to, shall be subjected to a pneumatic test pressure utilizing clean, dry air and must be demonstrated to be absolutely tight when subjected to the pressures and time durations listed herein. All equipment and components designed for operating pressures of less than the test pressure shall not be connected to the piping system during test.
 - 1. Systems on which the normal operating pressure is less than 0.5 pounds per square inch gauge (psig), the test pressure shall be 5.0 psig and the time interval shall be 4 hours.
 - 2. Systems on which the normal operating pressure is between 0.5 psig and 5.0 psig, the test pressure shall be 1.5 times the normal operating pressure or 5.0 psig, whichever is greater, and the time interval shall be 4 hours.
 - 3. Systems on which the normal operating pressure is 5.0 psig or greater, the test pressure shall be 1.5 times the normal operating pressure, and the time interval shall be 8 hours.

END OF SECTION 22 7000

SECTION 23 2113
HEATING HOT WATER SYSTEM AND EQUIPMENT

PART 1 - GENERAL

1.1 REQUIREMENTS

- A. Conform with applicable provisions of the General Conditions, Supplementary Conditions and General Requirements.

1.2 RELATED SECTIONS

- A. See Section 23 0500, for Common Work Requirements for HVAC.
- B. See Section 23 0504, for Pipe and Pipe Fittings.
- C. See Section 23 0505, for Piping Specialties.
- D. See Section 23 0523, for Valves.
- E. See Section 23 0700, for HVAC Insulation.
- F. See Division 26, Electrical.

PART 2 - PRODUCTS

2.1 PIPING

- A. Copper Piping – 4” and less - The Contractor shall use Type L hard drawn copper tubing, ASTM B88 for heating water piping. Proper insulating fittings, as specified in Section 23 05 04, shall be installed to prevent electrolytic action between steel and copper piping connections.
- B. Polypropylene Piping - Aquatherm Blue Pipe with multi-layer faser (SDR-9 MF), ASTM F2389 – All sizes. Pipe shall have certification from NSF to meet NSF 14 and 61 and shall be listed with ICC. Pipe minimum rating shall be 100 psi at 180 F deg. Certified of flame spread/smoke development rating of 25/50 in accordance with ASTM E84 when wrapped with standard pipe insulation, field installed. Contractor (all installers) shall be trained by factory authorized representative prior to installation. Contractor shall coordinate expansion control requirements with manufacturer and install as required. Acceptable manufacturers are Aquatherm, Niron, or approved equal.

2.2 FITTINGS

- A. Fittings for copper piping shall be wrought copper conforming to ANSI B16.22, with 95-5 solder joints, as specified in Section 23 05 04.
- B. Mechanically formed tee connections and couplings for copper piping system shall be as specified in Section 23 05 04.
- C. Polypropylene pipe fittings shall match pipe material. Fittings shall be as specified in Section 23 0504.

2.3 FLANGES

- A. Flanges connections shall be forged steel, 1/16" raised face Class 150 flanges conforming to ANSI B16.5.
- B. Flange connections for valves and equipment shall match the rating and drilling of the valves and equipment furnished.
- C. Gaskets shall be 1/16" thick ring type or full face non-asbestos material suitable for the temperatures and pressure application.
- D. Flange bolting shall be carbon steel machine bolts or studs and hex nuts, ASTM A307, Grade B.

2.4 VALVES

- A. Valves other than automatic control valves are specified in Section 23 0523, HVAC Valves.
- B. Automatic control valves shall be as specified Division 25 Integrated Automation.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Piping installation shall conform to the requirements of Section 23 0500, Common Work Requirements for HVAC, Section 23 0504, Pipe and Pipe Fittings. Installation of specialties shall conform to the requirements of Section 23 0505, Piping Specialties.

3.2 CLEANING AND FLUSHING PIPING SYSTEMS

- A. New heating water piping systems installed under this Contract shall be chemically cleaned of oils, greases, dirt and mill scale. The new piping system shall be inspected by the Owner's approved Water Treatment Agency.
- B. Cleaning shall be performed in strict accordance with the chemical treatment agency and manufacturer's recommendations.
- C. After the mechanical contractor has prepared the building and the piping to be flushed after it has been tested. Provide a complete water flushing and cleaning of the closed loop hot water systems as specified herein. Systems must be commissioned as clean and meet the water treatment specifications.
- D. All hot water piping and related equipment shall be thoroughly flushed out with pre-cleaning chemicals designed to remove deposits such as pipe dope, oils, loose rust, mill scale and other extraneous materials. Recommended dosages of pre-cleaner chemical products shall be furnished by water treatment supplier, added and circulated throughout the water systems. The water systems shall then be drained, refilled and flushed thoroughly until no foreign matter is observed and total alkalinity of the rinse water is equal to or better than that of the make-up water.
- E. All polypropylene piping and related equipment shall be thoroughly flushed out with high volume and velocity water designed to remove deposits such as pipe shavings, dirt, debris and any other

and other extraneous materials.

- F. All temporary connections required for cleaning, purging, and circulating shall be included. Provide suitable pipe bypasses at each coil and heat exchanger during this cleaning operation.
- G. Flushing & Cleaning – a third party flushing company should be used. Permanent facility pumps should not be used for circulating the cleaning water. However, if its impractical to use temporary pumps, the permanent facility pump may be used provided that the pump is unconditionally warranted for two years, parts and labor, after the date of substantial completion by the mechanical contractor. A documented flush plan may be required at the discretion of the engineer. All operators should be aware of and abide by the Safety and PPE regulations of the project site. Operation should be manned continuously during the flushing process.
- H. Self-Contained Flush Unit Requirements – Should contain a pump or pumps connected that will meet or exceed the volume required to flush and purge the system at the required velocity rate through the largest pipe. A pump curve will be submitted along with other important documentation for the related equipment on the unit. This will include, at minimum, filtration, flow meter(s), pressure gauges, and unit description or picture.
- I. Pre Flush - Bypass loops should be installed at all equipment components. Strainers can be removed when a self-contained purge unit is used in conjunction with on board filtration. Flush ports should be identified along with the type of high pressure hose or piping that will be used to connect to the system. The water source should be identified and must be adequate to fill and make up water in a timely manner to the system during the flush process.
- J. Clear Water Flush – Fill the piping system with clean potable water. The first flush is a clear- water flush intended to circulate water through the system and force loose debris to low point drains and the flush cart filtration system. This flush should be at minimum velocity throughout the system of 5 to 7 ft/sec. Filtration should be 25 micron.
 - 1. For Polypropylene, HDPE Piping Systems – the minimum duration of the flush should be calculated using a formula of 1 hour per 1000 linear feet of pipe and until system water is comparable to make up water source.
- K. Cleaning & Passivation
 - 1. For Metallic Piping Systems - The second flush cycle is a combined flushing cycle where cleaning and passivation chemicals are introduced into the system to clean the oils and treat the inside wall of the piping system. This process will be monitored by the chemical treatment company to meet the chemical specifications of the water. The cleaning velocity should be between 3 to 5 ft/sec and the circulation time will be baes on the chemical testing but will typically be up to 48 hours.
- L. Treatment
 - 1. For Metallic Piping Systems - After cleaning and before adding chemical initial charge, system must be flushed to meet these minimum requirements:
 - a. Conductivity no higher than 20 mmho above domestic water level
 - b. No foam
 - c. Copper level less than 0.5 ppm
 - d. Iron level less than 1.0 ppm
 - e. pH 9.4 or less
 - f. Less than 1 ppm phosphates (ortho-phosphate PO4)

- M. Final Chemical Fill – Once the chemical treatment company has determined the system has been brought back to the correct composition, the chemical treatment company will inject the final chemicals into the system. Once the system is filled with the final chemicals it is important that the water is not to be left stagnant. Chemical treatment shall be comparable to existing treatment program.
- N. Verify satisfactory completion of clean pipe and a final flushing and chemical treatment report should be signed by field personnel and submitted. Refer to Appendix A for the Flush & Cleaning Hydronic Pipe Field Completion Report
- O. In conjunction with piping system cleaning, clean and inspect all strainers and suction diffusers. Remove, bypass, or otherwise protect as necessary all piping system components which may be damaged due to chemical cleaning, including filters, instrumentation gauges, flow meters, etc.
- P. After completion of chemical cleaning and flushing, the piping system shall be immediately refilled and maintained with treated water. Under no circumstances shall cleaned piping be allowed to sit empty or filled with untreated water.

3.3 TESTS

- A. All piping shall be proven tight at a hydrostatic pressure of 150% of the system design operating pressure, but not less than 125 PSI. The system shall show no loss in pressure or indication of leakage at any joint or connection for a period of **one (8)** hours.

END OF SECTION 23 2113

Appendix A

Flush & Cleaning Hydronic Pipe Field Completion Report

Flush & Cleaning Hydronic Pipe Field Completion Report

Project Name _____

Date of Report: _____

Project Location: _____

Prime Contractor: _____

Mechanical Firm: _____

Chemical Treatment Firm: _____

Lead Flushing Technician On-Site During Process: _____

Project Type:

- Hot Water Flush _____
- Other: _____

Scope Summary:

Start Time and Date: _____

End Time and Date: _____

Mechanical Representative

Chemical Representative

Owner Representative

SECTION 23 21 19
UNDERGROUND THERMAL DISTRIBUTION SYSTEMS

PART 1 – GENERAL

1.01 REQUIREMENTS

- A. Conform with applicable provisions of the General Conditions, the Special Conditions, and General Requirements.

1.02 RELATED SECTIONS

- A. Section 23 2120 Underground Thermal Piping Insulation

1.03 WORK INCLUDED

- A. Underground chilled water distribution system the use of extra high molecular weight plus (EHMW plus) high density polyethylene (HDPE) pipe due to its additional performance against abrasion, higher pressure and elevated temperatures. For chilled water a minimum of SDR 17 is required. Work shall include all piping, valves and pipe insulation to provide a complete system for chilled water piping as indicated. Pipes need to meet with the following minimum specifications:

1.04 MATERIALS

- A. The pipe and fittings shall be made extra high molecular weight (EHMW) high-density polyethylene with a standard thermoplastic material designation code of PE3608 and having a cell classification of 345464c per ASTM D3350.
- B. Materials used to manufacture pipe and fittings shall be listed under the manufacturer's name in the plastics pipe institute (PPI) TR-4, "PPI listing of hydrostatic design basis (HDB), strength design basis (SDB), pressure design basis (PDB) and minimum required strength (MRS) ratings for thermoplastic piping materials or pipe." The manufacturer shall supply a product with a standard grade HDB rating of 1600 PSI (minimum) at 73F and 800 PSI (minimum) for 180F. Upon request, the manufacturer shall supply certification that the materials used to manufacture the pipe and fittings meet the above requirements.
- C. All materials, which come in contact with potable water, including lubricants, shall be evaluated, tested and certified for conformance with ANSI/NSF standard 61.

PART 2 – POLYETHYLENE PIPE AND FITTINGS

- 2.01 Pipe and tubing furnished under this specification shall be manufactured from compounds in compliance with sections above. The dimensional and performance characteristics shall conform to the requirements of the most current version of AWWA C-901 (1.2" through 3") or C-906 (4" through 65"). Each lot of material shall be tested for melt index, density and % carbon. Upon request, the manufacturer shall furnish test data.
- 2.02 Polyethylene fabricated fittings shall be manufactured from polyethylene pipe, sheet stock or molded fittings meeting the material requirements of this specification and all appropriate requirements of AWWA C-901 or AWWA C-906.
- 2.03 Polyethylene fittings, including custom fabrications, shall have the same internal pressure rating as the mating pipe. At the point of fusion, the wall thickness and outside diameter of the fitting shall be in accordance with AWWA C-901 or AWWA C-906 for the same pipe size.

2.04 The Pipe Manufacturer's Quality System Shall Be Certified to Be In Accordance with ISO 9001:2000

PART 3 – JOINING

3.01 Heat fusion

- A. Pipe and fittings shall be joined by one of the following types of thermal fusion per the manufacturer's recommended procedures: butt fusion, saddle fusion or socket fusion.
- B. Upon request, the manufacturer shall provide fusion training by authorized personnel or an authorized representative. The contractor shall be responsible for ensuring that personnel have received proper training per the manufacturer's recommended procedure. Records of training shall be maintained by the contractor and should not exceed 12 months from date of construction.
- C. Butt fusions performed between pipe ends or pipe ends, and fitting outlets shall be within the following allowable wall mismatches:
 - 1. 2 DR difference for pipe and fitting diameters 6" and smaller.
 - 2. 1 DR difference for above 6" through 18".
 - 3. No difference for diameters above 18".
 - 4. The difference in DR's is determined from the following DR values: 7.3, 9, 11, 13.5, 17, 21, 26 and 32.5.

3.02 Other methods of joining

- A. Polyethylene pipe and fittings may be joined together or to other materials through the use of electrofusion fittings, flange adapters with back-up rings, mechanical couplings designed for connecting polyethylene pipe and fittings to itself or to another material, or mj adapters. The manufacturer of the joining device shall be consulted for proper installation procedures.

PART 4 – MARKING

4.01 Service identification stripes: permanent identification of piping service shall be provided by co-extruding four equally spaced color stripes into the pipe outside surface. The striping material shall be the same material as the pipe material except for color. The following colors shall be used to identify piping service:

- A. No color stripe – chilled water pipe

4.02 Pipe and tubing shall be permanently marked in accordance with all applicable standards per this specification. Marking shall be heating stamped indent print and shall remain legible under normal handling and installation practices.

4.03 Fittings shall be marked on the body or hub. Marking shall be in accordance with the applicable standard depending upon the fitting type. Mechanical fittings shall be marked with size, body material designation code, pressure rating and the manufacturer's name or trademark.

4.04 All buried pipelines shall have detectable marking tape installed a minimum of 12" inches below final grade and 18" to 24" above each pipe. Tape shall be a 6" with a minimum 5.0 mil over all thickness. tape shall be manufactured using a 0.8 mil clear virgin polypropylene film, reverse printed and laminated to a 0.35 mil solid aluminum foil core and then laminated to a 3.75 mil clear virgin polypropylene film. Tape shall label to meet design guidelines. Marking tape shall meet or exceeds all applicable ASTM specifications.

PART 5 – WORKMANSHIP

- 5.01 Pipe, tubing and fittings shall be homogenous throughout, and free of visible cracks, holes, foreign inclusions, blisters, dents or other injurious defects. the pipe, tubing and fittings shall be as uniform as commercially practicable in color, opacity, density and other physical properties.

PART 6 – TESTING

- 6.01 The contractor shall be responsible for field set-up and performance of the fusion equipment and the fusion procedure used by the operator. Upon request, the contractor shall verify the fusion quality by making and testing per the manufacturer's recommended qualification procedure. The contractor shall be responsible for the necessary adjustments to the set-up, equipment, and operation and fusion procedure. Fusions that fail the qualification procedure shall be remade.
- 6.02 Hydrostatic testing shall be conducted in accordance with the manufacturer's recommended testing procedures. Hydrostatic testing shall be performed prior to installation of the insulation and backfill. At no time shall the pipe be covered prior to the completion of the hydrostatic testing. Hydrostatic test pressures shall be 100 psi for chilled water piping, 125 psi for domestic cold and hot water lines. Acceptance shall be zero pressure drop after 2 hours.

PART 7 – THIRD PARTY CERTIFICATION

- 7.01 The performance requirements of the pipe and fittings shall comply with the most current version of AWWA C-901 or AWWA C-906. The manufacturer shall be listed with NSF61 certification and include the third-party certification within the print line of the product.

PART 8 – INSTALLATION

- 8.01 Installation of HDPE SDR11 pipes shall be in accordance with AWWA M55 (chapter 8).

Notes:

- A. Minimum compaction shall be to 85% standard proctor density unless under a roadway where a minimum compaction shall be to 95% standard proctor density.
- B. Due to the potential for ring buckling of empty pipe during roadway construction installation must have a minimum cover of 30 inches for pipe sizes up to 18-inches and 36 inches of cover from pipe sizes 18 to 24-inches.
- C. The valves associated with this system shall be direct buried gate valve type.

END OF SECTION 23 21 19

SECTION 23 21 20
UNDERGROUND THERMAL PIPE INSULATION

PART 1 – GENERAL

1.02 REQUIREMENTS

- A. Conform with applicable provisions of the General Conditions, the Special Conditions, and General Requirements.

1.03 RELATED SECTIONS

- A. Section 23 2119 Underground Thermal Distribution System

1.04 WORK INCLUDED

- A. Extent of underground piping insulation required by this section is indicated on drawings and schedules and by requirement of this section.
- B. Types of underground piping insulation specified in this section include the following: Inorganic, engineered granular, underground pipe insulation. Pre-insulated pipes are an acceptable alternative.
- C. An underground piping insulation system must be provided to enclose and provide thermal and waterproofing protection for piping specified and shown on Plans, including but not limited to the following:
 - Piping insulation including expansion units.
 - Miscellaneous materials incidental to complete installation of insulated underground sections.
 - Supervision of installation as specified.
- D. Piping located under building slab shall be pre-insulated type.

PART 2 – MINERAL POWDER INSULATION

2.02 GENERAL

- A. Insulating material which adheres to or becomes joined in any manner to piping during cycle of operation shall not be used.
- B. Contractors are solely responsible to complete work for entire run of piping between points specified and shown on plans.
- C. Adequate space and clearance with insulated underground piping system shall be provided to allow free movement of piping and avoid stress or abrasions to piping. No wood, masonry, metal, or any other abrasive pipe supports or guides, shall be left in contact with piping.
- D. Provide fittings and accessories necessary and incidental to type of system selected.

- E. Store materials and equipment on work site on wood platforms or members; stack and pile in substantial and safe manner so products will not easily dislodge while in storage.
- F. Replace or repair wet or damaged insulation as directed by Engineer or product installation requirements.
- G. Complete hydrostatic tests for all new lines. Perform hydrostatic leak test at 1.5 times maximum operating pressure to ensure piping system is free from leaks before application of field applied insulation and closures. See HDPE Piping Installation Design Standard for testing pressures and acceptance requirements. Williamson County technical staff must be notified in advance of planned hydrostatic test and be present to witness the test. See pipe manufacturer's recommendations for testing procedures.
- H. All parts of system to be intact, undamaged, and free from leaks before backfilling with insulation material. Upon completion of backfilling of insulation material, work must be approved by construction inspector and Williamson County representative before final backfilling is performed. Piping or insulation installation that is deemed to be inadequate or incorrect, by Engineer, construction inspector, or Williamson County representative must be corrected to meet specifications prior to backfilling.

2.03 QUALITY ASSURANCE

- A. Manufacturer's Qualifications: Firm regularly engaged in the manufacture of granular insulation products of size and type required, whose product has been in satisfactory use in similar service for not less than 10 years.
- B. Installers Qualifications: Firm with at least 3 years of successful installation experience on projects with elevated temperature mechanical insulation systems.

2.04 DELIVERY, STORAGE AND HANDLING

- A. Deliver insulation, associated adhesives, form work and supplementary steel to site in manufacturer's containers with manufacturer's stamp or label clearly shown.
- B. Protect insulation packaging and associated components against sun, dirt, water and chemical damage.

2.05 MANUFACTURER

- A. Gilsulate International, Incorporated

2.06 PRODUCT

- A. Gilsulate 500XR

- C. Expansion Cushions: provide 3-to-5-pound density mineral fiber cushion to accommodate thermal expansion at expansion loops and elbows as required by the contract documents and insulation manufacturer's drawings and Design and Installation Manual.

2.10 EXAMINATION

- A. Examine area and conditions under which engineered controlled density insulating fill & corrosion protection system is to be installed. Do not proceed with work until unsatisfactory conditions have been corrected. All standing water shall be removed from trench prior to installing insulation.
- B. Pile dirt from trenching on one side of trench and work from opposite side. Ensure bottom of trench is free of debris and large stones.
- C. Bottom of trench shall be undisturbed soil.

2.11 EXCAVATION, FILLING AND BACKFILLING

- A. Final grading for setting pipe units to be performed immediately prior to setting units or concrete supporting pad in trenches; backfilling around completed insulated system to be under direction of supervisor for installation of insulated underground system.
- B. Restore all finished grades and improvements as detailed.

2.12 INSTALLATION

- A. Install and test carrier pipe: Install and test prior to installing insulation. Inspect welds and pressure test pipe as required by other sections of this specification. Clean pipe of all dirt, scale and foreign materials.
- B. Installation of anchors: Install structural steel and concrete of the size and quantity shown on the contract documents. Pour 2000 psi concrete at 28 days around rebar and anchor post and against undisturbed soil. Ensure anchor post and support channel (if required) are at the proper elevation for installation of piping. Ensure the rebar and the bottom of the anchor post is within the concrete envelope. Just prior to pouring the insulation coat all exposed steel (anchor post, support channel and knee brace) with bitumastic. Bitumastic must be tacky during insulation.
- C. Installation of guides: Install structural steel and concrete of the size and quantity shown on the contract documents. Pour 2000 psi concrete at 28 days around lower portion of guide brackets and against undisturbed soil. Weld the horizontal guide brackets at the proper pipe elevation. Just prior to pouring the insulation coat all exposed steel guide brackets and spacer angles with bitumastic. Bitumastic must be tacky during insulation installation.
- D. Installation of expansion loop support: Pour concrete support pad of the size indicated on the contract documents. Ensure pad elevation is correct for proper pipe elevation when the concrete pipe support is installed. Coat pipe support with bitumastic. Bitumastic must be tacky during insulation installation.
- E. Installation of temporary pipe supports: Provide temporary pipe support wires suspended from lumber bridging the trench. Temporary wood blocks located under the pipe may also be used. These supports must be removed as the insulation is poured and consolidated. No

- object should be allowed to bridge the gap between the soil and the pipe except the insulation.
- F. Installation of expansion cushions: Wrap mineral fiber cushions around pipe elbows on expansion elbows and expansion loops as indicated on the contract documents. Insure there is sufficient space or flexibility between cushions to allow insulation to pour and be consolidated under piping. Secure cushion to pipe with fiber reinforced tape. Specified Insulation thicknesses need to be maintained around fiber cushion areas.
 - G. Installation of forms: Provide gypsum board forms with support posts as shown in Gilsulate International, Inc.'s Design and Installation Manual. Posts must be located on the outside of the forms and spaced to prevent bowing of the gypsum board. After forms are in place, partially backfill outside of form to height of pipe.
 - H. Pouring of insulation: Pour insulation in short sections along the pipe axis. Apply bitumastic to structural steel surfaces and fill trench to centerline of pipe. Consolidate insulation using a rod-type concrete vibrator pulled along the sides and between the pipes. Pour and consolidate additional layers of insulation until the design coverage has been achieved. Proper consolidation is achieved when the insulation can be walked on with footprints less than 1" deep. No wood is to remain in contact with pipe(s) or left in insulation envelope. This could affect overall system efficiency (heat gain/loss) of non-metallic pipe(s) and/or cause corrosion to metallic pipe(s).
 - I. Inspector must physically be capable of confirming specified installed/compacted insulation thicknesses prior to placement of any backfill.
 - J. Backfill first 6" of soil (no stones) by hand. Complete backfilling and mechanically compact in uniform layers with suitable excavated soil to grade level.
 - K. Refer to Gilsulate International Inc. "Design & Installation Manual" for Installation Procedures.

PART 3 – PRE-INSULATED PIPE INSULATION

3.02 GENERAL

- A. For underground thermal lines furnish a complete HDPE jacketed system of factory pre-insulated piping for the specified service. The jacket throughout the entire system shall incorporate electric fusion, butt fusion, or extrusion welding at all fittings, joint closures, or other points of connection. This shall create a jacket that is seamless throughout the entire system with the exception of anchors whose water shed rings are sealed with double lap Raychem Dirax, Canusa GTS-65, or WLNN wrap prohibiting the ingress of water.
- B. All pre-insulated pipe, fittings, insulating materials and support shall be provided by the pre-insulated piping system manufacturer.

3.03 PRODUCTS

- A. Insulation shall be polyurethane foam either spray applied or injected with one shot into the annular space between carrier pipe and jacket and shall be bonded to both. Insulation shall be rigid, minimum 90% closed cell polyurethane with a minimum of 2.0 lbs. per cubic foot density, compressive strength of 30 psi @ 75 degrees F, and coefficient of thermal conductivity (K-Factor) not higher than 0.16 @ 75 degrees F per ASTM C-518. Maximum

operating temperature of urethane shall not exceed 250 degrees F. Polyurethane foam shall be CFC free. CHW lines 12" and below shall have 1" of insulation. HHW lines shall have 2-1/2" of insulation.

- B. Jacketing material shall be extruded, black, high-density polyethylene (HDPE) having a minimum wall thickness not less than 100 mils for pipe sizes less than or equal to 12", 125 mils for pipe sizes greater than 12" to 24" and 150 mils for pipe sizes greater than 24". No FRP, HDUP or tape jacket allowed. The inner surface of the HDPE jacket shall be oxidized by means of corona treatment or other approved methods. This will ensure a secure bond between the jacket and foam insulation preventing any ingress of water at the jacket/foam interface.
- C. Straight run joints are insulated with flex foam to allow for expansion and contraction of the gasket joint. Straight field joints shall be covered with an HDPE split sleeve and sealed with a heat shrink sleeve to prevent the ingress of moisture or debris.

END OF SECTION 23 21 20