

CITY COMMISSION MEETING AGENDA

City Hall Commission Chambers

806 N 2nd Avenue

Monday, July 1, 2024

7:00 p.m.

MEETING #5284

Public is welcome although seats are limited for social distancing; or you can view as follows:

1. Watch live on our Facebook page at www.facebook.com/cityofdodgecity

2. Or watch it on our Vimeo page at www.vimeo.com/cityofdodgecity.

The meeting will be archived on both sites to be viewed after the live video has ended.

CALL TO ORDER

ROLL CALL

INVOCATION BY Pastor Josh Smith, Cross Connection Church

PLEDGE OF ALLEGIENCE

APPROVAL OF AGENDA

PETITIONS & PROCLAMATIONS

VISITORS (Limit of five minutes per individual and fifteen minutes per topic. Final action may be deferred until the next City Commission meeting unless an emergency situation does exist).

CONSENT CALENDAR

1. Approval of City Commission Meeting Minutes, June 17, 2024.
2. Appropriation, Ordinance No. 15, July 1, 2024.
3. Cereal Malt Beverage License:

ORDINANCES & RESOLUTIONS

Ordinance No. 3812: An Ordinance Adopting a Historic Resources Preservation Ordinance by Reference for the City of Dodge City, Kansas; Establishing Penalties for Violations Thereof; and Repealing and Replacing all other Ordinances and Provisions of Ordinances in Conflict Herewith. Report by Nathan Littrell, Planning and Zoning Administrator.

UNFINISHED BUSINESS

NEW BUSINESS

1. Approve Change Order #15 for the Expansion of the South Wastewater Treatment Plant adding a Heat Exchanger/Chiller Unit to the Industrial Raw Biogas. Report by Ray Slattery, Director of Engineering Services.

OTHER BUSINESS

STAFF REPORTS

ADJOURNMENT

CITY COMMISSION MEETING MINUTES

City Hall Commission Chambers

806 N 2nd Avenue

Monday, June 17, 2024

7:00 p.m.

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CALL TO ORDER

ROLL CALL Mayor Chuck Taylor, Commissioners Jeff Reinert, Rick Sowers, Michael Burns, Daniel Pogue

INVOCATION BY Minister Dusty Cookson of First Christian Church

PLEDGE OF ALLEGIENCE

APPROVAL OF AGENDA

Commissioner Michael Burns moved to approve the agenda as presented. Commissioner Rick Sowers seconded the motion. The motion carried 5 - 0.

PETITIONS & PROCLAMATIONS

VISITORS (Limit of five minutes per individual and fifteen minutes per topic. Final action may be deferred until the next City Commission meeting unless an emergency situation does exist).

CONSENT CALENDAR

1. Approval of City Commission Meeting Minutes, June 3, 2024.
2. Appropriation, Ordinance No.14, June 17, 2024.
3. Cereal Malt Beverage License:
 - a. El Charro Restaurant of Dodge City, 1209 W. Wyatt Earp Blvd.
 - b. Love's Travel Stops, 400 E. Wyatt Earp Blvd.
 - c. Riverside RV Park, 500 Cherry Street.

Commissioner Daniel Pogue moved to approve the consent calendar as presented. Commissioner Jeff Reinert seconded the motion. The motion carried 5 - 0.

ORDINANCES & RESOLUTIONS

Ordinance No. 3811: An Ordinance Designating Dodge City Days as a Special Event in the City of Dodge City, Kansas was approved on a motion by Commissioner Michael Burns. Commissioner Daniel Pogue seconded the motion. The motion carried 5 - 0.

Resolution No. 2024-11: A Resolution of the Governing Body of the City of Dodge City, Kansas determining that the City is considering establishing a Kansas Reinvestment Housing Incentive District within the city and adopting a plan for the development of Housing and Public Facilities in such proposed district; establishing the date and time of a Public Hearing on such matter, and providing for the giving of notice of such Public Hearing (USD 443) was approved on a motion by Commissioner Michael Burns. Commissioner Jeff Reinert seconded the motion. The motion carried 5 – 0.

UNFINISHED BUSINESS

NEW BUSINESS

1. Commissioner Rick Sowers moved to approve to purchase an Animal Control vehicle topper from Custom Fiberglass Coaches in the amount of \$24,530. Commissioner Daniel Pogue seconded the motion. The motion carried 5 – 0.
2. Commissioner Jeff Reinert moved to approve to purchase new mowers from Morridge and American Implement 2 in the amount of \$204,095.07 for Parks and Athletic Field Maintenance Divisions Commissioner Michael Burns seconded the motion. The motion carried 5 – 0.
3. Commissioner Michael Burns moved to approve the Professional Engineering Services Agreement for the road and utility improvements to South 14th Avenue (W. McArtor Rd. to US 56) & West McArtor Road (S. 14th Ave. to S. 2nd Ave.) with Schwab Eaton in a not to exceed amount of \$1,237,310.00. Commissioner Rick Sowers seconded the motion. The motion carried 5 -0.
4. Commissioner Rick Sowers moved to approve the amendment to the NAESB and transaction confirmation with STX Commodities, LLC to continue to market our RNG through changes in European Union (EU) regulations. Commissioner Daniel Pogue seconded the motion. The motion carried 5 – 0.

OTHER BUSINESS

STAFF REPORTS

EXECUTIVE SESSION

At 7:35 pm Commissioner Jeff Reinert made a motion and Michael Burns seconded the motion that the City Commission recess into executive session pursuant to the exception found in K.S.A. 75-4319 (b)(4). The justification for closing the meeting is to hold preliminary discussion of data relating to the financial affairs or trade secrets of corporations, partnerships, trusts, and individual proprietorship. The open meeting will resume in the City Commission Chambers in 40 minutes at 8:15 pm. The meeting will include Commissioners Chuck Taylor, Jeff Reinert,

Michael Burns, Rick Sowers, City Manager, Nick Hernandez, City Attorney Paige Gilmore, Victory Electric Representatives Shane Laws, Corey Linville, Pat Morse, Randy Quint, Attorney Dave Snapp. The commission will not take action upon returning to open session. The motion carried 5 – 0.

The open meeting reconvened at 8:02 pm.

EXECUTIVE SESSION

At 8:02 pm Commissioner Jeff Reinert made a motion, Commissioner Rick Sowers seconded motion the City Commission recess into executive session pursuant to the exception found in K.S.A. 75-4319 (b)(6). Preliminary Discussions Relating to the Acquisition of Real Property. The open meeting will resume in the City Commission Chambers in 10 minutes at 8:15 pm. The meeting will include Commissioners Chuck Taylor, Jeff Reinert, Michael Burns, Rick Sowers, City Manager, Nick Hernandez, City Attorney Paige Gilmore, Victory Electric Representatives Shane Laws, Corey Linville, Pat Morse, Randy Quint, Attorney Dave Snapp. The commission will not take action upon returning to open session. The motion carried 5 – 0.

The open meeting reconvened at 8:15 pm.

ADJOURNMENT

Commissioner Michael Burns moved to adjourn the meeting. Commissioner Jeff Reinert seconded the motion. The motion carried 5 - 0.

ATTEST:

Mayor

City Clerk



Memorandum

To: Nick Hernandez, City Manager and City Commissioners

From: Nathan Littrell, Planning & Zoning Administrator

Date: July 1, 2024

Subject: Ord. No. 3812

Agenda Item: Ordinances and Resolutions

Purpose: City staff are proposing to revise the Dodge City Historic Resources Preservation Ordinance. The revisions to the Ordinance add some regulations for the Downtown Historic District as well as increases the enforceability of the Ordinance.

Recommendation: It is City Staff's recommendation to approve this ordinance. On May 28, 2024, the Historic Landmark Commission reviewed and voted 4-0 to recommend approval of the revised Historic Preservation Ordinance with recommendations. The revised Historic Preservation Ordinance has been reviewed by both our City Attorney and Municipal Court Judge and underwent further revisions. The proposed revisions have also been reviewed by the Kansas State Historic Preservation Office (SHPO).

Background: The Downtown Historic District was listed on the State register in May 2009 and the National Register in November 2009. The City of Dodge City has had a Historic Landmarks Commission and procedures for nominating and preserving structures, places and districts since 1967. There have been multiple ordinances and revisions to the ordinances in the decades since. The current Historic Resources Preservation Ordinance was adopted in 2015. City administration and staff as well as SHPO have reviewed the current Historic Resources Preservation Ordinance and have determined that it still meets National, State and Local requirements, but propose to make some additions. Those additions are:

- Definitions. Definitions for "Owner," "Public Right Of Way," "Public Structure" and "Sign" were added.
- Section 8: Downtown Historic District Regulations
 - Window Signage
 - Windows and Doors
 - Exterior Colors
 - Mechanical, Electrical, Plumbing and Telecommunications
 - Public Right Of Way and Public Structures
 - Minimum Maintenance Standards
- Penalties Section was revised to better align with Municipal Code.
- Added map of Downtown Historic District

These proposed regulations are intended to address some current issues in the Downtown Historic District that are not covered by existing standards and regulations.

City Commission Options:

1. Approve
2. Disapprove
3. Table for further discussion

Financial Considerations: None

Legal Considerations: None

Mission/Values: Approving this Historic Preservation Ordinance will aid in addressing some problem areas of our Downtown Historic District and support growth and development in our community.

Attachments: Ordinance #3812, Dodge City Historic Resources Preservation Ordinance

ORDINANCE NO. 3812

**AN ORDINANCE ADOPTING A HISTORIC RESOURCES PRESERVATION
ORDINANCE BY REFERENCE FOR THE CITY OF DODGE CITY, KANSAS;
ESTABLISHING PENALTIES FOR VIOLATIONS THEREOF; AND REPEALING AND
REPLACING ALL OTHER ORDINANCES AND PROVISIONS OF ORDINANCES IN
CONFLICT HEREWITH.**

WHEREAS, Historic Preservation is fundamental to tourism and economic development in the City of Dodge City; and

WHEREAS, the City of Dodge City has had an Historic Landmarks Commission and procedures for nominating and preserving structures, places, and districts to local, state, and national historic registers since 1967; and

WHEREAS, state and federal guidelines have evolved since the original 1967 ordinance;

NOW, THEREFORE, BE IT ORDAINED BY THE GOVERNING BODY OF THE CITY OF DODGE CITY, KANSAS:

SECTION 1: ADOPTION AND INCORPORATION OF HISTORIC RESOURCES PRESERVATION ORDINANCE.

There is hereby adopted and incorporated by reference for the purpose of identifying, preserving, and regulating changes to historic structures, places, and districts within the City of Dodge City, and providing for the administration and enforcement thereof a Historic Resources Preservation Ordinance developed and published by the Dodge City Development Services Department, dated July, 2024. Such Historic Resources Preservation Ordinance is hereby made as part of the ordinance and code of the City as if the same had been set in full herein, all as authorized and in the manner proscribed by K.S.A. 12-3009 through 12-3012, and K.S.A. 12-3301 through 12-3302, including any amendments thereto. No fewer than three copies of said Historic Resources Preservation Ordinance shall be filed with the City Clerk to be open for inspection and available to the public at all reasonable hours of City Business.

SECTION 2: STATUTORY AUTHORITY.

The Historic Resources Preservation Ordinance is established by the Home Rule authority of the City as granted by the Kansas State Constitution

SECTION 3: PENALITIES.

ANY violation of any provision of the Historic Resources Preservation Ordinance shall be a misdemeanor and punishable by a fine not to exceed Four Hundred and Ninety-Nine Dollars (\$499.00) and/or by imprisonment for not more than One Hundred Eighty (180) days. Each day of violation after notification shall constitute a separate offense. Nothing contained herein shall prevent the City from taking such other lawful actions as necessary to prevent, abate, or remedy any violation.

SECTION 4: REPEAL.

Adoption of this Historic Resources Preservation Ordinance hereby repeals the City of Dodge City Ordinance NO. 3598, and repeals all other ordinances or provisions of ordinances in conflict herewith to the extent of conflict only.

SECTION 5: ACCRUED RIGHTS AND LIABILITIES SAVED.

The repeal of previously existing ordinance, and provisions of ordinances provided by Section 4 above shall not affect any rights accrued, nor fines penalties, forfeitures, or liabilities incurred thereunder, nor actions involving any of the provisions of said ordinances. Said repealed ordinances and provisions of ordinances are hereby continued in force and effect, for the purpose of such rights, fines, penalties, forfeitures, liabilities or actions thereof.

SECTION 6: SEVERABILITY.

If any section, provision, sentence, clause, or phrase of this Historic Resources Preservation Ordinance, or if its application in a specific instance is found to be invalid, the remainder of such ordinance and its application shall remain in full force and effect.

SECTION 7: EFFECTIVE DATE.

This Historic Resources Ordinance shall take effect from and following its publication in the official city newspaper as provided by law.

**PASSED BY THE GOVERNING BODY OF THE CITY OF DODGE CITY, KANSAS IN
REGULAR SESSION, AND APPROVED BY THE MAYOR, THIS FIRST DAY OF
JULY, 2024.**

CHUCK TAYLOR, MAYOR

ATTEST:

CONNIE MARQUEZ, CITY CLERK

DODGE CITY HISTORIC RESOURCES PRESERVATION ORDINANCE

Section 1: Purpose & Applicability

Section 2: Definitions

Section 3: Dodge City Landmarks Commission

Section 4: Promotion and Other Functions

Section 5: Administration and Enforcement

Section 6: Landmarks Survey, Nomination, and Designation Process

Section 7: Certificate of Appropriateness Required

Section 8: Downtown Historic District Regulations

Section 9: Landmark Designation Process

Section 10: Appeal and Variance Procedure

Section 11: Severability

Section 1: Purpose & Applicability

- 1.1 **Title** - This ordinance shall be known as the “Dodge City Historic Resources Preservation Ordinance,” and may be cited as such and will be referred to below as “this ordinance.”
- 1.2 **Purpose** - The purpose of this ordinance is to establish an historic preservation commission called the Dodge City Historic Landmarks Commission, hereafter referred to as the “Landmarks Commission”, to preserve and promote the preservation of prehistoric and historic sites, structures, objects, buildings (collectively “Properties”) and historic districts in the City. This ordinance is intended to enhance and promote Dodge City’s contribution to the history and architecture of the State of Kansas, as well as to this Nation.
- 1.3 **Applicability** - This ordinance shall apply to all historically and architecturally significant sites, structures, objects, buildings, and historic districts located within the Dodge City limits, which have been determined to be significant through nomination and placement on Dodge City Landmarks list, state, or national registers of historic properties (“Historic Property” or “Historic Properties”). This ordinance shall apply to new construction, demolition, exterior alteration, or enlargements to designated properties.
- 1.4 **Statutory Authority** - This ordinance is established under the Home Rule authority of the City of Dodge City as granted by the Kansas State Constitution.

Section 2: Definitions

- 2.1 For the purpose of this ordinance, certain terms and words are hereby defined. Words used in the present tense include the future; words in the singular include the plural. The word “shall” is mandatory while “should” and “may” are permissive. Any words not defined herein shall carry and convey the meaning ascribed by a common English language dictionary.

Alteration: Any change or rearrangement to the structural parts of an existing building, structure, or property. Any enlargement, whether by height or dimension, shall be considered an alteration.

Applicant: The owner or duly designated representative of a building, structure, or property seeking nomination of such to the Dodge City Landmark list or seeking approval of plans under the COA process.

Building: A structure, including but not limited to a house, barn, church, hotel, courthouse, city hall, social hall, commercial building, library, factory, mill, train depot, theater, school, store, warehouse, or other building created to shelter human activity. The term may also refer to a small group of buildings consisting of a primary and one or more accessory structures in a historically, functionally related manner such as a mansion and a carriage house, a church and rectory, or a farmhouse and agricultural structures.

Certificate of Appropriateness or "COA": A certificate issued by the City approving plans for alteration, construction, demolition, or other matters relating to various historic properties.

COA-Major: A Certificate of Appropriateness which may only be granted by the Landmarks Commission or, on appeal, by the City Commission.

COA-Minor: A Certificate of Appropriateness which may be granted by certain designated City staff for non-exterior repairs or for non-registered properties which have no adverse impact on historic properties.

City: The City of Dodge City, Kansas

City Commission: The governing body of the City of Dodge City, Kansas.

Contributing/Key Contributing: A building, site, structure, or object adding to the historical significance of a property. This term can pertain to a single property but most commonly is used in cases of historic districts.

Design Guideline: Guidelines developed by the Landmarks Commission, and approved by the City Commission, for use by the Landmarks Commission and Department staff for reviewing project under the COA process in addition to the Sec. of the Interior's Standards for Rehabilitation.

Development Permit: A permit issued by the Dodge City Development Services Department authorizing construction or other land development activity, including but not limited to building, curb cut, electrical, excavating, zoning, certificate of occupancy, business license, and sign permits.

Director: The director of the Dodge City Development Services Department or his/her authorized representative.

District: An area that possesses a significant concentration, relationship among, or continuity of sites, buildings, structures, or objects united historically or architecturally by plan or physical development. Districts include college campuses, downtown areas, residential areas, industrial complexes, civic centers, government reservations, planned street systems, and parks. The term may also be applied to individual associated or functionally related sites, buildings, structures, or objects that are geographically separated. In such cases, visual continuity should not be necessary to convey the historic relationship of a goal of related resources.

Dodge City Landmark List: A district, site, structure or object designated as a landmark by ordinance of the City, deemed worthy of preservation because of its historic, archaeological and/or architectural significance to the City, state or nation.

Exterior Architecture/Feature: The character and composition of the exterior of the structure or building, including but not limited to the kind, color, and texture of the building material, and the type, design, and character of all windows, doors, light fixtures, signs, and appurtenant elements, and the elements and components of the outer surface of a structure including windows, doors, light fixtures, signs, fences, hitching posts, decorations, chimneys, false fronts, parapets, flag poles, landscaping, retaining walls, and related materials.

Historic District: An area designated as an historic district and which may contain within definable geographic boundaries one or more significant sites, structure features, or objects and which may have such other structures which contribute to the overall visual characteristics of the significant structures or objects located within the designated area, and are relatively free from non-contributing structures which detract from the historic properties.

Historic Property: Historic properties that are over fifty years old that may have significance to the history of Dodge City, but have not been designated as Landmarks.

Historic Preservation: The study, identification, protection, restoration, and rehabilitation of buildings, sites, structures, objects, districts, and areas significant to the history, architecture, archaeology, or culture of the city, state or nation. Preservation may include work to halt the process of decay, normal maintenance work, and other measures to retain and sustain the nature, form, material, and integrity of historically or architecturally important properties, structures, buildings, objects, or historical districts.

National Register: The current National Register of Historic Places established by the National Preservation act of 1966, 80 Stat. 915.16 USC 470 et seq., as may be amended.

Non-contributing: A building, site, structure, or object that does not add to the historic significance of a property.

Normal maintenance/repair: Any work designated to correct damage or deterioration to the condition that existed prior thereto. "Normal maintenance" includes all work performed by a property owner which does not require a development permit as prescribed by the City's development regulations.

Owner: An individual, association, partnership, corporation, or any other entity capable of having legal or equitable title to land other than legal title held only for the purpose of security. For the purpose of notice, the Owner may be determined using Ford County Appraiser's Parcel Data.

Public Structure: Any building, facility, or physical construction that is owned, operated, maintained, or otherwise controlled by a government entity or public body.

Public Right-of-Way: an area of land owned, maintained, or controlled by a government entity, used for public purposes including but not limited to transportation, public use, or utilities.

Secretary of Interior's Standards for Rehabilitation: These are a set of 10 standards and their accompanying guidelines as issued by the Secretary of the Interior which the Landmarks Commission and Department staff shall use for reviewing projects under the COA process.

Sign: Any object, devise, display, or structure, or any part thereof, which is used to advertise, identify, display, direct, or attract attention to an object, person, institution, service, event, organization, business, product, or location by any means, including words, letters, figures, design, symbols, fixtures, colors, illumination, or projected images.

Site: The location of a significant event, a prehistoric or historic occupation or activity, or a building or structure, whether standing, ruined or vanished, where the location itself possesses historic, cultural or archeological value.

State Historic Preservation Office or “SHPO”: The office, under direction of the State Historic Preservation Officer as designated by law and by the Governor of the State of Kansas to administer the State Historic Preservation Program.

State Register: The current Register of Historic Kansas Places as prepared, approved, and amended by the State Historic Sites Board of Review and authorized by K.S.A. 752701, et seq., as may be amended.

Structure: A functional construction made for purposes other than creating shelter, such as a bridge.

Variance: A variation from a specific requirement of the adopted design standards, as applied to a specific structure or property.

Section 3: Dodge City Landmarks Commission

- 3.1 **Creation** - The Landmarks Commission is hereby created to inventory, promote, list, record, protect, preserve, and enhance places, areas, features, or sites within the City that have special architectural, archeological, cultural, or historical significance. The Landmarks Commission shall advise the City Commission and cooperate with other historic agencies and organizations concerning preservation of the City’s historic and cultural heritage.
- 3.2 **Membership** - The Landmarks Commission shall consist of seven (7) Dodge City residents appointed by the Mayor with concurrence of the City Commission. All members shall have interest, knowledge, or training in preservation related fields. Three (3) members shall represent preservation related professions such as architecture, law, historian, real estate, finance, museum curator, planning, and/or building trades. Appointments shall be for a term of three (3) years, except that the first Landmarks Commission shall be appointed as follows: three (3) members for three-year terms, two (2) members for two-year terms and two (2) members for one-year terms. The Mayor, with City Commission concurrence, may remove any member of the board for cause. Vacancies shall be filled by appointment as above for the remainder of the unexpired term.
- 3.3 **Rules of Procedure** - The Landmarks Commission shall adopt bylaws or rules of procedure for its efficient operation. Minutes of the Landmarks Commission’s meetings will be distributed to Landmarks Commission members, the City Commission, the Kansas State Historic Preservation Office (SHPO) and others upon request.
- 3.4 **Annual Report** - The Landmarks Commission shall prepare an annual report of its activities to be submitted to the City Commission and SHPO. The report shall include an account of the number and type of cases reviewed and their disposition, a listing of new designations made during the year, and a record of members’ attendance at meetings and training sessions. The report shall also assess progress in preserving historically important properties, and districts, and assess the need for future changes to this ordinance and program. The report shall include a statement of goals for the ensuing year and shall be duly approved by the Landmarks Commission.
- 3.5 **Authority and Responsibilities**
 - (a) The geographic area of authority shall be the area within the Dodge City corporate limits.

- (b) The Landmarks Commission's central purpose is the designation and the protection of Historic Properties and Historic Districts and to serve as an advisory board for the City Commission. The Landmarks Commission shall review all proposed nominations for Dodge City Landmarks status, state, and national registers of Historic Properties. A professional in an applicable specific relevant discipline shall evaluate all nominations, if not represented on the Landmarks Commission, prior to board recommendation.
- (c) The Landmarks Commission may recommend to the City entering into certain agreements with the SHPO.
- (d) Each commission member shall attend at least one (1) information or training meeting each year as approved by the SHPO.
- (e) A survey shall be used to gather information about properties and areas that might be eligible for listing in the Landmark list (and/or the state and national register).
- (f) The City shall provide for adequate public participation in all aspects of the implementation of this ordinance. All meetings shall be open to the public pursuant to K.S.A. 75-4318. The Landmarks Commission shall meet at least four (4) times each year. Agenda materials provided to members shall be open to the public. Decisions shall be made in a public forum and minutes of all meetings shall be kept on file and available for public inspection.
- (g) The Landmarks Commission may establish other programs and services such as:
 - (i) create public information programs;
 - (ii) promote preservation activities with public and/or private funds;
 - (iii) review development plans that may affect Historic Properties;
 - (iv) cooperate with local groups or agencies to provide the widest possible promotion of historic programs and places, and
 - (v) similar activities to promote the intent of this ordinance.
- (h) The Landmarks Commission shall review and recommend local incentives to encourage landmarks and districts designation in Dodge City. These may be in the form of retail discounts, tax rebates, conservation easements, permit fee waivers, utility reductions, and other means to stimulate interest in historic preservation.
- (i) The Landmarks Commission may review and recommend policies regarding historically compatible public streetscapes, lighting, and signage in the immediate vicinity of Historic Properties and in Historic Districts. Resources available to create such improvements may include general or special tax authority as well as special assessment processes.
- (j) The Landmarks Commission may prepare applications for City Commission approval for any gift, grant, bequest, devise, lease, fee, development right, easement, covenant, or conveyance for the purpose of historic preservation.
- (k) The Landmarks Commission shall review the provisions of this ordinance periodically to recommend comprehensive or individual changes as deemed appropriate.

- (l) Landmarks Commission members shall serve without compensation. The City Commission shall establish budget authority to provide for historic preservation administration and promotion activities.

Section 4: Promotion and Other Functions

- 4.1 To further the purposes of this ordinance and to assure maximum public knowledge and involvement in the preservation of Dodge City's history, the City may enter into agreements with other units of government, other agencies, and private corporations and the Landmarks Commission may recommend them to do so. Specifically, the City may negotiate an agreement with the SHPO whereby the state may delegate certain responsibilities to the City, including, but not limited to, the review of register nominations and development/demolition permit applications for compliance with the herein stated historical regulations and objectives.
- 4.2 Promotion - The Landmarks Commission shall be the City's point of contact for all historic associations and organizations within the City, state, and nation and shall provide such assistance as practical to promote and develop historical, archeological, or prehistoric interest in Dodge City within the established budget for the operation of the Landmarks Commission. Activities such as submitting pass-through grants on behalf of these agencies, providing assistance with tax credit and other financial incentives directed toward historic property preservation, and providing basic research materials to interested parties will be conducted by the department as directed by the Landmarks Commission and as authorized by the City Commission through the various agreements. The Landmarks Commission is expected to provide accurate information to news media when appropriate to further the objectives of historic property preservation.

Section 5: Administration and Enforcement

- 5.1 **Department** - The Dodge City Development Services Department (the "Department") shall be responsible for the administration of this ordinance and performing staff functions for the Landmarks Commission. The Department is authorized to develop application forms and procedures consistent with this ordinance, and to enforce its provisions. The Dodge City Police Department may also enforce this ordinance when called upon by the Dodge City Development Services Department.
- 5.3 **Fees** - Fees shall be set by the City Commission. Fees shall be set for the following activities: request for a Variance from provisions of this ordinance; and application to appeal denial of a COA for the improvement or demolition as indicated in the development permit application.
- 5.4 **Enforcement** - The Director, upon discovery that a violation of this ordinance has occurred, shall issue a notice to cease to the owner and shall take all appropriate measures to prevent such unlawful act. Such notice shall explain the nature of the violation in clear terms and shall allow the owner to give satisfactory evidence that the action will be corrected within thirty (30) days or that appropriate action to comply with the provisions of this ordinance will be initiated. Failure to comply may result in citation to municipal court and may result in the City taking corrective action to abate the offense and assess the costs of such abatement to the owner. Such notice and order may be appealed; however, the alleged violating work shall cease until the matter is finally resolved. The City may pursue all other available legal remedies to correct a violation of this ordinance.

- 5.5 **Abatement Assessment of Costs** - If the City has filed proper notice and the time has elapsed for the correction by the owner, the City may take corrective action as necessary. All costs incurred by the City under the provisions of this Section shall be assessed against each lot or piece of ground chargeable therewith as a special assessment, and the City Clerk shall certify the assessment to the County Clerk for collection as other special assessments are collected.

Section 6: Landmarks Survey, Nomination, and Designation Process

- 6.1 **Historic Resources Survey** - The Landmarks Commission shall annually update the historical resources inventory to identify historical properties, and historical districts that may have archeological, historical, cultural, or architectural importance to the community. As part of the survey, the Landmarks Commission shall evaluate studies by other organizations and compile appropriate descriptions, facts, and photographs. All such materials shall be documented in accordance with the survey manual prepared by SHPO.
- 6.2 **Identification of Landmarks and Historic Districts** - The Landmarks Commission shall keep a Dodge City Landmarks Register. Said register will contain a complete description of all historical properties, and historical districts designated as landmarks and a description of boundaries on the Map of Landmarks, on file in the office of the City Clerk and the Department.
- 6.3 **Nomination of Landmarks and Historic Districts** - The Landmarks Commission shall review nominations for Landmark Historic Districts to the local, state, and national historic registers.

Section 7: Certificate of Appropriateness Required for Alteration, Development, or Demolition

- 7.1 Upon receipt of an application for any demolition, alteration or expansion of a Landmarks and properties within Landmark historic districts, the Landmarks Commission and Department shall initiate a process to determine if such permitted action is appropriate. All applications shall be reviewed, approved, or denied in accordance with the process outlined below.
- 7.2 **Department Director** - The Development Services Department Director (the "Director") or designated representative shall review all development permit applications and other pertinent information to determine if a Landmark historic Property or historic district may be affected by a proposed development or activity. If so, the Director shall follow the procedure to either issue a Minor COA or begin a review process in accordance with the provisions of this ordinance. The Director shall forward the Landmarks Commission's recommendations to the City Commission, record and file all landmark designations, maintain the Map of Landmarks, and keep all agendas, minutes, reports, findings, determinations, and correspondence for the Landmarks Commission. Applications that cannot be approved by the Director may be referred to the Landmarks Commission by the applicant as a Major COA.
- 7.3 **Determination of Appropriateness** - Department staff shall prepare a COA before any alteration, development, or demolition permit may be issued for any Landmark historic property or Landmark historic district. COA shall be classified as either a Minor COA or a Major COA.
- 7.4 **Variations** - Any Historic Property owner (or authorized representative) may apply for a Variance from specific standards or guidelines for historic preservation as set and amended by the Landmarks Commission and the City. Such request for Variance shall be made using the process identified in Section 8 of this ordinance.

7.5 **Normal Maintenance Exempt** - Normal property maintenance shall be exempt from the provisions of this ordinance, unless and/or until a development permit for is required by other City development regulations.

7.6 **Minor Certificates of Appropriateness** - A Minor COA shall be issued for any demolition or alteration work involving the following types of activities which can be demonstrated by the owner to have no adverse effect on a Historic Property or Historic District:

- (a) Most interior improvements except those noted as a pertinent to a landmark designation.
- (b) Changes to accessory structures, landscaping features, signs, fences, public walkways, public streets, public alleys, retaining walls and utilities that do not contribute to the historic character of a Historic Property or Historic District.

Minor COA shall be authorized by the Director and reported to the Landmarks Commission and the City Commission. Minor COA shall be determined within thirty (30) days from the time a complete application was submitted. If the Director cannot approve a Minor COA, it may be forwarded to the Landmarks Commission, at the option of the Applicant, as a Major COA application.

7.7 **Major Certificate of Appropriateness** - A Major COA shall be subject to review and approval by the Landmarks Commission and may be authorized for the following types of permits:

- (a) Interior space rehabilitation where such space was an important component in approval of the landmark nomination;
- (b) Any demolition, exterior alteration or expansion of a Historic Property or within an Historic District;
- (c) Any proposed new construction on a Historic Property or within an Historic District;
- (d) Demolition of part or all of a Historic Property or Landmark property in an Landmark historic district; and
- (e) Other items not covered by a Minor COA.

7.8 The review process for a Major COA is:

- (a) The Department receives application for permit which triggers the determinations warranting a Major COA and notifies the applicant that a formal review is required before a COA can be issued.
- (b) The applicant submits a request for review in writing on provided forms and with all the required information.
- (c) A completed request is placed on the Landmarks Committee agenda or within thirty (30) days of the submittal. The Department prepares and publishes notice of time, date, place, and purpose of public hearing, such notice to be published at least twenty (20) days prior to the date of the hearing. Notice is also sent by regular mail to all affected property owners located where the project is taking place.

- (d) The Landmarks Commission conducts the public hearing and determines if the COA can be issued and submits its written decision, with appropriate documentation, to the applicant. If the COA can be issued, the development permit may be granted by the Department. If the requested action is determined not appropriate to protect the historic character or integrity of the property and/or Historic District, then the applicant may file an appeal, in writing, within thirty (30) days asking that the application be reconsidered by the City Commission. (See Section 9)
- (e) A decision may be made immediately after the public hearing, or the Landmarks Commission may recess the meeting for further deliberation. Failure to render a decision within thirty (30) days from the time a complete application was submitted shall be deemed to be approval unless an extension is agreed upon by both the applicant and the Landmarks Commission.
- (f) The decision of the Landmarks Commission (or City Commission) is conveyed in writing to the Applicant. If the COA is issued, the Department may grant a development permit as long all other city ordinance requirements are met.

7.9 **Criteria to Determine Appropriateness** - The Landmarks Commission shall prepare, and the City Commission shall adopt principles and guidelines establishing criteria for new construction, alterations, additions, moving and demolition of Historic Properties, and Properties in Historic Districts, including but not limited to the following:

- (a) Design Criteria. Specific design criteria for exterior alterations of Historic Properties, or Properties in Historic Districts, shall be based on the U.S. Secretary of the Interior's Standards for Rehabilitation as referenced in the Secretary of the Interior's Guidelines for Rehabilitating Historic Buildings at <http://www.nps.gov/tps/standards/rehabilitation/rehab/guide.htm>.
- (b) Guidelines for New Construction and Additions. New construction and additions to existing Historic Properties guidelines shall be taken into consideration above and beyond the Standards noted above.

7.10 **Signs** - The Landmarks Commission shall review and approve or deny all requests for signs to be located on a Historic Property or within a Historic District in accordance with the following design guidelines in addition to the basic criteria set forth in the standards:

- (a) Signs shall be relative to the scale of the site, and shall not block, obscure or distract from the Historic Property's or Historic District's significant design elements.
- (b) Wherever possible, actual historic signage should be maintained and restored to original condition regarding design, materials, craftsmanship or placement.
- (c) Illuminated signs shall be designed to reduce glare and shall not detract from the Historic Property's or Historic District's historic character.
- (d) Freestanding signs and monument placards explaining the Historic Property's or Historic District's significance, or age shall be compatible with the Historic Property or Historic District but are otherwise encouraged.

- (e) Signs requiring a Major COA are not subject to the public hearing process and will be reviewed at the next regular Landmarks Commission meeting with appeal to the City Commission, if denied. Appeals must be submitted in writing within thirty (30) days of denial.
- 7.11 **Retention of Accessory Structures and Landscaping** - Accessory structures such as outbuildings and existing site characteristics such as trees, other significant landscaping, walls, stairs, paving materials, fencing, walkways, and other site features that reflect the Historic Property's or Historic District's significance shall be retained and protected from demolition or alteration.
- (a) Landscaping shall be appropriate to the scale, era, and features of the Historic Property or Historic District.
 - (b) Accessory structures shall be appropriate to and compatible with the architectural features of the primary structure. Non-contributory structures shall not distract from the Historic Property or Historic District.
 - (c) Design criteria are more stringently applied to projects/properties of greater significance.
 - (d) Accessory structures and landscaping features requiring a Major COA are not subject to the public hearing process and will be reviewed at the next regular Landmarks Commission meeting with appeal to the City Commission if denied. Appeals must be submitted in writing within thirty (30) days of date of denial.
- 7.12 Normal property maintenance shall be exempt from the provisions of this ordinance unless or until a development permit for work is required by other City development regulations.
- 7.13 Demolition applications for a Historic Property or a Property in a Landmark Historic District which includes non-contributing properties shall be denied for a period not to exceed one hundred eighty (180) days if a proposed public or private re-use of the property is unknown. The maximum period of delay may be reduced whenever the Landmarks Commission determines the owner will suffer extreme hardship or will be deprived of all beneficial use of the property by virtue of the delay. In either instance, the Landmarks Commission shall use the delay to negotiate with the owner and interested parties to find a means to preserve the Historic Property or the Property in the Historic District. If the proposed re-use of the property is known, the use will be examined for relationship and compatibility with the Historic Property or Historic District before demolition may proceed. This provision also applies to Properties nominated for landmarks or historic district designation. Once redevelopment plans are known, the Landmarks Commission may determine appropriateness pursuant to Section 6 of this ordinance.
- 7.14 **Penalties.** Altering, developing, or demolishing without a COA or acting without or contrary to a decision of the Landmarks Commission under this Section 7 shall be a misdemeanor, each day or portion thereof constituting a separate offense. Each offense may be punishable by a term of jail confinement not to exceed thirty (30) days and/or a fine not exceeding Five Hundred Dollars (\$500.00).

Section 8: Downtown Historic District Regulations

- 8.1 **Downtown Historic District.** The Downtown Historic District is roughly bounded by Front Street on the south, Third (3rd) Avenue on the west, Vine Street on the north, and Central Avenue on the east. The provisions of this Section 8 shall apply to all property within the Downtown Historic District and may be enforced against the owners or tenants of property within said district. The boundaries of the Downtown Historic District are shown in the image incorporated to this Section



- 8.2 **Design Criteria.** Specific design criteria for exterior alterations of Historic Properties, or Properties in Historic Districts, shall be based on the U.S. Secretary of the Interior's Standards for Rehabilitation as referenced in the Secretary of the Interior's Guidelines for Rehabilitating Historic Buildings at <http://www.nps.gov/tps/standards/rehabilitation/rehab/guide.htm>.
- 8.3 In addition to the U.S. Secretary of the Interior's Standards, the Landmarks Commission has adopted additional regulations for the Downtown Historic District and are as follows:
- 8.4 **Window Signage.** Window Signage shall be subject to the following definitions and requirements:
- (a) **Window Signs.** "Window signs" means any sign that is attached to, placed upon, or painted on the interior or exterior of a window or within a certain distance from a window, and is visible from the exterior of the building. This can include, but is not limited to, posters, decals, banners, paint, vinyl, or other signage intended to be viewed from outside the premises.
 - (b) **Coverage.** Window signs shall not cover more than thirty percent (30%) of the window area.
 - (c) **Opacity.** No person or entity shall place window signs constructed of opaque materials that obscure views into and out of windows, either partially or completely.
 - (d) **Lighting.** No person or entity shall install, display, or operate any lighting device that emits flashing or steady light output from any window or door in any building or structure located within the boundaries of the Downtown Historic District.
 - (i) **Flashing Light** shall mean any light that intermittently turns on and off, or changes intensity or color, in a manner that creates a flashing effect.
 - (ii) **Steady light output** shall mean any continuous light emission that is projected from a window or door, regardless of changes in color or intensity, that remains on for an extended period.
 - (iii) The use of lighting devices that produce flashing effects, including but not limited to strobe lights, LED displays with intermittent illumination, and other similar devices, is strictly prohibited.
 - (iv) The use of lighting devices that produce a continuous, steady light output visible from the exterior of the building, including but not limited to neon signs, LED strips, and other similar devices, is strictly prohibited.
 - (v) **Exemptions.**
 - (A) **Holiday Displays.** Temporary holiday lighting displays that do not exceed a period of thirty (30) days and are in keeping with the character of the historic district are exempt from this provision.
 - (B) **Emergency Lighting.** Lighting necessary for public safety or emergency purposes, including exit signs and security lighting, is exempt from this provision.
 - (C) **Approved Lighting Plans.** Lighting that has been explicitly approved as part of a lighting plan by the Dodge City Development Services Department may be exempt from this provision if deemed consistent with the historical character of the district.

- (e) Removal. Non-compliant window signage must be removed within sixty (60) days of ordinance adoption.

8.5 Windows and Doors. Windows and doors shall be subject to the following definitions and requirements:

- (a) Historical Integrity of Windows and Doors. Windows and doors must be maintained in a manner that preserves their historical integrity. Original windows and doors should remain in place and in good restoration whenever possible. Owners or tenants seeking to repair or replace windows and doors must obtain a COA prior to proceeding with repair and replacement.
- (b) Obstruction. Windows on first floor levels shall be free of obstruction. Curtains, blinds, merchandise, or other material shall not obstruct view in or out of windows. Curtains and blinds may be appropriate for second floor and above levels, but placement of curtains and blinds should be done in consultation with the Dodge City Development Services Department and owners and tenants should be aware that curtains or blinds placed without prior approval may be subject to citation pursuant to this ordinance.
- (c) Lighting. Window and door lighting in the downtown historic district shall be subject to the provisions of section 8.4(d) herein.
- (d) Security bars, mesh, etc., are prohibited on all exterior doors and windows.
- (e) Removal. All non-compliant signage, decoration, obstruction, lighting, or security apparatus must be removed within 60 days of ordinance adoption.

8.6 Exterior Colors

- (a) Exterior colors for properties located within the Downtown Historic District, including but not limited to paint, signage, awnings, window coverings, etc., shall be appropriate for the district. A COA is required for all exterior paint.
- (b) Bright colors and other colors that would not have been found in the District's period of significance (typically 1910s-1930s) are not appropriate for exterior colors in the Downtown Historic District.
- (c) Exterior colors violating this section must be painted with compliant colors within six (6) months of adoption of this ordinance.

8.7 Mechanical, Electrical, Plumbing and Telecommunications

- (a) Prohibition on exterior air conditioning units. No air conditioning units may be installed in windows or attached to the exterior wall of building. All non-compliant air conditioning units must be removed within six (6) months of ordinance adoption.
- (b) Electrical and plumbing lines and conduit should not be placed on exterior walls with street frontage, whenever possible. Owners seeking continued use of electrical and plumbing lines and conduits placed on exterior walls must obtain a COA and must begin the process of obtaining a COA within thirty (30) days of ordinance adoption.

- (c) Satellite dishes and other telecommunications equipment shall not be attached to awnings or exterior walls with street frontage. Non-compliant equipment must be removed within sixty (60) days of ordinance adoption.
- (d) Cables and lines shall not be placed on exterior walls with street frontage whenever possible. Cables and lines must be removed when no longer in use. Cables and lines not in use must be removed within sixty (60) days of ordinance adoption. Owners seeking to continue use of cables and lines must obtain a COA and must begin the process of obtaining a COA within thirty (30) days of ordinance adoption.

8.8 Public Right of Way and Public Structures

- (a) No signage, equipment or other objects may be placed on or attached to Public Structures or Public Rights-of-Way within the Historic Downtown District, including City owned and maintained awnings without a COA.
- (b) Authority to Remove. The City shall have the authority to remove any signage, equipment, or other object attached to a Public Structure or placed within a Public Right-of-Way, including upon city-owned awnings without prior notice to the owner of the building, the tenant occupying the building, or any other person or entity. This provision shall exempt the City from the notice requirements of Section 5, above.
- (c) Liability. The City shall not be held liable for any damage that occurs to any signage, equipment, or other object during the removal process. By placing or attaching items within a Public Right-of-Way or to a Public Structure, the person or entity placing said item assumes all risk of loss or damage.
- (d) Disposal of Removed Items. Items removed by the City under this section will not be stored or returned to the owner or tenant. All removed items shall be immediately disposed of in a manner determined by the City.

8.9 Minimum Maintenance Standards

- (a) Properties must be maintained in accordance with the provisions of the adopted International Property Maintenance Code.
- (b) Exterior areas. Exterior property and premises shall be maintained in a clean, safe, and sanitary condition. The occupant shall keep that part of the exterior property that such occupant occupies or controls in a clean and sanitary condition.
- (c) Exterior structure. The exterior of the structure shall be maintained in good repair, structurally sound and sanitary so as not to pose a threat to the public health, safety or welfare.
- (d) Protective treatment. Exterior surfaces, including but not limited to, doors, door and window frames, cornices, porches, trim, balconies, decks, and fences, shall be maintained in good condition. Exterior wood surfaces, other than decay-resistant woods, shall be protected from the elements and decay by painting or other protective covering or treatment. Peeling, flaking and chipped paint shall be eliminated, and surfaces repainted. Siding and masonry joints, as well as those between the building envelope and the perimeter of windows, doors, and skylights, shall be maintained weather resistant and watertight.

- (e) Structural members. Structural members shall be maintained free from deterioration and shall be capable of safely supporting the imposed dead and live loads.
- (f) Exterior walls. Exterior walls shall be free from holes, breaks, and loose or rotting materials; and maintained weatherproof and properly surface coated where required to prevent deterioration.
- (g) Window, skylight, and door frames. Every window, skylight, door, and frame shall be kept in sound condition, good repair, and weather tight.
- (h) Glazing. Glazing materials shall be maintained free from cracks and holes.
- (i) Disposal of rubbish. Every occupant of a structure shall dispose of all rubbish in a clean and sanitary manner by placing such rubbish in approved containers.
- (j) Infestation. Structures shall be kept free from insect and rodent infestation. Structures in which insects or rodents are found shall be promptly exterminated by approved processes that will not be injurious to human health. After pest elimination, proper precautions shall be taken to prevent reinfestation.

8.10 **Penalties** - Any person violating the provisions of Section Eight (8) of this ordinance shall be guilty of a misdemeanor, each day or portion thereof constituting a separate offense. Each offense may be punishable by a term of jail confinement not to exceed thirty (30) days and/or a fine not exceeding Five Hundred Dollars (\$500.00).

Section 9: Landmark Designation Process

9.1 Except where otherwise specifically herein, the following process shall be used whenever Historic Properties or Historic Districts are nominated for the Dodge City Landmark designation.

9.2 **Landmark Nominations** - Landmark nominations shall be processed as follows:

- (a) The Development Department will provide the necessary forms for the landmark nomination. Then, the Landmarks Commission or Department generates or receives a nomination and determines the appropriateness of the nomination based on age and character of the property or district being nominated. All applications shall be submitted to the Development Department.
- (b) Nominations for landmark or Landmark historic district designations shall be made by application submitted by the owner of a nominated landmark or by written consent signed and acknowledged by seventy-five percent (75%) of the owners within the boundaries of a defined proposed Landmark historic district. [Each owner or owners of any legal parcel of record shall have one voice in the district per parcel, regardless of parcel size to determine this threshold.
- (c) The Department shall provide notice of the date, time, place, and purpose of the public hearing at least twenty (20) days prior to the date set and shall notify all affected property owners.
- (d) The Landmarks Commission shall conduct the hearing and make a recommendation to the City Commission. The meeting may be recessed for further deliberation. A recommendation shall be made within sixty (60) days from the time a complete application is received.

- (e) Within thirty (30) days after close of the public hearing, the Landmarks Commission shall submit its recommendation to the City Commission that the nominated property does or does not meet the criteria for placement on the Dodge City Landmarks list.
- (f) The City Commission shall consider the nomination and recommendation at the next available regular commission meeting. The City Commission shall approve acceptable nominations by ordinance. Denials may be by simple motion and recorded vote. The City Commission may:
 - (i) Accept or reverse the Landmarks Commission recommendation.
 - (ii) Amend by reduction of a proposed historic district area or other types of nominated properties.
 - (iii) Refer the matter back to the Landmarks Commission for further study.
- (g) If approved, proper notifications shall be made and the property or historic district is declared a Landmark Historic Property or Landmark Historic District.
- (h) If denied, the reasons shall be presented to the applicant, in writing. If applicable the applicant may resubmit in a future nomination of the same property.

9.3 **Landmark Eligibility Criteria** - The Landmarks Commission and City Council may approve a property for Landmark Listing using the following criteria to judge the property's historical significance:

- (a) A property must be at least fifty (50) years old to be eligible.
- (b) Character, interest, or value as part of the development, site, structure, or district which contributes significantly to the heritage or cultural characteristics important to the development of the city, state, or nation.
- (c) Identification with a person or persons who significantly contributed to the development of the city, state, or nation.
- (d) Architectural style valuable to the study of a period; or to the type, method of construction, materials used, design elements, detailing materials, or craftsmanship embodied in the structure; or identification with a master builder, architect, or craftsman whose work influenced the development of the city, state, or nation.
- (e) Location of a prehistoric or historic site, occupation, or activity possessing significant archeological value.
- (f) The weight of any one criterion may be sufficient to accept the nomination and criteria not listed above may be contributed in the nomination which may render the nomination sufficient for placement on the Local Landmarks list.

Section 10: Appeal and Variance Procedure

10.1 **Appeals** - Any Historic Property owner aggrieved by the administration and enforcement of this ordinance may appeal (see Section 8) to the Landmarks Commission. Any decision of the Landmarks Commission may be further appealed to the City Commission. The Landmarks Commission (and City Commission) shall act in a quasi-judicial capacity when deciding appeals.

They shall make specific findings of fact and derive conclusions from such findings. All rulings by the City Commission shall be final and binding on all parties unless appealed to, and overturned by, the District Court of Ford County, Kansas.

- 10.2 Applications for an appeal or Variance under the COA process or when nominations for a landmark shall be filed with the Department. The Director shall assure that all documentation and forms are properly submitted, and prepared notices for a public hearing before the Landmarks Commission. Notice shall be published in the newspaper and mailed to all affected property owners at least twenty (20) days prior to the public hearing.
- 10.3 The Landmarks Commission will conduct a public hearing on the case at the advertised place and time. A recommendation may be made immediately after the public hearing, or the Landmarks Commission may recess the meeting for further deliberation. This recommendation will be presented to the City Commission at the next regularly scheduled Commission meeting. Failure to render a decision within sixty (60) days from the time a complete application was submitted shall be deemed to be approval, unless an extension is agreed upon by both the Applicant, and the Landmarks Commission.
- 10.4 An Applicant may further appeal the City Commission decision to the District Court of Ford County, Kansas. Such appeal shall be filed with the court within thirty (30) days of the City Commission's decision.
- 10.5 Variance applications shall be reviewed by the Landmarks Commission. The Landmarks Commission may grant a variance from the specific regulation upon a finding that such variance:
 - (a) Would not be contrary to the health, safety or best interest of the public; **and**
 - (b) A literal enforcement of the provision will result in an unnecessary hardship to the owner; **and**
 - (c) There is a condition unique to the property which was not created by the property owner; **and**
 - (d) There is no adverse effect on surrounding properties; **and**
 - (e) The Variance would not be contrary to the general spirit or intent of this ordinance.

All five (5) conditions must be affirmed with specific findings of fact before granting the Variance.

- 10.6 An Applicant for a Variance may appeal the Landmarks Commission decision to the City Commission. Such appeal must be filed with the City Commission within thirty (30) days of the Landmarks Commission's decision.

Section 11: Severability

- 11.1 If any section, provision, sentence, clause or phrase of this ordinance, or its application in a specific instance, is found to be invalid, the remainder of this ordinance and its application shall remain in full force and effect.



Memorandum

To: Nick Hernandez, City Manager and City Commissioners

From: Ray Slattery, PE, Director of Engineering Services

Date: July 1, 2024

Subject: Approve Change Order (CO) #15 for the Expansion of the S. WWTP from UCI – SS 2101

Agenda Item: New Business

Purpose: Approve the heat exchange/chiller addition to the WWTP Expansion.

Recommendation: Approve CO #15 for the addition of a Heat Exchanger/Chiller Unit to the industrial raw biogas line in the amount of \$542,810.00.

Background:

For the past several years we have been experiencing heat issues in the industrial raw biogas. In the hot summer days, the temperature of the raw biogas has been as high as 135° F. Once the temperature of the raw biogas reaches 106° F, the biogas plant shuts down. This is a safety measure built into the Guild Equipment, as above this temperature the water in the raw gas stays in a vapor form even after going through the water knock-out and cannot be removed from the gas. The media of the PSA units is very susceptible to moisture damage. So, it is very important that no moisture reaches the media. Jacobs, has in the past, added heat fins to the raw lines, built shade structures, added additional ventilation to the Gas Handling Building #2 (GHB#2), sprinkled the raw gas line with water, along with other measures to combat the issue of high gas temperature. However, none of provided the necessary cooling of the gas that was needed and were only temporary measures. To combat the issue of “hot” gas, Jacobs would shut down the facility during the heat of the day and store as much gas from both the industrial and municipal side as possible. Once the temperatures began to cool in the evening, they would start up the plant and run as much gas through the facility as they could to try and catch up. The municipal gas is cooler and by mixing the two streams and waiting until the late evening/night they were able to somewhat deal with the heat issue. However, the industrial side generates more gas during the shut own period than the facility could clean in this short time, so gas had to be flared. This operation of the facility is not sustainable or economical. Staff, Jacobs, and PEC began looking at ways to cool the gas so that the facility could run 24/7 for the entire summer, no matter the temperature. Although we knew this item was going to be part of the expansion, no price or allowance could be included in the GMP since the exact path, way of cooling, or size of unit to cool the gas was known. In the end, a heat exchanger/chiller was determined to be the method to make sure the raw gas would be cool enough so that the facility would not shut down. The heat exchanger/chiller will be located downstream of GHB#3, it will be able to cool both the gas generated from the NBP and Hilmar anaerobic digesters. It will only need to be in operation during the hottest months of the year, so it can be shut down to eliminate unnecessary wear and tear when there is not a need to cool the gas. It is estimated that the unit will pay for itself by being able to capture the gas that is flared and other expenses that come from shutting down and restarting the plant. The heat exchanger/chiller is also eligible for reimbursement through the IRA program, and we have already started discussions with Baker Tilly to ensure the unit meets all the requirements.

Here is a summary of the CO's to date.

- CO #1 – Addition of Earthwork to UCI's GMP – Additional \$7,256,549.86
- CO #2 – Bentonite Sealing of Anaerobic and Aerobic Lagoons, not needed after further clarification from KDHE - \$0.00
- CO #3 – Retaining Wall, after further investigation, CO #5 was required for Retaining Wall - \$0.00
- CO #4 – Change in Seeding of disturbed areas, Deduct and added to Contingency – Decrease of \$72,586.15, added to Contingency
- CO #5 – Retaining Wall for Anaerobic #4 – Additional \$376,922.00
- CO #6 – Installation of the H2S removal Vessels – Additional \$374,150.00
- CO #7 – Extra Work required for Sub-base of Lift Stations – Additional \$125,974.00 taken from Contingencies.
- CO #8 – HDPE Liner – Additional \$1,089,825.00
- CO #9 – Removed from UCI Project
- CO #10 – Removed from Project
- CO #11 – Redundant Communications – Additional \$142,561.00
- CO #12 – Hilmar Crane Upgrade - Additional \$27,695.00, taken from Contingencies.
- CO #13 – Additional Concrete Coating Area – Additional \$60,764.00, taken from Contingencies.
- CO #14 – Removable Grating – Additional \$12,985.00, taken from Contingencies.
- CO #15 – Heat Exchanger/Chiller – Additional \$542,810.00.

Change Order Total to date - \$9,709,961.71 (Only \$1,363,586.85 excluding CO #1 & #8)

City Commission Options:

1. Approve
2. Disapprove
3. Table for further discussion

Financial Considerations:

Amount \$: \$542,810.00 added to Contract. WWTP was budgeted at \$62 Million we are currently at \$58.5 Million.

Fund:

Budgeted Expense Grant Bonds Other SRF

Legal Considerations: These Change Orders will be added to the UCI's GMP Contract.

Mission/Values: This aligns with the City's Core Value of Ongoing Improvement, Safety, Working Towards Excellence.

Attachments: CO #15

Approved for the Agenda by:

Ray Slattery, PE

Ray Slattery, PE, Dir. of Engineering Services

Change Order

Utility Contractors Inc
PO Box 9592
Wichita, KS 67277-0592

Distribution

- City of Dodge City
 Professional Engineering Consultants
 Office Field
 Other

Job: City of Dodge City Package 3 – System Expansion
122025. P.O. Box 880
Dodge City, KS 67801

Contract Number: Dodge City Wastewater System Expansion Package 3 dated November 7th, 2022.

CO #: 15
Seq #: 1

Contractor: Utility Contractors Inc
PO Box 9592
Wichita, KS 67277-0592

Change Order Date: 6/18/24

Change Order Page: 1

C.O. Item	Contract Item	Quantity	UM	Description	Unit Price	Amount
15	1		LS	Heat Exchanger / Chiller Unit		\$542,810.00

Change Order 15 per the attached scope of work, breakdown, quotes, drawings, and submittals.

*CO#15 requires 9 additional working days.

Not valid until signed by both the Owner and Architect. Signature of the Contractor indicates the Contractor's agreement herewith, including any adjustment in the Contract Sum or Contract Time.

CO# 15 to be added to the GMP.

Authorized By Owner: _____
City of Dodge City
P.O. Box 880
Dodge City, KS 67801

Accepted By Contractor: _____
Utility Contractors Inc
PO Box 9592
Wichita, KS 67277-0592

Engineer: _____
Professional Engineering Consultants
303 S Topeka
Wichita, KS 67202



1930 S. Hoover • Wichita, KS • 67209 • Phone 316.265.9506 • Fax 316.265.8314

Project Title: City of Dodge City, Ks. Package 1 & 3 System Expansion

Proposed Change Order - 15

Title: Heat Exchanger / Chiller Unit

Additional Days for PCO : 9 days

Description: This change order includes the purchase and installation of the Heat Exchanger/Chiller Unit System, Chiller Manhole, and associated piping(includes pipe insulation, jacketing, and pump insulation per Tatro's attached quote) per the attached drawings/RFI-87(535 manhours). Also, included is the excavating/forming/reinforcing/placing/backfill of equipment pad(142 manhours).

DIRECT LABOR				
	Rate	Unit	Duration	Subtotal
Supervisor	\$75.00	MH	88	\$6,600
Operator 2ea	\$44.00	MH	144	\$6,336
Concrete / Pipe Tech 3ea	\$35.00	MH	321	\$11,235
Ironworker (Reinforcing and Structural)	\$43.47	MH	27	\$1,174
Operator 2ea (OT)	\$66.00	MH	0	\$0
Concrete / Pipe Tech 3ea (OT)	\$52.50	MH	0	\$0
DIRECT LABOR TOTAL			580	\$25,345
MATERIALS				
				Subtotal
Aggregate / Reinforcement / Form Materials / Concrete				\$5,843
Pipe				\$6,422
Supports				\$6,000
Chiller System MH				\$1,995
Chiller System / Heat Exchanger				\$358,340
MATERIAL TOTAL				\$378,600
EQUIPMENT RENTAL				
	Rate	UNIT	Duration	Subtotal
PU Truck	\$80.00	DY	9	\$720
336 Cat Excavator	\$360.00	DY	0	\$0
Cat 289 Skidsteer	\$167.00	DY	3	\$501
Trench Boxes	\$50.00	DY	0	\$0
314 Cat Exc	\$215.00	DY	3	\$645
Crane	\$7,500.00	DY	1	\$7,500
Compactor	\$146.00	DY	3	\$438
Subtotal				\$9,804
Misc Equipment Running Costs				
				Subtotal
Fuel, oil, gas, grease (30% of Equipment Rental Cost)				\$2,941
Equipment Hauling (Equipment is on site)	\$130.00	HR	0	\$0
Subtotal				\$2,941
EQUIPMENT TOTAL				\$12,745
GENERAL EXPENSE				
Labor				
Project Leader	\$95.00	MH	8	\$760
Site Manager	\$95.00	MH	0	\$0
Production Leader	\$105.00	MH	27	\$2,835
Production Associate	\$85.00	MH	27	\$2,295
QA/QC Associate	\$85.00	MH	8	\$680
Procurement Associate	\$85.00	MH	0	\$0
Safety Supervisor	\$85.00	MH	27	\$2,295
Subtotal			97	\$8,865
Materials				
Safety provisions	\$1.00	MH	677	\$677
Area yard charges	\$1.00	MH	677	\$677
Small tools	\$1.50	MH	677	\$1,016
Subsistence (677mhs/10)	\$150.00	Day	68	\$10,200
Utilities	\$15.00	Day	0	\$0
Office Facilities	\$45.00	Day	0	\$0
Subtotal				\$12,570
GENERAL EXPENSE TOTAL				\$21,435
UCI TOTAL WORK ITEMS				\$438,124
UCI Overhead	10%			\$43,812.44
Subtotal				\$481,936.83
UCI Profit	5%			\$24,096.84
UCI TOTAL COST				\$506,034
SUBCONTRACTS				
Tatro (Insulation and Jacketing)				\$28,547
SUBCONTRACT TOTAL WORK ITEMS				\$28,547
UCI SUBCONTRACT FEE	10%			\$2,854.69
UCI SUBCONTRACT TOTAL COSTS				\$31,402
TOTAL COST (UCI WORK AND SUBCONTRACTORS)				\$537,435
Insurance	1.0%			\$5,374
CHANGE ORDER TOTAL				\$542,810



Whaley Products, Inc.

Precision Design, Engineering, & Manufacturing of
Industrial Cooling & Heating Equipment

Phone: 940.569.4116 | Fax: 940.569.4247 | sales@whaleyproducts.com | 2150 S. Central Expressway Suite 200 - McKinney, TX 75070 | 526 Charlotte Ave. - Burkburnett, TX 76354

Formal Quote #31428-003

Walter Marcotte

UCI Industrial Construction Services

316-640-3529

wmarcotte@uciconstructs.com

Project Name: Dodge City KS

Date: 9.15.2023

Walter,
Here is the quote you requested.

Application Details:

- Chiller system to serve glycol-to-biogas heat exchanger.

Key Design Notes:

- Performance:
 - I have illustrated the performance of this system at the below listed site conditions.
- Components of the System:
 - This complete system is made up of Modular Air-Cooled Chiller Units and a Pump Tank System Skid.
 - Modular Air-Cooled Chiller Units:
 - 2each Air-Cooled Modular Chiller Units are included and are typically installed outdoors in order to deflect the heat to the outside atmosphere.
 - Pump Tank System Skid:
 - The single Pump Tank System Skid (**PTS**) will be used in conjunction with the Modular Air-Cooled Chiller Units. The **PTS** is typically installed indoors or outdoors. Indoor and outdoor reservoir insulation packages are available depending on where the skid is to be located. The **PTS** contains water/glycol reservoir, pumps, and controls. One pump (**chiller circulation pump**) circulates the Modular Air-Cooled Chiller Units to keep the Pump Tank System Skid's reservoir tank at the target set point temperature. The other pump (**process supply pump**) pulls out of the **PTS** reservoir, circulates to your downstream application, and returns back to the **PTS** reservoir.
- Fluid Requirements:
 - This unit is set up to run with a mixture of water and **ChillerGlycol™ DF1** USP Certified Corrosion Inhibiting Propylene Glycol.
- Electrical Voltage:
 - Electrical voltage for this system has been selected at 440-480/3

Let us know if you would like us to host a screen share/voice conference call where we can review the quote and layout together to make sure it is satisfactory for your application. We can record this session and send the video link to you to keep for your records.

- **Site Conditions:**

- Leaving Glycol Temperature (LGT): 35°F
 - Ambient Temperature (AMB): 105°F
 - Glycol Concentration: 50%
 - Altitude: 2,490 Feet (Dodge City, KS)
 - Frequency: 60Hz
-



Cost Summary for Purchase:

- **Full System Model Number:** RPSAE100D-4-2P500T
- **System Performance:**
 - **Cooling Capacity:**
 - ***Performance at Site Conditions: 960,480 btu/hr***
 - **Supply Pump Performance:**
 - ***Sizing Notes: Supply Pump sized for 150gpm at 43-50psi. (heat exchanger requires 140gpm)***
 - ***A thorough TDH analysis should be performed prior to purchase to confirm flow and pressure are adequate to circulate customer's process supply loop application.***
- **Dimensions and Weights:**
 - 2each PSAE50D-4 Chiller Units: 93"L x 89"W x 79"H, 2265 lbs
 - 1each C500-4-2PT Pump Tank Skid: 120"L x 54"W x 80"H, weight TBD
- **Electrical Specs @ 440-480/3 voltage:**
 - 2each PSAE50D-4 Chiller Units:
 - MCA: 106.9
 - MOCP: 125.0
 - 1each C500-4-2PT Pump Tank Skid: (Based on 5HP chiller circulation pump and 10HP supply pump)
 - MCA: 21.6
 - MOCP: 30.0
- **Components Included in System:**
 - 2ea Modular Air-Cooled Chiller Units Model PSAE50D-4 (**CH-1, CH-2**)

- 1ea Glycol Pump Tank System Skid Model C500-4-2PT (**PTS**)
 - 1ea 500gal reservoir tank
 - 2ea stainless steel pumps
 - 1ea chiller circulation pump
 - 1ea process supply pump
 - Service disconnect and control panel to control full system
 - Digital temperature controller
 - Temperature sensor factory installed in thermal well in reservoir on Pump Tank System Skid.
 - Pump breakers/contactors/overloads
 - On/off switches for all pumps and chiller circuits
 - Assembly:
 - All Pump Tank System Skid components to be factory mounted, plumbed, and wired on common epoxy coated steel frame.
- Included Options:
 - Outdoor Insulation of Pump Tank System Skid Reservoir: **1ea**
 - This option is for scenarios where the Pump Tank System skid is to be installed outdoors and insulation is required to prevent condensation. This option only includes insulation of the tank on the Pump Tank System skid. The pumps, fittings, valves, hosing, and piping are typically insulated in the field by others once confirmed leak-free after startup procedures are completed.
 - Flow Safety Switch with Compressor Interlock: **2ea**
 - Low Ambient Package B: **2ea**
 - 275 Gallon Tote 100% **ChillerGlycol™ DF1**: **1ea**
 - Includes free equipment warranty upgrade
 - Includes free refractometer for checking glycol percentage
 - See advantages of using **ChillerGlycol™ DF1** USP-Certified Corrosion Inhibiting Propylene Glycol in this system at www.glycol.com/advantage
 - 3" Bronze Y-Strainer (NPT): **1ea**
 - 3" Ball Cone Check Valve: **1ea**
 - E-Coated Condenser Coil Coating for Corrosive Environment Installation: **2ea**
 - Upgraded Factory Microguard Coating of All Bare Copper and Brass on Chiller Units: **2ea**
 - Central Microprocessor Controller Upgrade with Customer Chiller Capacity Control: **1ea**
 - Upgrade to Single Microprocessor Controller with Ethernet IP monitoring, MODBUS protocol and control access via local plant Ethernet/IP connection:
 - Includes BACNET License (1 per chiller unit)
 - Registers:
 - Control:
 - Set Point Temperature
 - Monitor:
 - Refrigerant Circuit 1 Run Status
 - Refrigerant Circuit 2 Run Status
 - Refrigerant Circuit 1 Flow Switch Status
 - Refrigerant Circuit 2 Flow Switch Status
 - Refrigerant Circuit 1 Low Pressure Switch Status
 - Refrigerant Circuit 2 Low Pressure Switch Status
 - Refrigerant Circuit 1 High Pressure Switch Status
 - Refrigerant Circuit 2 High Pressure Switch Status
 - Alarms:
 - High Tank Temperature

- Refrigerant Circuit 1 Flow Switch Fault
 - Refrigerant Circuit 2 Flow Switch Fault
 - Refrigerant Circuit 1 Low Pressure Switch Fault
 - Refrigerant Circuit 2 Low Pressure Switch Fault
 - Refrigerant Circuit 1 High Pressure Switch Fault
 - Refrigerant Circuit 2 High Pressure Switch Fault
 - Custom Chiller Capacity Control Scheme for 2 Chiller Units for Increased Efficiency:
 - Custom control allows both chillers to always operate simultaneously with the goal of always controlling chillers in the lower unloading capacities to allow higher IPLV efficiency values consistently overall.
- Glycol to Biogas Temperature Control Package: 1ea
 - Glycol to Biogas Heat Exchanger
 - Shell & Tube Design
 - Sized to accommodate associated heat load of application
 - See attached spec sheet and drawing
 - Water Temperature Control Valve
 - Proportional 3-Way Electric Actuated Valve for Precise Temperature Control of Biogas Outlet Temperature
 - Outdoor rated, but not Class Rated for Explosive Rated Area (Typically valve is installed outside of the class area)
 - 24vac control
 - Spring return design
 - Electrical and Controls
 - To be included in the Chiller Control Panel
 - Microprocessor Temperature Controller (For Precise Control of Biogas Temp Control 3-Way Valve)
 - Temperature Sensor Shipped Loose for Field Installation in Customer Provided Thermal Well on Biogas Side of Heat Exchanger.
 - On/Off Switches
 - 1each for Biogas Temp Control 3-Way Valve
 - 1each Indicator Light for Biogas Temp Control 3-Way Valve
 - Skid Assembly Details:
 - Heat Exchanger, 3way valve to be shipped loose for field mounting/plumbing.
 - Controls to be installed in Whaley control panel
- Upgrade Full System Warranty to 2-year parts and 2-year labor: 1ea
- Three Days (24 hours) of Startup Assistance by Local Refrigeration Technician near Installation Location: 1ea
 - Parts or materials not included and may be invoiced separately if needed while on site (refrigerant or otherwise).
 - Once equipment is fully wired, plumbed, and connected to the heat load to be ran with the application heat load, Whaley's startup contractor will come on site to perform the following startup procedures to ensure proper system functionality:
 - Confirm phase sequence relays are properly wired in.
 - Confirm pump rotations are proper.

- Once chiller circuit is fired up, check compressor amp draw, super-heat value, sub-cool value, and refrigerant pressures to ensure proper refrigerant charges have been added to each refrigerant circuit.
 - If additional refrigerant is needed in the field, Whaley's provided startup contractor can provide this refrigerant and charge for it.
 - Alternatively, customer's installation contractor can provide the refrigerant and perform the charging of the refrigerant circuits while Whaley's startup contractor is present, if desired.
- Confirm Microprocessor controller functions properly to control system.
 - Items to confirm:
 - Confirm chiller circuits are properly turning on/off based on controller set points and differential temperatures
 - Confirm System Statuses are Properly Reading:
 - Refrigerant Circuit 1 Run Status
 - Refrigerant Circuit 2 Run Status
 - Refrigerant Circuit 1 Flow Switch Status
 - Refrigerant Circuit 2 Flow Switch Status
 - Refrigerant Circuit 1 Low Pressure Switch Status
 - Refrigerant Circuit 2 Low Pressure Switch Status
 - Refrigerant Circuit 1 High Pressure Switch Status
 - Refrigerant Circuit 2 High Pressure Switch Status
 - Calibration of actual temperature in reservoir measured with Whaley provided startup contractor's laser thermometer versus the temperature being displayed on the Microprocessor controller.
 - **Note 1: Customer provided field electrical/controls integration contractor is to be available on the day of startup to work in conjunction with Whaley provided startup contractor to allow proper confirmation of control functionality.**
 - **If additional time is required by Whaley provided startup contractor for startup assistance beyond 3day (24 hours), additional costs may apply.**
 - **Note 2: Integration with customer BMS is to be done by customer provided field electrical/controls integration contractor and is not included in the startup scope for Whaley's provided startup contractor.**
- If reparative work needs to be done as a result of findings in the field outside of simple adjustments or otherwise, please contact Whaley service support at service@whaleyproducts.com to provide data, diagnosis, and to allow Whaley to quote a price for the reparative work. It would be evaluated at that point whether the customer's field provided installation contractor would do the reparative work under their scope of installation completion, or Whaley provided startup contractor would complete the work.

-
- Freight/Crating:

- Freight and crating to your domestic United States location: **INCLUDED**
 - *Crating included for domestic transit only*
 - *If international crating is required, additional cost would apply*
 - *If international freight is required, additional cost would apply*
-
-

TOTAL NET COST FOR ALL ABOVE EQUIPMENT, INCLUDED OPTIONS, FREIGHT, AND CRATING: \$358,340.00

- ***(EXCLUDES BELOW OPTIONS)***
-

Other Options (Not Included in Above Pricing):

- **Center Swing Backup Pump (CSBP) for Manual Temporary Backup Pump Switchover:**
 - **Description:**
 - With this option, an extra pump called the “Center Swing Backup Pump (CSBP)” is added to the Pump Tank System. The term “swing” stems from the fact the Center Swing Backup Pump’s purpose is to serve as a backup for either the Chiller Circulation Pump (CWP) or the Process Supply Pump (SP). In the event either of the Chiller Circulation Pump (CWP) or the Process Supply Pump (SP) require maintenance, factory installed isolation valves on the Pump Tank System allow a field technician to isolate the pump requiring maintenance, while the CSBP’s isolation valves are opened and it is turned on to temporarily serve the application the downed pump was serving. The swing pump is mounted in the middle of the two primary pumps (CWP and SP) and is factory plumbed in a common discharge manifold with the two primary pumps to allow it to pump in either direction. The temporary switchover from either of the primary pumps (CWP or SP) to the center swing pump (CSBP) requires manually toggling the on/off switches of each pump in addition to manually closing and opening the applicable isolation valves on the suction and discharge sides of the pumps involved. The Center Swing Backup Pump’s flow rate and pressure is based on the highest flow rate and pressure ratings between the primary pumps (CWP and SP). For example, in an example scenario where a given project’s CWP was rated at 48gpm @ 40TDH and the SP was rated at 24gpm at 100TDH, then the CSBP would need to be rated at 48gpm @ 100TDH. Therefore, it would have enough flow and pressure to serve the application of the primary pump that was down (CWP or SP).
 - **Effect on Dimensions of Pump Tank System Skid:**
 - By purchasing this Center Swing Backup Pump (CSBP) for Manual Temporary Backup Pump Switchover option, the dimensions of the Pump Tank System will potentially need to be revised/increased. If space/dimensions are a limiting factor in your project, Whaley Engineering/Design team can work closely with you to lay out your Pump Tank System to satisfy your space restrictions.
 - **Available Sizes & Pricing:**
 - 0.5 HP Center Swing Backup Pump (CSBP) Package: **Add \$1,155.00**
 - 0.75HP Center Swing Backup Pump (CSBP) Package: **Add \$1,295.00**
 - 1.0HP Center Swing Backup Pump (CSBP) Package: **Add \$1,360.00**
 - 1.0HP Center Swing Backup Pump (CSBP) Package: **Add \$1,925.00**

- 2HP Center Swing Backup Pump (CSBP) Package: **Add \$2,490.00**
 - 3HP Center Swing Backup Pump (CSBP) Package: **Add \$3,130.00**
 - 5HP Center Swing Backup Pump (CSBP) Package: **Add \$3,465.00**
 - 7.5HP Center Swing Backup Pump (CSBP) Package: **Add \$4,430.00**
 - 10HP Center Swing Backup Pump (CSBP) Package: **Add \$4,605.00**
 - 15HP Center Swing Backup Pump (CSBP) Package: **Add \$6,480.00**
 - 20HP Center Swing Backup Pump (CSBP) Package: **Add \$7,820.00**
 - 25HP Center Swing Backup Pump (CSBP) Package: **Add \$8,180.00**
 - 30HP Center Swing Backup Pump (CSBP) Package: **Add \$9,890.00**
 - Note: *Larger Pump CSBP Packages Quoted Upon Request*
-

Lead Time:

- Lead times will vary based on electrical voltage selection. Here are the current lead times for each voltage selection:
 - 440-480v/3ph/60hz Voltage:
 - **2-4 weeks of submittal drawing creation**
 - **22 weeks for manufacturing after approval of submittal drawings**
- Lead Times are After Purchase Order, Down-Payment, and Approval of Drawings.
 - Lead times may fluctuate based on daily order volume.
 - Lead time could be delayed due to required motor voltage, options purchased, or other factors.
 - Refer to Whaley's "Purchase Procedures" in the attached "Terms, Exclusions, and Disclaimers" document for more information regarding how Whaley's purchase process works. If Whaley's "Terms, Exclusions, and Disclaimers" document was not attached to this quotation, please feel free to request it.

Quote Validity:

- 30 days from quote date

Terms:

- 10% with Purchase Order for Creation of Submittal Drawings
 - 40% upon Approval of Submittal Drawings
 - 50% prior to shipment
-

Some notable clients WPI successfully served recently:

- SpaceX
- U.S. Naval Station, Puget Sound
- U.S. Security Science, Los Alamos National Laboratory...NM...
- U.S. Treasury, Washington DC....
- U.S. EPA, Georgia...
- U.S. Army, Fort Bragg, North Carolina...
- U.S. Army, Rock Island Arsenal, Illinois...
- U.S. Navy, China Lake Naval Station, CA...
- U.S. Air Force, Tinker Air Force Base, Oklahoma...
- U.S. Dept of Energy, Brookhaven National Laboratory, NY, ...

- City of Sacramento Municipal Utility District...
- TPW Metal Finishing...
- Metal Chem, Chatsworth, CA, Anodizing...
- Skill Metal Fabricators, Inc., Canada, Anodizing ...
- Chrome Plus, Inc., Kansas, Anodizing ...
- Experimental Machine...Waterjet...Maryland..
- Boyd Lighting... Waterjet... Colorado...
- Baytown Ace Machine Co...Waterjet...TX..
- Cargill Meat Solutions, Nebraska...
- Kahiki Foods, Ohio...
- Vans Foods, Vernon, CA...
- Brooks Food Group, Ohio...
- California Dairies, CA...
- White Oaks Ranch, Arkansas...
- Garden Protein Foods, Canada...
- Three Twins Ice Cream, CA...
- Western Seafood Company, TX...
- Mitsubishi Plastics Corp, Virginia...
- Miltec Missiles & Space, Alabama...
- Hydro Aluminum North America, Florida...
- GE Aviation, Delaware...
- Bently Biofuels, Nevada...
- Evergy MFG/United Fuels, Alabama...
- Southwest Research Institute, San Antonio, TX...
- National Oil-Well Varco (NOV), TX...
- Carnegie Mellon University...
- University of Arizona...
- University of Hawaii Institute for Astronomy...
- University of Washington...
- University of California, Fresno...
- Dept of Natural Resources, Canada..
- Predator Systems, Florida... defense products...
- Metro State Prison, Atlanta GA...
- Southern Desert Correction Facility, Nevada...

Thanks,

Jay Whaley

Whaley Products, Inc.

Ph: 940-569-4116

Admin/Sales: 2150 S. Central Expressway, Suite 200, McKinney, TX 75070

Manufacturing: 526 Charlotte Ave, Burkburnett, TX 76354

jay@whaleyproducts.com

www.whaleyproducts.com





Main: 620.277.2167 – 1413 W Thompson St., Garden City, KS 67846
CO Spq: 719.621.1047 – 717 Seedling Ct., Colorado Springs, CO 80915
Summit: 970.538.2876 – 256 Annie Rd, Unit B, Silverthorne, CO 80498
Toll Free: 888.TATRO4U / 888.828.7648
Fax: 620.277.0244
www.TATRO.co

June 14, 2024

Mr. Walter Marcotte
UCI

Re: Chiller Piping Insulation

Dear Mr. Marcotte,

We offer the following for your review and approval.

- Piping and equipment bid with 2" thick Armaflex
- Piping jacketed with .020 stucco embossed aluminum (Piping ONLY)
- Apply TWO coats of UV protectant on Armaflex at Pump assemblies if required

Project Price

\$28,125.00
Bond 1.5% 421.88
28,546.88

Exclusions:

- Sales Tax
- NO Pipe Saddles
- Permit Fees
- Excludes Line Hide for Refrigeration Piping or Electrical work
- Electrical of ANY Kind
- Civil Work outside of 5' of the Building Foundation
- Snowmelt of Any Kind
- Concrete Demolition, Patch or Replacement
- Retention
- X-ray EXPENSE
- Coating of piping and fittings
- Downtime associated with changes or unforeseen conditions
- Engineering of ANY kind
- Bond
- Painting of ANY Kind

Please feel free to call with any questions.

Sincerely,
TATRO

Justin Sanchez





3612 S WEST STREET
WICHITA, KS 67217

PHONE (316) 522-8900
FAX (316) 522-1472

Job Name
DCWWTP Biogas chiller system

Quote No.	Date	Page
0014164	4/04/24	1
Expiration Date		5/01/24
Revised Date		4/04/24
Bid Due Date		4/01/24

Quoted To Customer
UCI PO BOX 9592 WICHITA, KS 67277-0592
Phone (316) 265-9506 Fax (316) 265-3041

Quoted By
Jeremy Bradley Jcbradley@winwaterworks.com (316) 522-8900

Customer	Payment Terms	Quoted To	Salesperson	FOB
000304	1% 10TH PRX NET 25TH	Jeremy Bradley	DANE FUGLEBERG	S

Line	Qty.	Description	Unit Price	UOM	Extended Price
DOMESTIC REQUIREMENTS-AIS					
3.0	20	2-1/2" SCH 80 PE PIPE	3.8700	EA	77.40
4.0	4	2.5" SCH80 GRVXSOC. ADAPTER 833-025	30.3600		121.44
5.0	4	177N 2.5" VIC FLEX COUPLING AIS 4-6 WEEKS LEAD TIME	204.5000		818.00
6.0	100	3" SCH80 PE PIPE	5.4300		543.00
7.0	1	3" SCH80 45 ELL SOCXSOC 817-030	46.3300		46.33
8.0	7	3" SCH50 90 ELL SOCXSOC 806-030	20.1900		141.33
9.0	2	3" TU SCH80 BALL VALVE 3622-030	429.1200		858.24
10.0	3	3" SCH80 MALE ADAPTER MNPTXSOC 836-030	26.6300		79.89
11.0	1	3" SCH80 TEE SOCXSOXSOC 801-030	37.1500		37.15
12.0	5	3" SCH80 VANSTONE FLANGE 854P-030	33.5200		167.60
13.0	100	4" SCH80 PE PIPE	7.8200		782.00
14.0	15	4" SCH80 90ELL SOCXSOC 806-040	38.7200		580.80
15.0	2	4" TU SCH80 BALL VALVE 3622-040	724.8300		1449.66
16.0	5	4" SCH80 VANSTONE FLANGE 854P-040	42.3600		211.80
17.0	1	4" TANK ADAPTER			
18.0	2	4" X 2.5" CON. SCH80 RED. SOXSOC 829-421	78.0300		156.06
19.0	2	4" X 2.5" SCH80 RED. TEE SXSXS 801-421	98.6300		197.26
20.0	2	4" X 3" CON. SCH80. RED. SOXSOC 829-422	77.1000		154.20
SUBTOTAL					6422.16



<i>Job Name</i>
<i>DCWWTP Biogas chiller system</i>

<i>Quote No.</i>	<i>Date</i>	<i>Page</i>
<i>0014164</i>	<i>4/04/24</i>	<i>2</i>
<i>Expiration Date</i>		<i>5/01/24</i>
<i>Revised Date</i>		<i>4/04/24</i>
<i>Bid Due Date</i>		<i>4/01/24</i>

<i>Line</i>	<i>Qty.</i>	<i>Description</i>	<i>Unit Price</i>	<i>UOM</i>	<i>Extended Price</i>
-------------	-------------	--------------------	-------------------	------------	-----------------------

The Buyer must compare products and quantities listed with the requirement since no warranty is given that the quote and the specification agree. All sales are subject to Seller's standard terms and conditions of sale found at www.winsupply.com/tcsale and incorporated by reference. Quotes are valid for three(3) days unless noted otherwise and are subject to credit approval.

*** all pricing subject to change depending on material availability and/or escalation of pricing from manufacturing*

<i>Tax Area Id</i>	<i>Net Sales</i>	<i>6,422.16</i>
<i>171730860</i>	<i>Freight</i>	<i>.00</i>
	<i>Tax</i>	<i>.00</i>
	<i>Quotation Total</i>	<i>6,422.16</i>



RFI Transmittal

Professional Engineering Consultants PA | 303 S. Topeka Wichita, KS 67202

PROJECT 210263-002 - Dodge City WWTP Expansion - Phase 2 DATE SENT 4/10/2024
210263-002

SUBJECT 87 - RFI# 87 - Chiller Layout and Piping Plan RFI ID 87 - RFI# 87 - Chiller Layout and Piping Plan

TYPE RFI TRANSMITTAL ID 00723

PURPOSE Answered VIA Email

QUESTION:
SUGGESTION:

ANSWER: "this is acceptable".
- Nicole Franken, PEC, 04/09/2024

FROM

NAME	COMPANY	EMAIL	PHONE
Ever Villalobos-Amaya	Professional Engineering Consultants PA	ever.villalobos@pec1.com	(316) 262-2691

TO

NAME	COMPANY	EMAIL	PHONE
Jason Brady	UCI	jasonb@ucict.com	(316) 265-9506
Ray Slattery, P.E.	City of Dodge City	rays@dodgecity.org	620-225-8106
Tanner Rutschman	City of Dodge City	tannerr@dodgecity.org	
Shane.Smith@jacobs.com		Shane.Smith@jacobs.com	
bryan.hensley@jacobs.com		bryan.hensley@jacobs.com	
Levoi Easterwood	Professional Engineering Consultants	levoi.easterwood@pec1.com	1658
Chris Opyr		Chris.Opyr@pec1.com	
Matthew Haug	Professional Engineering Consultants PA	matt.haug@pec1.com	

DESCRIPTION OF CONTENTS

RFI Transmittal

DATE: 4/10/2024

ID: 00723

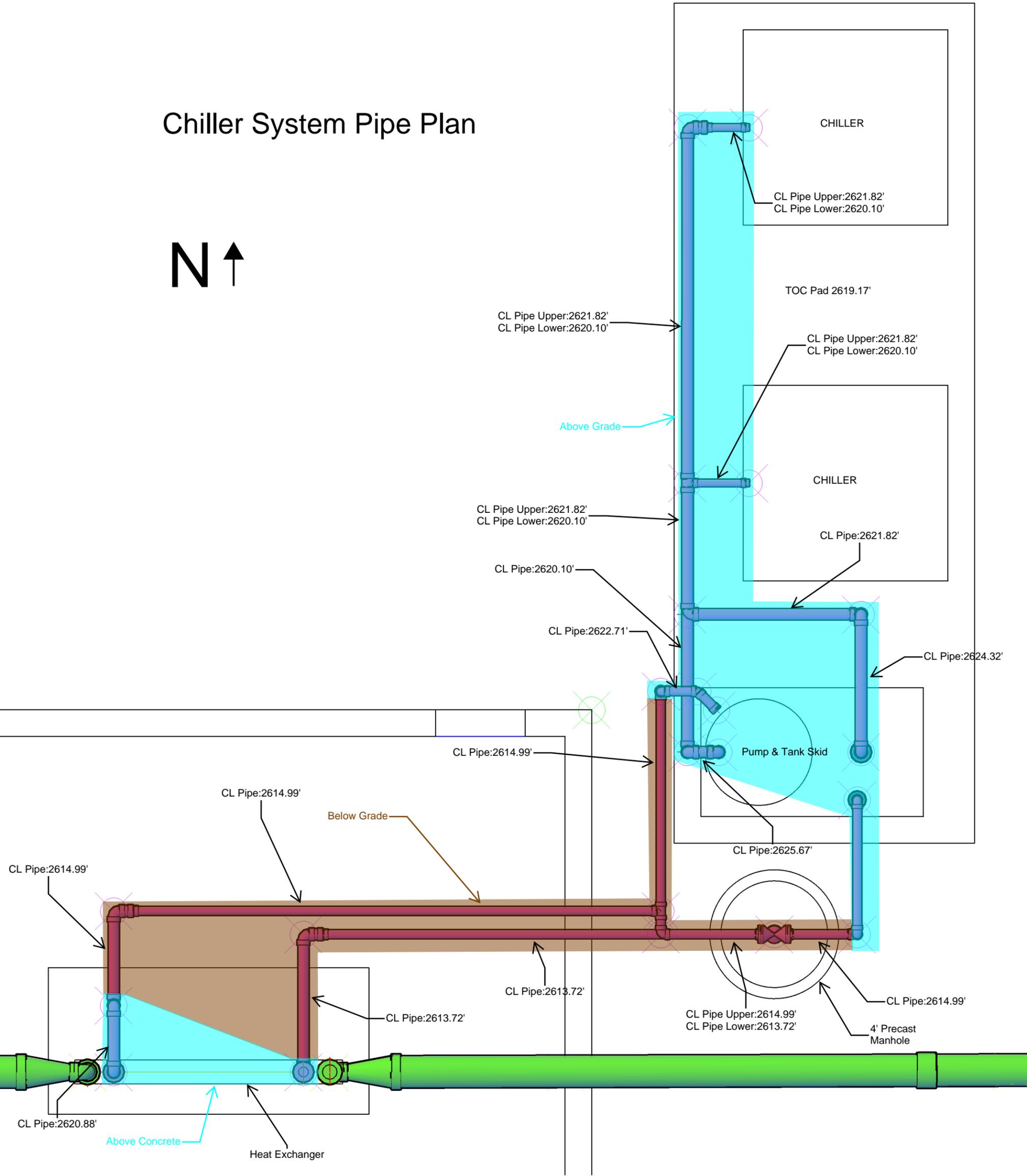
QTY	DATED	TITLE	NUMBER	SCALE	SIZE	NOTES
1	3/31/2024	UCI RFI# 87 - Chiller Layout and Piping Plan.pdf				

COPIES:

Nicole Franken

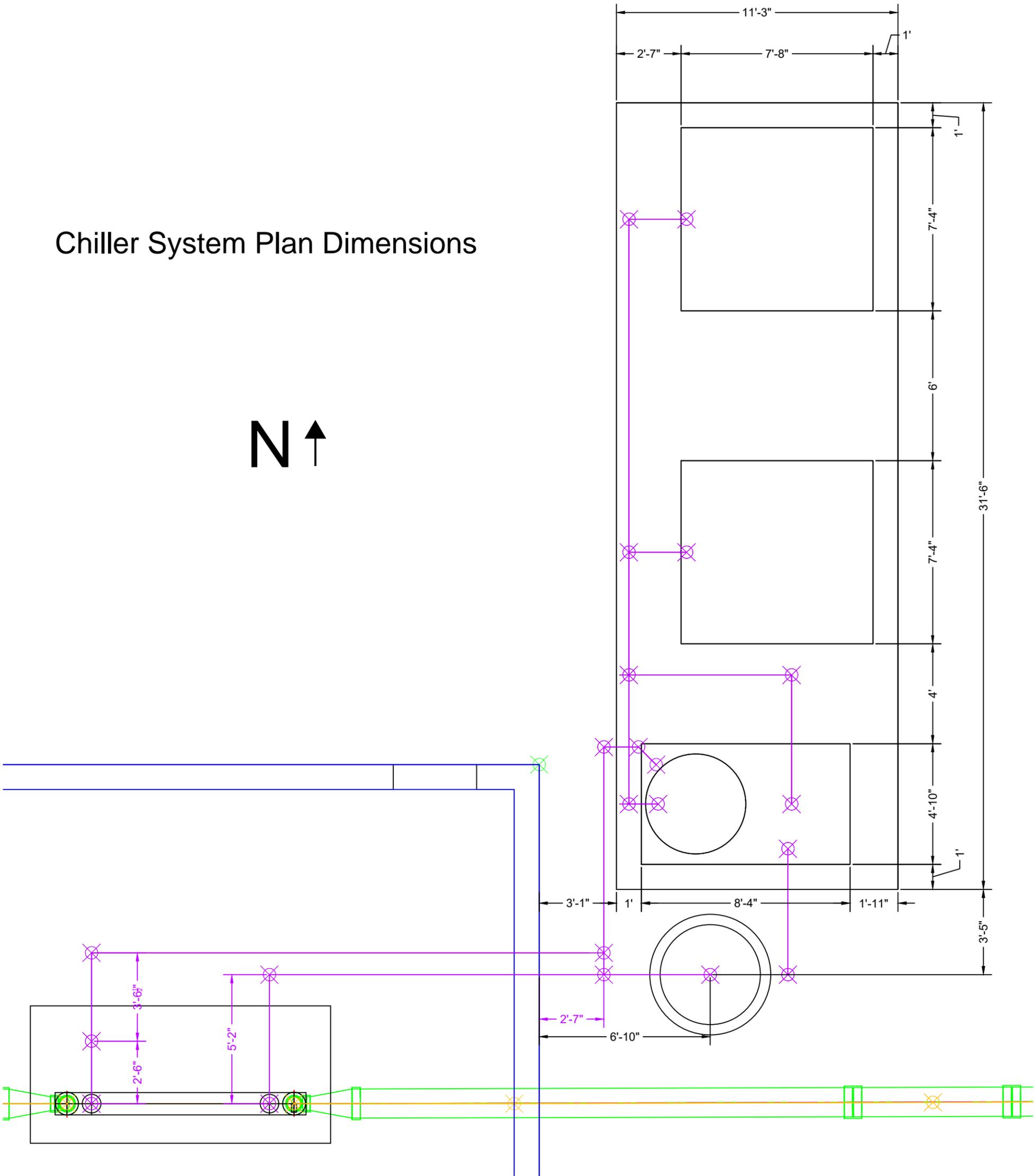
(Professional Engineering Consultants PA)

Chiller System Pipe Plan



Chiller System Plan Dimensions

N ↑





Submittal Number: 137 Rev. 1

Project:	122025.
Project Name:	Dodge City KS Package 3 - System Expansion

To:	From:
Nicole Franken / Ever Villalobos	Jason Brady
Professional Engineering Consultants	Utility Contractors Inc
303 South Topeka	1930 S Hoover, Suite 100 PO Box 9592
Wichita, KS 67202	Wichita, KS 67277-0592

Submittal Item	Status	Submitted Date	Copies	Date Due
1 : 113761-01 Biogas Air-Cooled Chiller System		11/27/2023	1	12/01/2023

Comments:
Whaley Products responses to PEC comments attached.

CONTRACTOR'S REVIEW: This submittal has been reviewed for general compliance with the plans and specifications.

By: Jason Brady
Jason Brady, Utility Contractors Inc

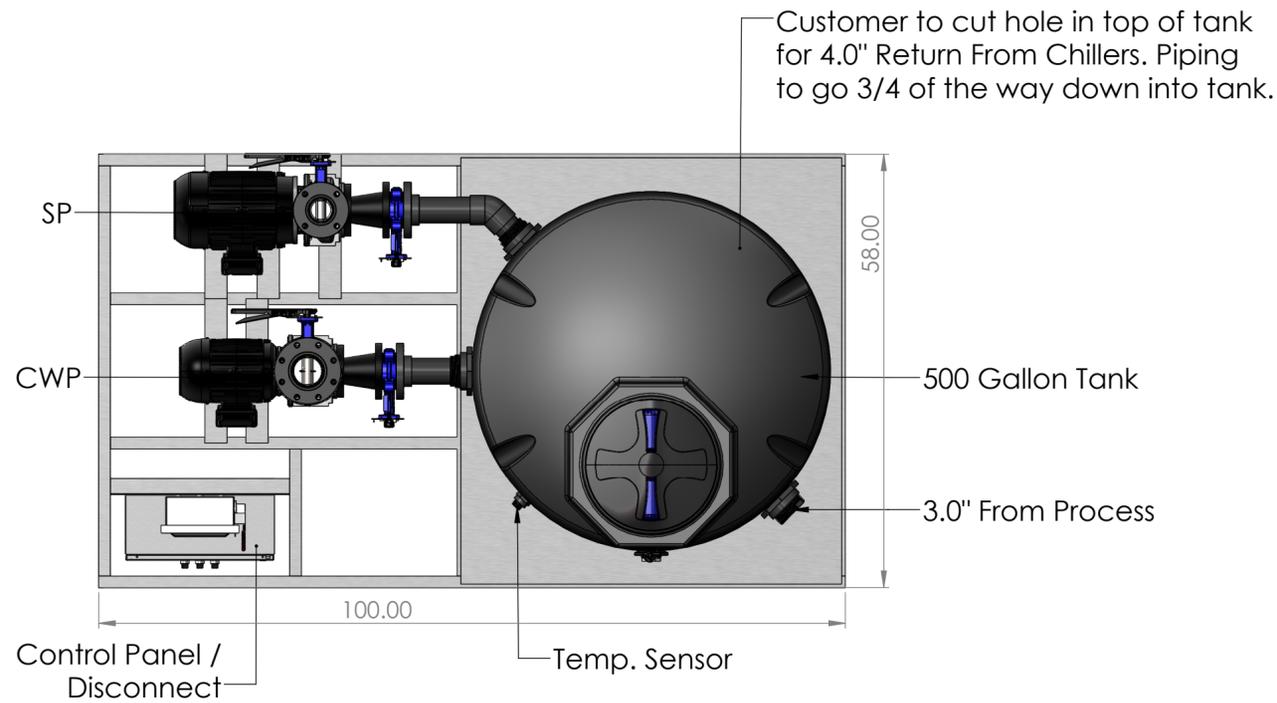
Date: 11/27/2023

SUBMITTAL REVIEW	
<input type="checkbox"/> REVIEWED <input checked="" type="checkbox"/> MAKE CORRECTIONS NOTED <small>If checked above, fabrication MAY be undertaken. Review does not authorize changes to Contract Sum unless stated in a Change Order.</small>	<small>Reviewed is only for general conformance with the design concept of the project. Contractor at all times remains solely responsible for compliance with the Contract Documents, including dimensions and safety analyses. Deviations are not approved unless Contractor has in writing called Engineer's attention to such deviation at the time of submission and Engineer has in writing approved the specific deviation. No acceptance by Engineer relieves Contractor from responsibility for errors or omissions in Compliance Submittals.</small>
<small>If checked below, fabrication MAY NOT be undertaken. Resubmit corrected copies for final approval. Correction shall be limited to items marked.</small>	
<input type="checkbox"/> REVISE AND RESUBMIT <input type="checkbox"/> REJECTED <small>5/10</small>	<small>PROFESSIONAL ENGINEERING CONSULTANTS, P.A.</small> Nicole Franken <u>12/12/2023</u> BY _____ DATE _____

**"Provide cut sheet/info on control valve/other valves, tank insulation material, and warranty."
- Nicole Franken**

Please see Whaley Products responses below in red.

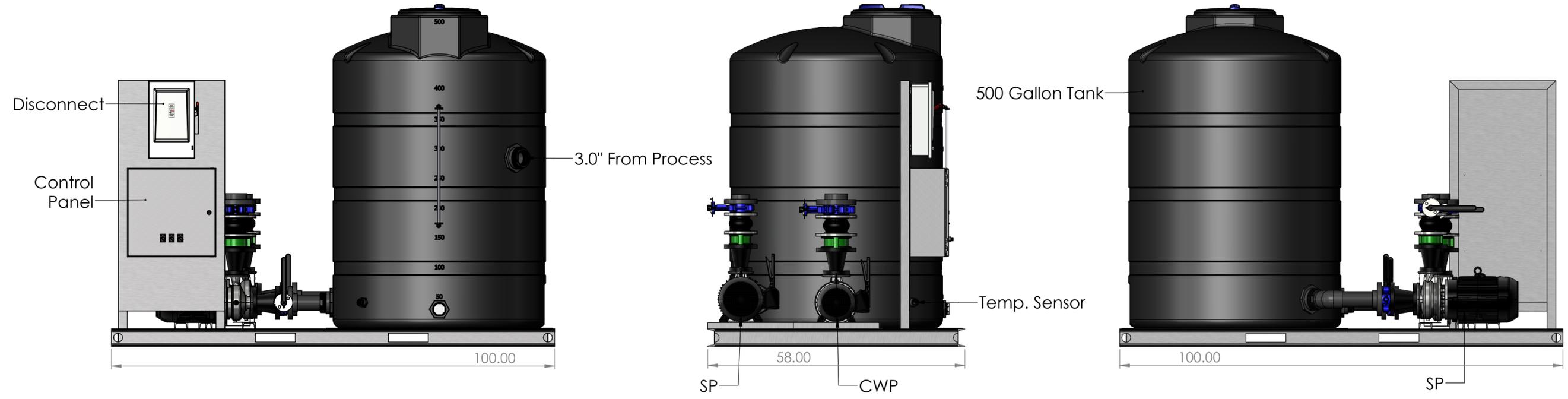
- PSAE50D-4 Drawing
 - Notes:
 - Condenser Fan and Guard specs
 - 9-blade airfoil cross-section, reinforced polymer construction, shrouded-axial type and shall be statically and dynamically balanced with inherent corrosion resistance. Air shall be discharged vertically upward. Fans shall be protected by coated steel wire safety guards.
 - Steel Frame specs
 - Frame shall be of heavy-gauge, galvanized steel
- UCI – P&ID
 - Note:
 - Show control valve
 - This has been revised
- UCI – Wiring Diagram – Page 1
 - Note:
 - Add temperature monitor to customer PLC
 - This has been revised
- UCI – Wiring Diagram – Page 7 (CWP Pump Curve)
 - Note:
 - Spec/Quote had a 5HP motor and pump rated at 144gpm@26psi
 - I do not see this flow/pressure shown on our quote. The only flow/pressure I see on the quote is the 150gpm @ 43-50psi for the Supply Pump, shown below.
 - *Supply Pump Performance:*
 - *Sizing Notes: Supply Pump sized for 150gpm at 43-50psi. (heat requires 140gpm)*
 - For the CWP (Chiller Circ. Pump), each chiller requires 120gpm, which is why we went with 240gpm total. This did end up being a 7.5HP instead of the estimated 5HP pump shown on the quote.
 - I hope this helps answer any questions you had.



SPECIFICATIONS

Model #: C500-4-2PT
Voltage: 440-480/3
Tank Volume: 500 Gallons
Chiller Circ. Pump (CWP): 7.5HP
CWP Flow: 240GPM
Supply Pump (SP): 10HP
SP Flow: 150GPM
Length: 100.0"
Width: 58.0"
Height: 77.0"

Process Inlet/Outlet Connections: 3.0"
Chiller Inlet/Outlet Connections: 4.0"
NOTE: Customer to cut hole in top of tank for 4.0" Return From Chillers. Piping to go 3/4 of the way down into 500 gallon tank.
NOTE: WPI to ship loose 3.0" and 4.0" Y-Strainers for customer installation in the field. These should be installed horizontally off each pump discharge.



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Revision:	UCI
	C500-4-2PT
SCALE: 1:20	SHEET 1 OF 1

Unit Information

Model Number:..... **PSAE50D-4**
 Condenser Type:..... **Air Cooled**
 Compressor Type:..... **Scroll**
 Nameplate Voltage:..... **460-3-60** V-Ph-Hz
 Quantity:..... **2**

ASHRAE 90.1:..... **2022 path B & older**
 Refrigerant:..... **R-410A**
 Capacity Control Steps:..... **4**
 Minimum Capacity:..... **25.00** %
 Shipping Weight:..... **2236** lb
 Operating Weight:..... **2263** lb
 Refrigerant Weight (Circuit A):..... **18** lb
 Refrigerant Weight (Circuit B):..... **18** lb
 Unit Length:..... **89** in
 Unit Width:..... **93** in
 Unit Height:..... **79** in
 Minimum Outdoor Operating Temp:..... **-20.0** °F
 Chiller Pressure Drop :..... **17.8** ft H2O

Use Chiller Pressure Drop for sizing pumps. This value includes losses due to chiller piping, fittings, 40 mesh factory supplied strainer and BPHX.

Performance Information

Cooling Capacity:..... **40.25** Tons
 Total Compressor Power:..... **55.02** kW
 Total Fan Motor Power:..... **3.979** kW
 Total Unit Power (without pump):..... **59.00** kW
 Efficiency (without pump) (EER):..... **8.187** BTU/Wh

Evaporator Information

Fluid Type:..... **Propylene Glycol**
 Brine Concentration:..... **50.00** %
 Fouling Factor:..... **0.000100** (hr-sqft-F)/BTU
 Leaving Temperature:..... **35.00** °F
 Entering Temperature:..... **45.00** °F
 Fluid Flow:..... **109.2** gpm
 Fluid Flow Min:..... **67.83** gpm
 Fluid Flow Max:..... **228.0** gpm
 Evaporator Pressure Drop :..... **10.4** ft H2O

Accessories and Installed Options

Evaporator Heater
 Micro Channel, E-Coat
 Low Sound - Aero Acoustic Fans
 Single Point
 High Efficiency Variable Condenser Fan

Electrical Information

Unit Voltage:..... **460-3-60** V-Ph-Hz
 Connection Type:..... **Single Point**
 SCCR:..... **5** kA

Amps	Electrical Circuit 1	Electrical Circuit 2
MCA	106.9	---
MOCP	125.0	---
ICF	228.0	---
Rec Fuse Size	125.0	---



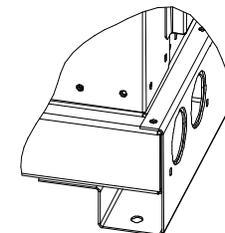
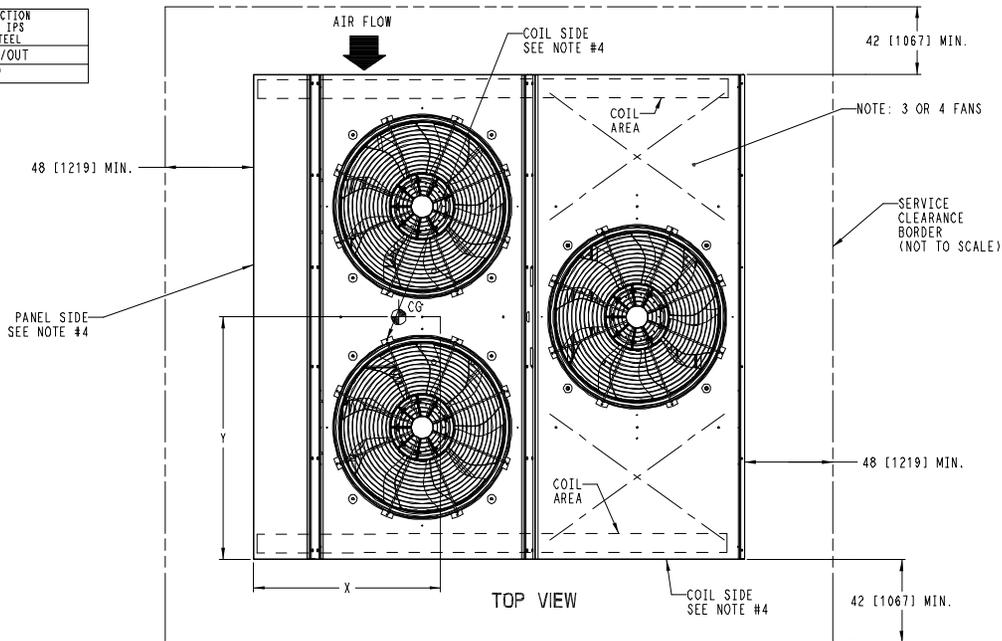
PSAE50D-4

CENTER OF GRAVITY		UNIT HEIGHT		WATER CONNECTION
X	Y	H (STANDARD)	H (VALUE SOUND)	VICTAULIC IPS CARBON STEEL
36.00 [914]	44.00 [1118]	78.5 [1994]	73.0 [1854]	WATER IN/OUT
				2-1/2"

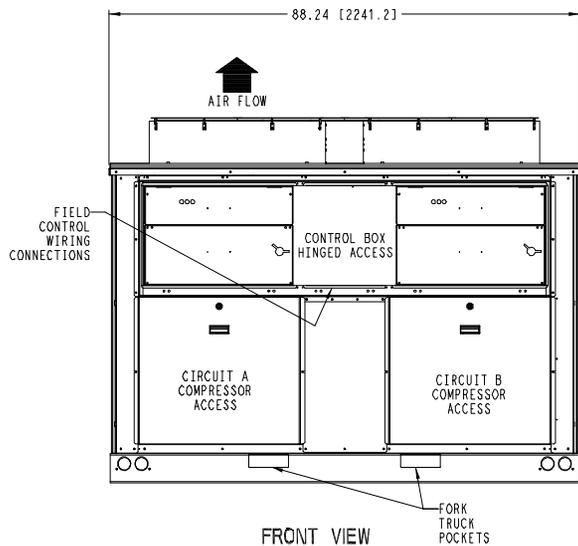
NOTES:

- DO NOT CAP OR OTHERWISE OBSTRUCT THE LIQUID LINE TEMPERATURE RELIEF.
- Ø7/8 [22.4] PILOT HOLE PROVIDED FOR LOCATING FIELD POWER WIRING. ACTUAL HOLE REQUIRED DEPENDS ON FIELD WIRE SIZING.
- Ø0.437 [11.10] HOLE USED FOR MOUNTING UNIT.
- UNIT MUST HAVE CLEARANCES AS FOLLOWS:
TOP - DO NOT RESTRICT.
COIL SIDE - 42 [1067] FROM SOLID SURFACE.
PANEL SIDE - 48 [1219] PER NEC.
- SEE TABLE COLUMN H; DIMENSION FOR STANDARD FAN OR VALUE SOUND FAN OPTION.
- DO NOT RECOMMEND INSTALLATION IN A PIT.
- UNIT CAN BE HANDLED USING THE FORK TRUCK LIFT POCKETS (MINIMUM OF 60" FORK LENGTH).
- WATER CONNECTIONS RECESSED 2-5/8 INCHES INSIDE UNIT. ALL WATER DRAIN AND VENTING HOLES ARE 1/4" NPT.

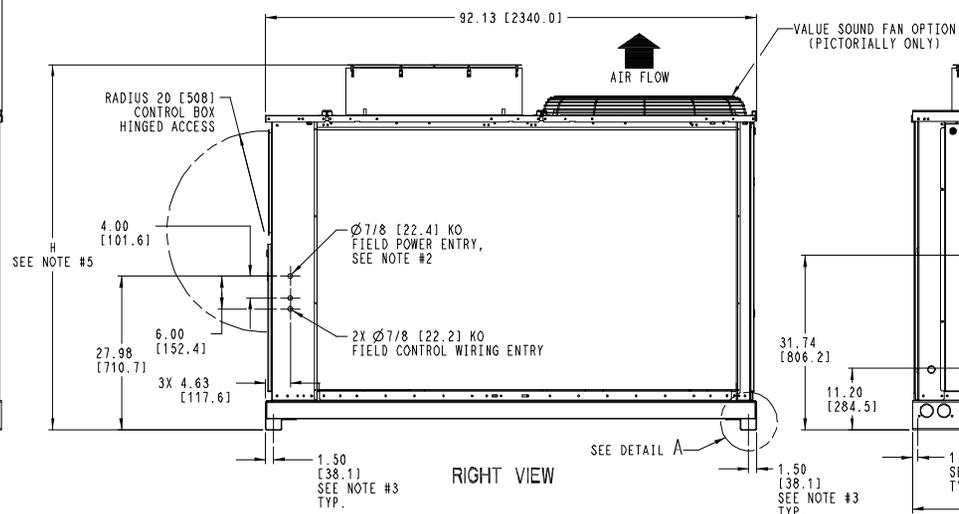
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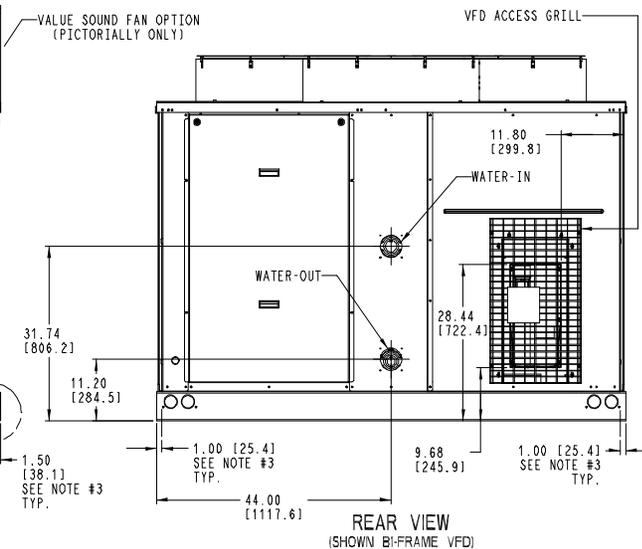
DETAIL A



FRONT VIEW



RIGHT VIEW



REAR VIEW
(SHOWN BI-FRAME VFD)

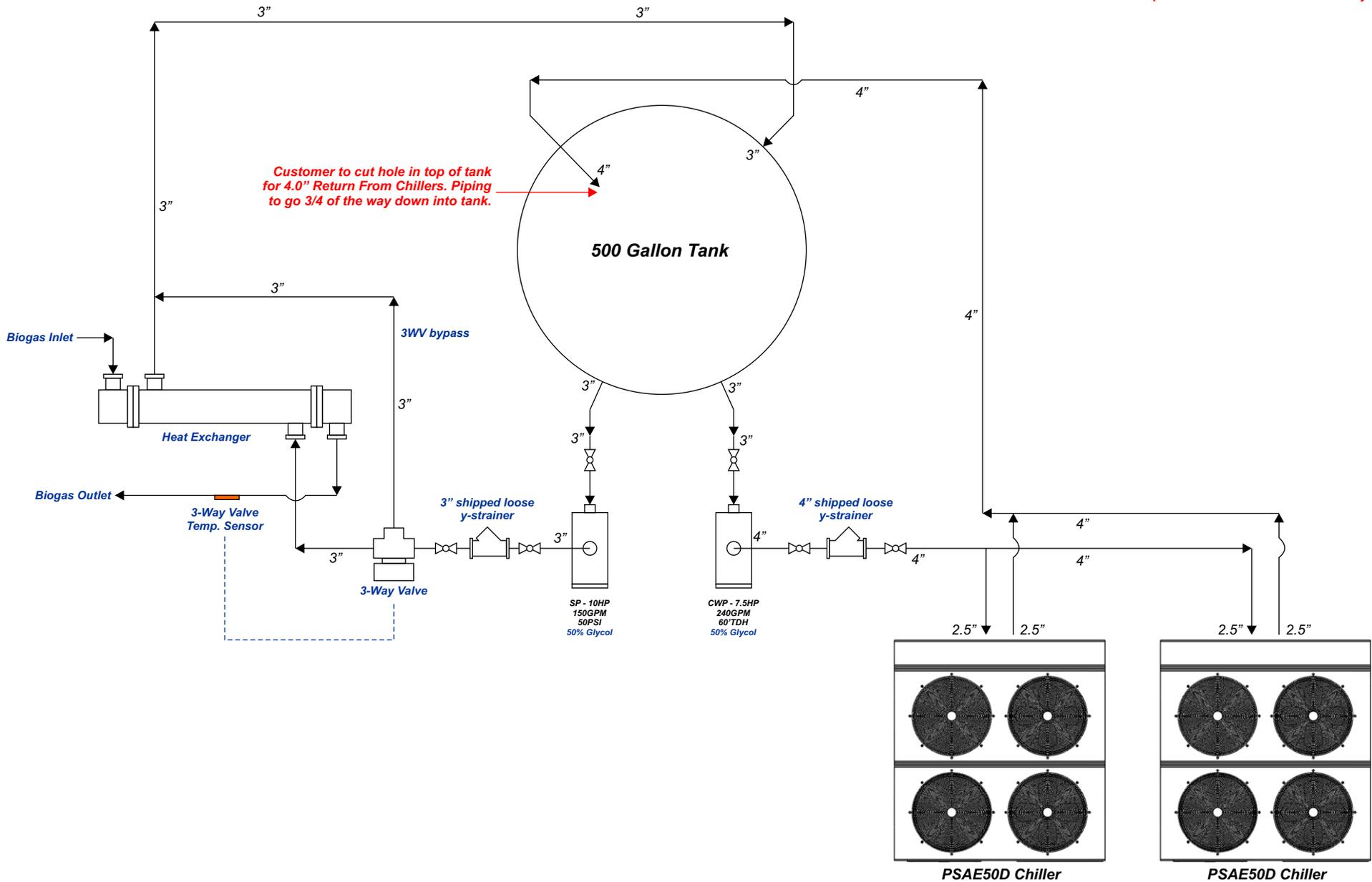
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PSAE50D-4

Actual equipment location not shown. Pipe distances not shown. This is a generic P&ID.

All interconnecting piping between pump/tank skid, chiller and process to be provided and installed in the field by customer.



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P&ID

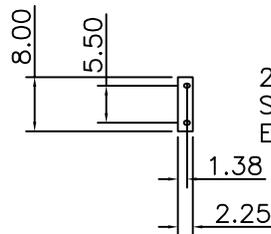
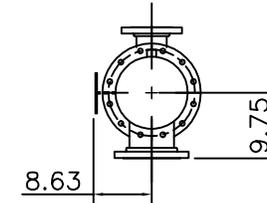
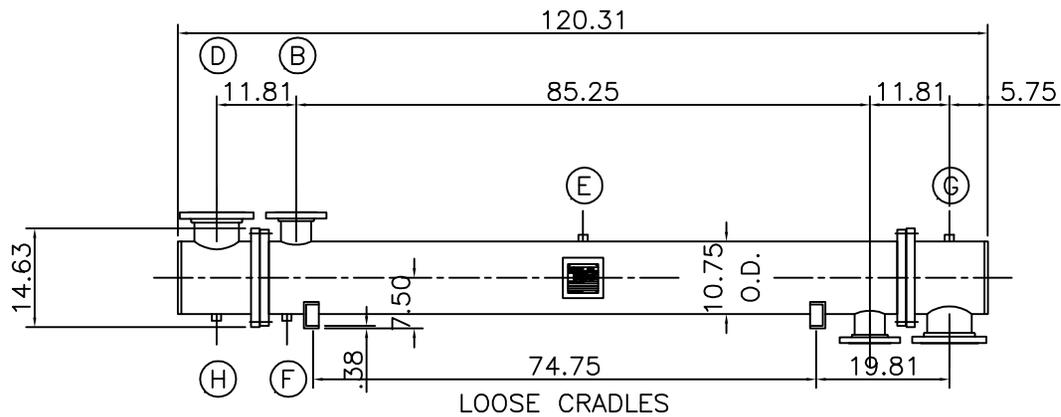
UCI

PG 1

Inquiry Number: 238092										
Item No.: 01		Your Reference: Hoang Project								
Date: 11/16/22		Rev No.:		Job No.:						
Size	C200 10096-1			Type	BEM	Hor	Connected in		1 parallel 1 series	
Surf/unit(eff.)	130	ft ²	Shells/unit	1	Surf/shell (eff.)	130	ft ²			
PERFORMANCE OF ONE UNIT										
Fluid allocation			Shell Side			Tube Side				
FluidName			50% Propylene Glycol			Biogas				
Fluid quantity, Total			lb/h			71758				
Vapor (In/Out)			lb/h			0		8176		7939
Liquid			lb/h			71758		71758		237
Noncondensable			lb/h			0		0		0
Temperature (In/Out)			°F			35		45		203.4
Dew / Bubble point			C							90
Density (Vap / Liq)			lb/ft ³			/ 65.551		/ 65.336		0.07 / 0.075 / 62.55
Viscosity			cp			/ 16.213		/ 12.6693		0.01 / 0.01 / 0.76
Molecular wt, Vap								24.06		22.8
Molecular wt, NC										
Specific heat			BTU/(lb-F)			/ 0.8427		/ 0.8469		0.4 / 0.37 / 1.03
Thermal conductivity			BTU/(ft-h-F)			/ 0.221		/ 0.221		0.02 / 0.02 / 0.359
Latent heat			BTU/lb					1013.7		1013.7
Pressure (abs)			psi			50		49.02		20.7 / 19.29
Velocity (Mean/Max)			ft/s			1.01 /		2.05		173.65 / 182.06
Pressure drop, allow./calc.			psi			7.25		0.98		1.5 / 1.41
Fouling resistance (min)			ft ² -h-F/BTU			0.0005		0		0 Ao based
Heat exchanged			606200 BTU/h			MTD corrected				97.78 °F
Transfer rate, Service			47.68 Dirty			54.52 Clean		56.05		BTU/(h-ft ² -F)
CONSTRUCTION OF ONE SHELL										
			Shell Side			Tube Side			Sketch	
Design/vac/test pressure:g			psi			150 / 225		150 / 225		
Design temperature			°F			350		350		
Number passes per shell						1		1		
Corrosion allowance			in			0.0625		0		
Connections		In in	1 4 / 150RFSO		1 6 / 150RFSO					
Size/rating		Out	1 4 / 150RFSO		1 6 / 150RFSO					
ID		Intermediate	/ -		/ -					
Tube No. 85			OD 0.75			Tks- Avg 0.035 in			Length 96 in Pitch 0.9375 in	
Tubetype Plain			#/in			Material SS 316			Tube pattern 30	
Shell Carbon Steel			ID			in OD			Shell cover -	
Channel or bonnet			SS 316						Channel cover -	
Tubesheet-stationary			SS 316						Tubesheet-floating -	
Floating head cover			-						Impingement protection None	
Baffle-cross Carbon Steel			Type			Single segmental Cut(%d) H			Spacing: c/c 20.25 in	
Baffle-long -			Seal type						Inlet in	
Supportstube			UBend			0 Type				
Bypass seal			Tube-tubesheet joint			Exp.				
Expansion joint -			Type			None				
RhoV2-Inlet nozzle			776			Bundle entrance 209			Bundle exit 210 lb/(ft-s ²)	
Gaskets - Shell side			-			Tube Side			Compressed Fiber	
Floating head			-							
Code requirements			ASME Code Sec VIII Div 1							
Weight/Shell			Filled with water						Bundle lb	
Remarks										



HEAT EXCHANGER



2-.625 X .875
SLOTTED HOLES
EACH CRADLE

DIMENSIONS NOT CERTIFIED FOR CONSTRUCTION

- (H) .75 NPT DRAIN
- (G) .75 NPT VENT
- (F) .75 NPT DRAIN
- (E) .75 NPT VENT
- (D) 6"-150# ANSI-RF INLET
- (C) 6"-150# ANSI-RF OUTLET
- (B) 4"-150# ANSI-RF OUTLET
- (A) 4"-150# ANSI-RF INLET

REPLACEMENT PARTS		MATERIAL SPECIFICATION	
DESCRIPTION/MATERIAL	PART NUMBER	FRONT HEAD: 316SS	SHELL: STEEL
BUNDLE KIT W/GSKT & PKNG		REAR HEAD: 316SS	TUBE SUP: STEEL
GASKET		TUBESHEET: 316SS	
GASKET		TUBES: 316SS	0.750DIA.x20BWG
WEIGHT WET: 1192 DRY: 785 BDL: 292 LBS.		SCALE: .035IN.=1.000IN.	

NOZZLE SCHEDULE

	D.P.	T.P.	MAX.TEMP	MIN.TEMP
SHELLSIDE	150 PSI	225 PSI	350 °F	-20 °F
TUBESIDE	150 PSI	225 PSI	350 °F	-20 °F

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HEAT EXCHANGER

UCI

PG 2

2ea. PSAE50D-4 Chillers

Flow Safety Switch
Low Ambient Package
E-Coated Condenser Coil Coating
Factory Microguard Coating of all bare copper/brass
MODBUS cards

C500-4-2PT Pump Tank Skid

Outdoor Insulation of tank

Microprocessor Upgrade

MODBUS Communication: Chiller > Microprocessor > Customer PLC

Control (for both chiller units):

Chiller Set Point

Monitor (for both chiller units):

Chiller Circuit Run Status

Flow Switch Run Status

Low Pressure Switch Status

High Pressure Switch Status

Tank Temperature Reading

Alarms (for both chiller units):

High Tank Temperature - via Temp. Sensor in 500 Gallon Tank

Flow Switch Fault

Low Pressure Switch Fault

High Pressure Switch Fault

Custom Chiller Capacity Control Scheme

Glycol to Biogas Temp. Control Package

Shell / Tube Heat Exchanger (Shipped Loose)

Proportional 3-Way Valve (Shipped Loose)

Shipped Loose Items

275 Gallon Tote of 100% Glycol

3.0" Return Line Y-Strainer (Shipped Loose)

3.0" Return Line Ball Cone Check Valve (Shipped Loose)



ORDER SUMMARY

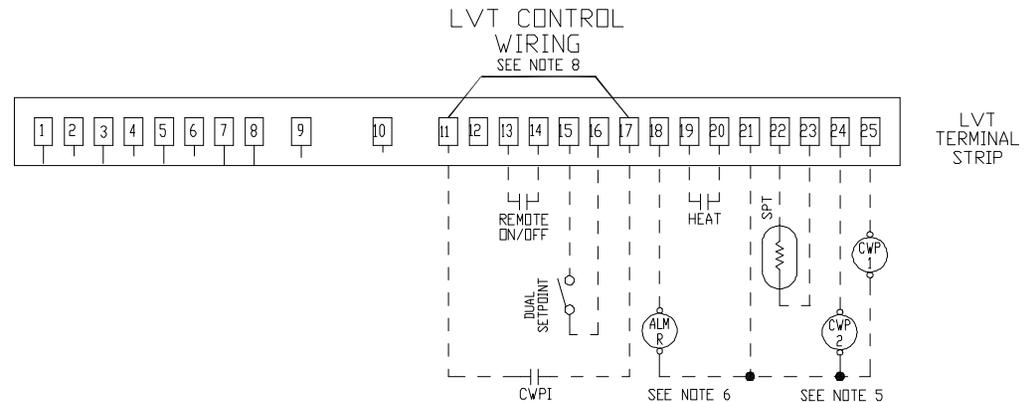
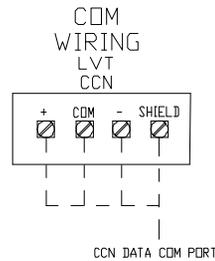
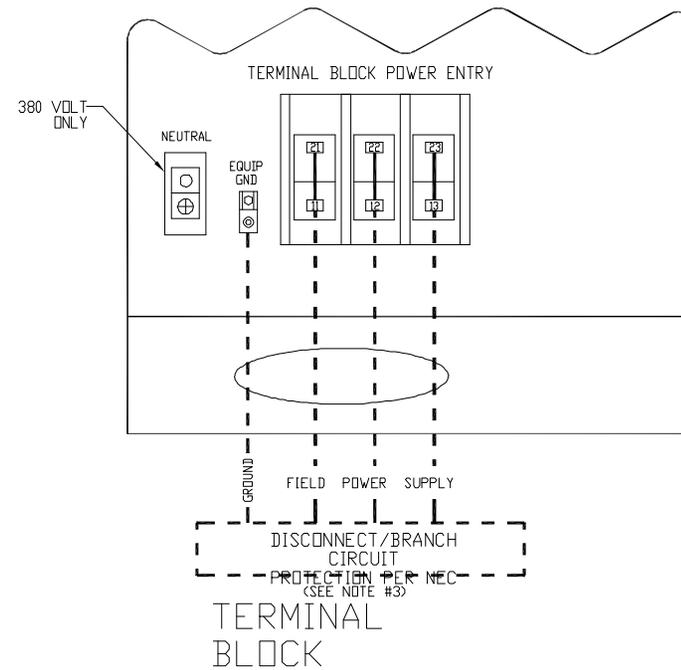
NOTES:

- FACTORY WIRING IS IN ACCORDANCE WITH UL 1995 STANDARDS. FIELD MODIFICATIONS OR ADDITIONS MUST BE IN COMPLIANCE WITH ALL APPLICABLE CODES.
- ALL UNITS OR MODULES HAVE SINGLE POINT PRIMARY POWER CONNECTION. MAIN POWER MUST BE SUPPLIED FROM A FIELD OR FACTORY SUPPLIED DISCONNECT.
- WIRING FOR MAIN FIELD SUPPLY MUST BE RATED 75C. USE COPPER CONDUCTORS ONLY.
 - INCOMING WIRE SIZE RANGE FOR TERMINAL BLOCK WITH MCA UPTO 175 AMPS IS 14 AWG TO 2/0 FOR 10-60 TON CHILLERS.
 - INCOMING WIRE SIZE RANGE FOR TERMINAL BLOCK WITH MCA FROM 175.1 AMPS TO 335 AMPS IS 6 AWG TO 400 KCMIL FOR 10-60 TON CHILLERS.
 - INCOMING WIRE SIZE RANGE FOR TERMINAL BLOCK WITH MCA UPTO 420 AMPS IS 2 AWG TO 600KCMIL FOR 70-150 TON CHILLER.
 - INCOMING WIRE SIZE RANGE FOR TERMINAL BLOCK WITH MCA FROM 420.1 AMPS TO 760 AMPS IS 6 AWG TO 500 KCMIL(TWO OPENINGS PER POLE) FOR 70-150 TON CHILLERS.
 - INCOMING WIRE SIZE RANGE FOR NON FUSED DISCONNECT WITH MCA UPTO 100 AMPS IS 14AWG TO 3/0.
 - INCOMING WIRE SIZE RANGE FOR NON-FUSED DISCONNECT WITH MCA FROM 100.1 AMPS TO 250 AMPS IS 6AWG TO 350 KCMIL.
 - INCOMING WIRE SIZE RANGE FOR NON FUSED DISCONNECT WITH MCA FROM 250.1 TO 600 AMPS IS 3/0 AWG TO 500KCMIL (TWO OPENINGS PER POLE)
- REFER TO CERTIFIED DIMENSIONAL DRAWINGS FOR EXACT LOCATIONS OF THE MAIN POWER AND CONTROL POWER ENTRANCE LOCATIONS.
- TERMINALS 21 AND 25 OF THE LVT ARE FOR CONTROL OF CHILLED WATER PUMP1 (CWPI) STARTER. TERMINALS 21 AND 24 OF THE LVT ARE FOR CONTROL OF CHILLED WATER PUMP2 (CWP2) STARTER. THE MAXIMUM LOAD ALLOWED FOR THE CHILLED WATER PUMP RELAY IS 5 VA SEALED, 10 VA INRUSH AT 24 V. FIELD POWER SUPPLY IS NOT REQUIRED.
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- MAKE APPROPRIATE CONNECTIONS TO LVT AS SHOWN FOR ENERGY MANAGEMENT BOARD OPTIONS. THE CONTACTS FOR DEMAND LIMIT AND ICE DONE OPTIONS MUST BE RATED FOR DRY CIRCUIT APPLICATION CAPABLE OF HANDLING A 24VAC LOAD UP TO 50 MA. INSTALLATION OF OPTIONAL ENERGY MANAGEMENT BOARD REQUIRED.
- REMOVE JUMPER BETWEEN TERMINALS 11 AND 17 WHEN FIELD CWPI IS INSTALLED.
- TERMINALS 13 & 14 OF TBS ARE FOR FIELD EXTERNAL CONNECTIONS FOR REMOTE ON-OFF. THE CONTACTS MUST BE RATED FOR DRY CIRCUIT APPLICATION CAPABLE OF HANDLING A 24VAC LOAD UP TO 50MA.

LEGEND:

- ALM R - ALARM RELAY (24V) 5 VA MAX
- AWG - AMERICAN WIRE GAUGE
- CWP - CHILLED WATER PUMP
- CWPI - CHILLED WATER PUMP INTERLOCK
- EMM - ENERGY MANAGEMENT MODULE
- LVT - LOW VOLTAGE TERMINAL STRIP
- SPT - SPACE TEMPERATURE

- - - FIELD POWER WIRING
- - - FIELD CONTROL WIRING
- — — FACTORY INSTALLED WIRING
- FACTORY INSTALLED OPTION



Total Unit MCA (per unit): 106.9
Total Unit MOCP (per unit): 125.0

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PSAE50D-4 WIRING DIAGRAM
(Chiller 1)

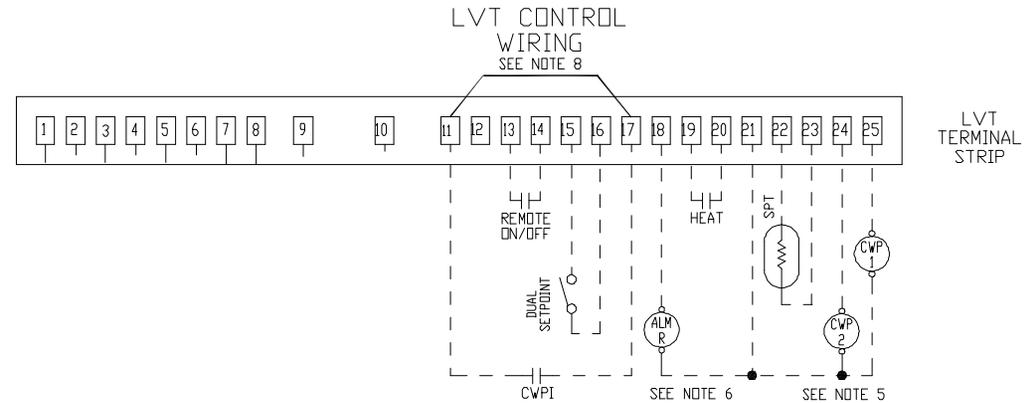
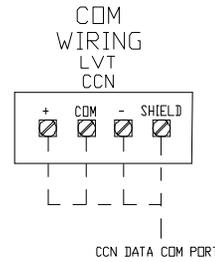
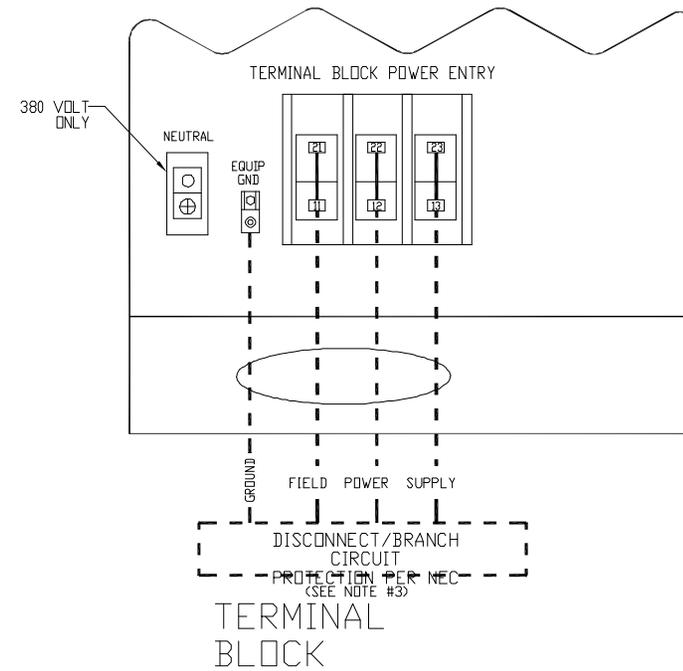
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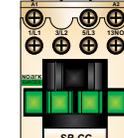
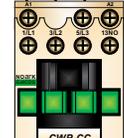
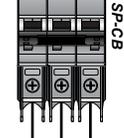
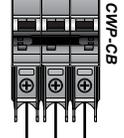
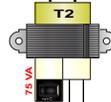
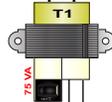
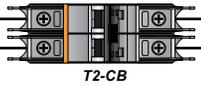
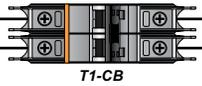
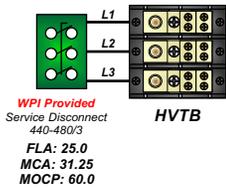


PSAE50D-4 WIRING DIAGRAM
(Chiller 2)

LEGEND

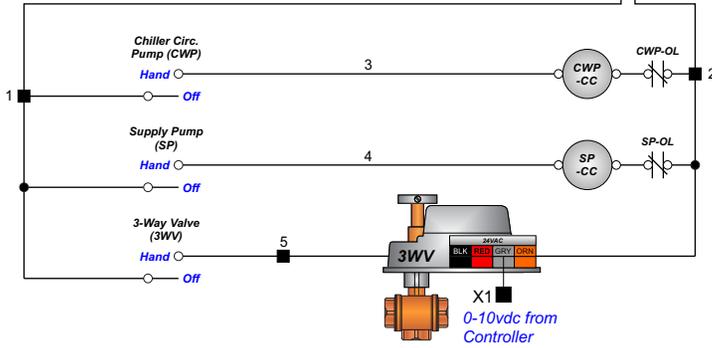
- 3WV - 3-Way valve
- CU1 - Chiller Unit 1
- CU1 - Chiller Unit 1 Relay
- CU1R-CC - Chiller Unit 1 Relay Coil Contact
- CU1-TS - Chiller Unit 1 Temperature Switch
- CU2 - Chiller Unit 2
- CU2 - Chiller Unit 2 Relay
- CU2R-CC - Chiller Unit 2 Relay Coil Contact
- CU2-TS - Chiller Unit 2 Temperature Switch
- CWP - Chiller Circulation Pump
- CWP-CC - Chiller Circulation Pump Coil Contact
- CWP-OL - Chiller Circulation Pump Overload
- HVTB - High Voltage Terminal Block
- SP - Supply Pump
- SP-CC - Supply Pump Coil Contact
- SP-OL - Supply Pump Overload
- T1 - Transformer 1
- T1-CB - Transformer 1 Circuit Breaker
- T2 - Transformer 2
- T2-CB - Transformer 2 Circuit Breaker

- ① Chiller Temp. Sensor installed in 500 Gallon Tank
- ② 3-Way Valve Temp. Sensor to be shipped loose inside control panel, to be installed on Biogas OUTLET side of heat exchanger

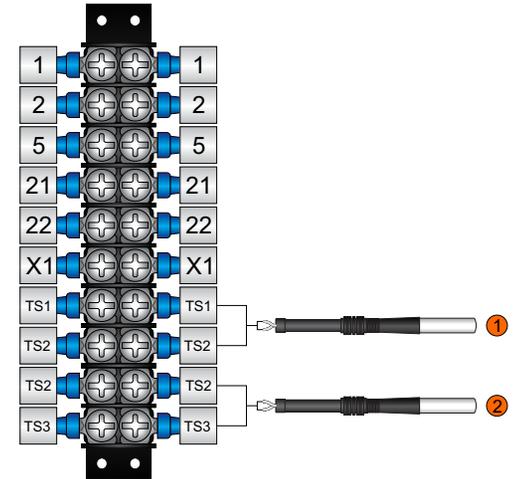


CWP
7.5HP WP326
50% Glycol
240GPM @ 60"TDH
2.5 x 2.0 FLG
TEFC
11.0 AMPS

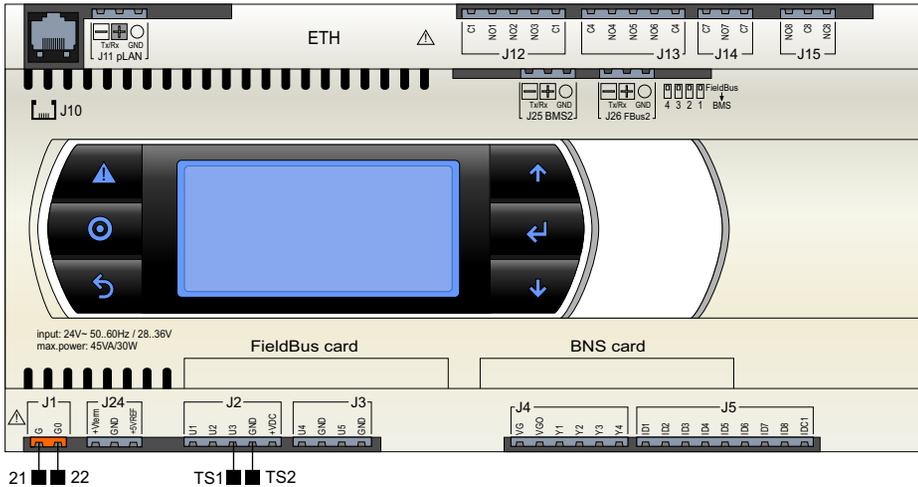
SP
10HP WP324
50% Glycol
150GPM @ 50PSI
2.5 x 1.5 FLG
TEFC
14.0 AMPS



Control Panel Terminal Strip



Microprocessor

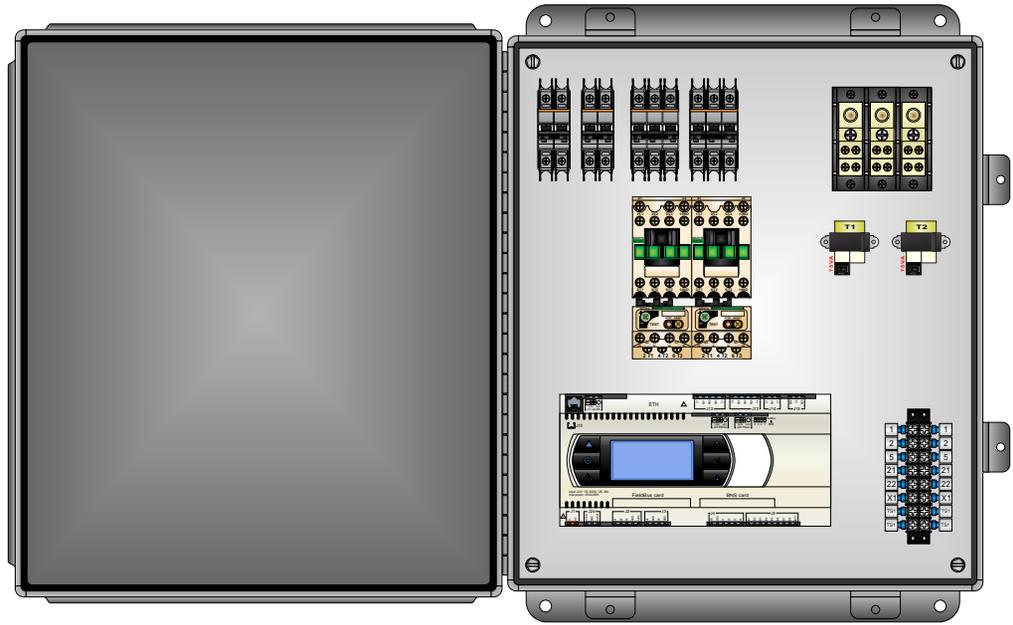
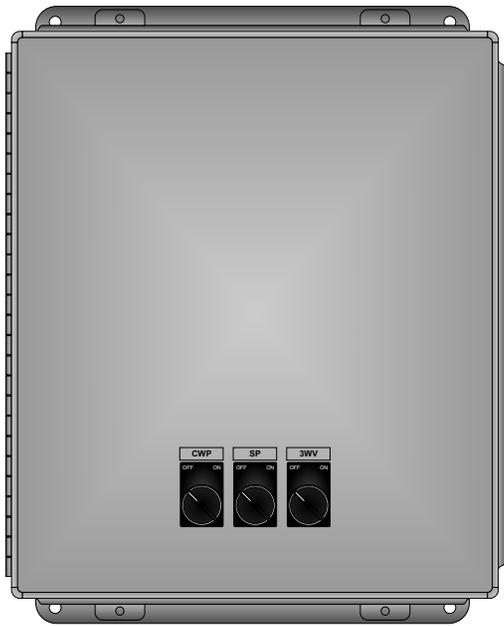


Programming Notes

- Microprocessor to connect to chiller units via MODBUS
- Microprocessor to connect to customer PLC via MODBUS
- Microprocessor to pull all safeties in from both chiller units via MODBUS
- Microprocessor to send all alarms for both chiller units to customer via MODBUS
- Microprocessor to allow customer to input set point for both chiller units via MODBUS
- Microprocessor to establish Custom Chiller Capacity Control Scheme with both chiller units via MODBUS
- Microprocessor to send 0-10vdc signal to proportional 3-way valve



C500-4-2PT WIRING DIAGRAM



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CONTROL PANEL

UCI

PG 5

Programming Notes

- Microprocessor to connect to chiller units via MODBUS
- Microprocessor to connect to customer PLC via MODBUS
- Microprocessor to pull all safeties in from both chiller units via MODBUS
- Microprocessor to send all alarms for both chiller units to customer via MODBUS
- Microprocessor to allow customer to input set point for both chiller units via MODBUS
- Microprocessor to establish Custom Chiller Capacity Control Scheme with both chiller units via MODBUS
- Microprocessor to send 0-10vdc signal to proportional 3-way valve

Microprocessor to communicate with Chiller Units to distinguish when to turn on, based on temperature

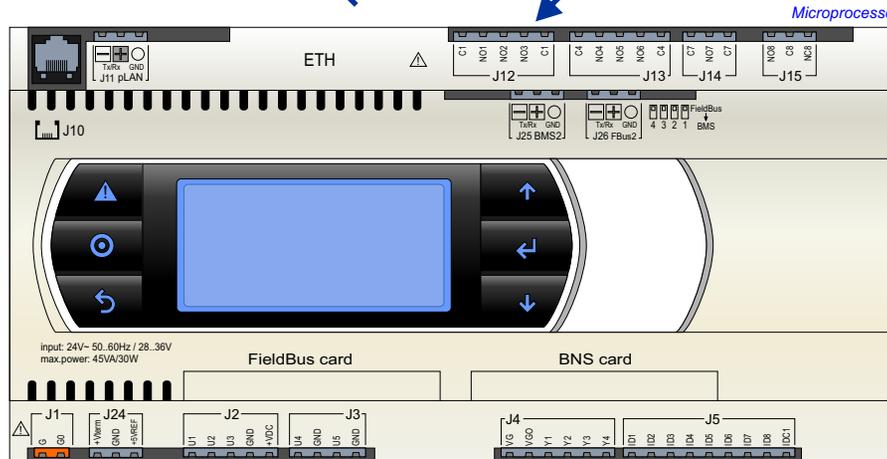
Customer PLC to communicate with Microprocessor to establish set points for Chiller Units

2ea. Chiller Units

Customer PLC

Chiller Units to communicate with Microprocessor to send Run Statuses and Alarms

Microprocessor to communicate with Customer PLC to send Run Statuses and Alarms



Operating Conditions

Flow, rated : 240.0 USgpm
 Head, rated (requested) : 60.00 ft
 Head, rated (actual) : 68.82 ft
 Suction pressure, rated / max : 0.00 / 0.00 psi.g
 NPSH available : Ample
 Site Supply Frequency : 60 Hz

Performance

Speed criteria : Synchronous
 Speed : 3500 rpm
 Impeller dia. : 4.96 in
 Impeller diameter, maximum : 5.35 in
 Impeller diameter, minimum : 4.57 in
 Efficiency : 67.99 %
 PEI (CL) : 0.95
 NPSH required / margin required : 13.32 / 0.00 ft
 Ns (imp. eye flow) / Nss (imp. eye flow) : 1,793 / 7,500 US Units
 MCSF : 44.00 USgpm
 Head max. : 94.52 ft
 Head rise to shutoff : 37.35 %
 Flow, best eff. point : 211.0 USgpm
 Flow ratio, rated / BEP : 113.72 %
 Diameter ratio (rated / max) : 92.71 %
 Head ratio (rated dia / max dia) : 64.85 %
 Cq/Ch/Ce/Cn [ANSI/HI 9.6.7-2010] : 0.99 / 0.99 / 0.91 / 1.00
 Selection status : Acceptable

Liquid

Liquid type : Propylene Glycol 50%
 Additional liquid description :
 Solids Diameter, required / pump max : 0.00 in / 0.52 in
 Solids concentration, by volume : 0.00 %
 Temperature : 35.00 deg F
 Fluid density : 1.055 / 1.055 SG
 Viscosity : 17.90 cP
 Vapor pressure, rated : 0.11 psi.a

Material

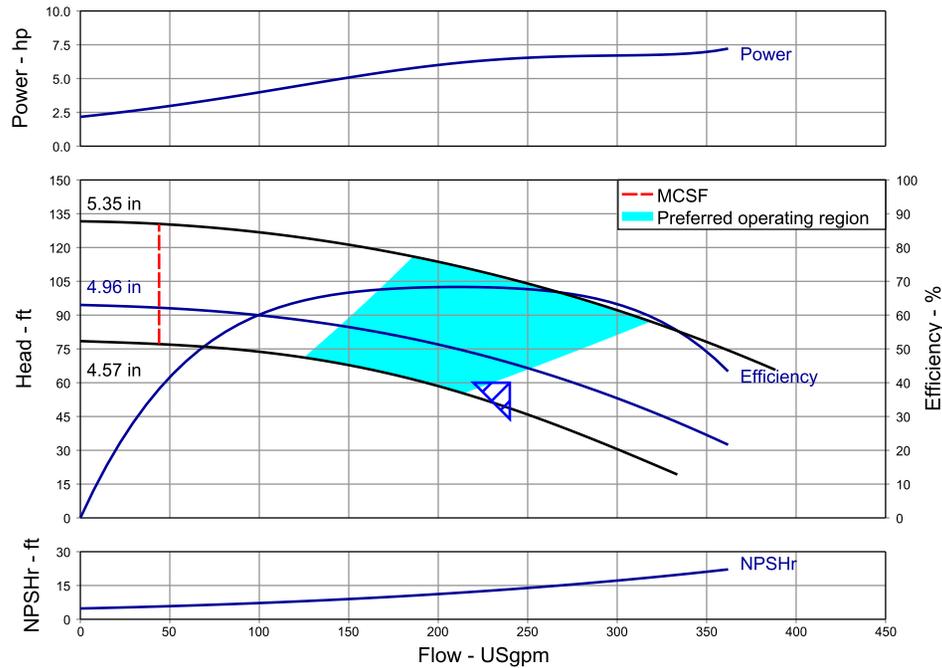
Material selected : Standard

Pressure Data

Maximum working pressure : 43.16 psi.g
 Maximum allowable working pressure : 175.0 psi.g
 Maximum allowable suction pressure : N/A
 Hydrostatic test pressure : N/A

Driver & Power Data (@Max density)

Driver sizing specification : Maximum power
 Margin over specification : 0.00 %
 Service factor : 1.00
 Power, hydraulic : 4.40 hp
 Power, rated : 6.47 hp
 Power, maximum : 7.22 hp
 Motor rating : 7.50 hp / 5.59 kW



Operating Conditions

Flow, rated : 150.0 USgpm
 Head, rated (requested) : 50.00 psi
 Head, rated (actual) : 52.49 psi
 Suction pressure, rated / max : 0.00 / 0.00 psi.g
 NPSH available : Ample
 Site Supply Frequency : 60 Hz

Performance

Speed criteria : Synchronous
 Speed : 3500 rpm
 Impeller dia. : 5.98 in
 Impeller diameter, maximum : 6.65 in
 Impeller diameter, minimum : 5.98 in
 Efficiency : 60.59 %
 PEI (CL) : 0.97
 NPSH required / margin required : 8.66 / 0.00 ft
 Ns (imp. eye flow) / Nss (imp. eye flow) : 1,361 / 6,200 US Units
 MCSF : 44.00 USgpm
 Head max. : 64.15 psi
 Head rise to shutoff : 22.22 %
 Flow, best eff. point : 179.9 USgpm
 Flow ratio, rated / BEP : 83.37 %
 Diameter ratio (rated / max) : 89.92 %
 Head ratio (rated dia / max dia) : 76.35 %
 Cq/Ch/Ce/Cn [ANSI/HI 9.6.7-2010] : 0.99 / 0.99 / 0.90 / 1.00
 Selection status : Acceptable

Liquid

Liquid type : Propylene Glycol 50%
 Additional liquid description :
 Solids Diameter, required / pump max : 0.00 in / 0.31 in
 Solids concentration, by volume : 0.00 %
 Temperature : 35.00 deg F
 Fluid density : 1.055 / 1.055 SG
 Viscosity : 17.90 cP
 Vapor pressure, rated : 0.11 psi.a

Material

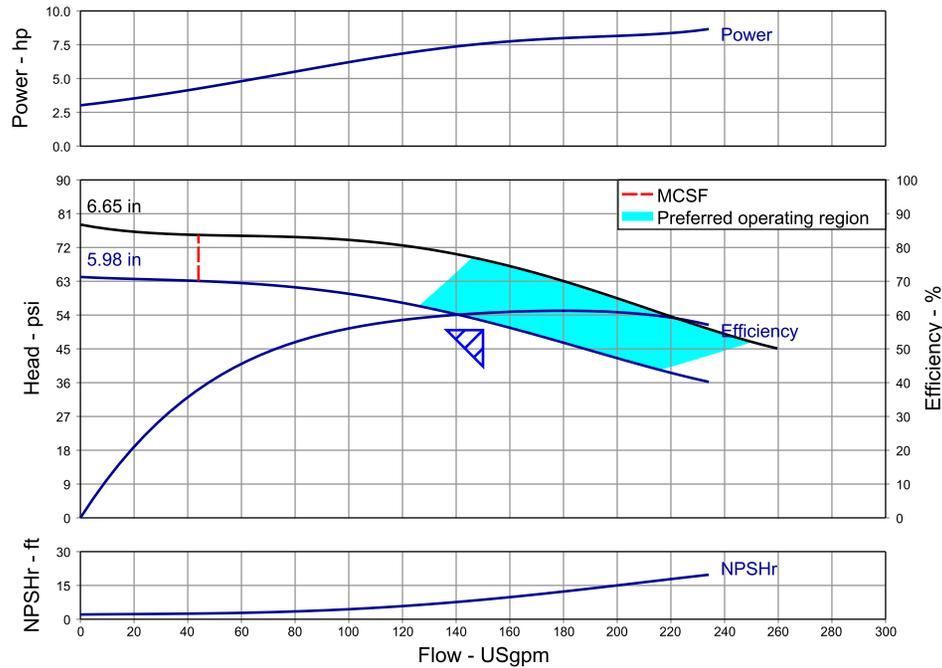
Material selected : Standard

Pressure Data

Maximum working pressure : 64.15 psi.g
 Maximum allowable working pressure : 175.0 psi.g
 Maximum allowable suction pressure : N/A
 Hydrostatic test pressure : N/A

Driver & Power Data (@Max density)

Driver sizing specification : Maximum power
 Margin over specification : 0.00 %
 Service factor : 1.00
 Power, hydraulic : 4.59 hp
 Power, rated : 7.58 hp
 Power, maximum : 8.66 hp
 Motor rating : 10.00 hp / 7.46 kW





Submittal Number: 137 Rev. 2

Project:	122025.
Project Name:	Dodge City KS Package 3 - System Expansion

To:	From:
Nicole Franken / Ever Villalobos	Jason Brady
Professional Engineering Consultants	Utility Contractors Inc
303 South Topeka	1930 S Hoover, Suite 100 PO Box 9592
Wichita, KS 67202	Wichita, KS 67277-0592

Submittal Item	Status	Submitted Date	Copies	Date Due
1 : 113761-01 Biogas Air-Cooled Chiller System		01/23/2024	1	02/06/2024

Comments:
Warranty Information and cut sheets for ball cone check valve, 3-way valve, and tank insulation provided per PEC comments on Rev1 .

CONTRACTOR'S REVIEW: This submittal has been reviewed for general compliance with the plans and specifications.

By: Jason Brady
Jason Brady, Utility Contractors Inc

Date: 1/23/2024

SUBMITTAL REVIEW	
<input checked="" type="checkbox"/> REVIEWED <input type="checkbox"/> MAKE CORRECTIONS NOTED If checked above, fabrication MAY be undertaken. Review does not authorize changes to Contract Sum unless stated in a Change Order. _____ If checked below, fabrication MAY NOT be undertaken. Resubmit corrected copies for final approval. Correction shall be limited to items marked. <input type="checkbox"/> REVISE AND RESUBMIT <input type="checkbox"/> REJECTED <small>5/10</small>	<p>Reviewed is only for general conformance with the design concept of the project. Contractor at all times remains solely responsible for compliance with the Contract Documents, including dimensions and safety analyses. Deviations are not approved unless Contractor has in writing called Engineer's attention to such deviation at the time of submission and Engineer has in writing approved the specific deviation. No acceptance by Engineer relieves Contractor from responsibility for errors or omissions in Compliance Submittals.</p>  <p>PROFESSIONAL ENGINEERING CONSULTANTS, P.A. BY <u>Nicole Franken</u> DATE <u>2/8/2024</u></p>

See notes.

WHALEY PRODUCTS, INC.

Precision Design, Engineering, and Manufacturing of Industrial Cooling and Heating Equipment

940-569-4116 * sales@whaleyproducts.com * 2150 S. Central Expressway, Ste. 200, McKinney, TX 75070 * 526 Charlotte Ave., Burkburnett, TX 76354

Warranty - UCI Upgraded

Chiller Warranty II*

- 2 Year Entire Unit Parts Replacement Warranty (Parts Only)
- 24 Month Limited Labor Warranty (Labor)

Other Equipment

(Pump Tank Skids, Heat Transfer Skids, etc.)

- 2 Year Entire Unit Parts Replacement Warranty (Parts Only)
- 24 Month Limited Labor Warranty (Labor)

All equipment is covered under a limited warranty by Whaley Products, Inc. to be free from defects in workmanship and material when used under normal recommended conditions for a specified period.

The company's (WPI) obligation is limited to replacement F.O.B. the factory any parts which are returned prepaid within one year of the shipment of the equipment to the original purchaser and which in the company's opinion are defective. Any replacement part assumes the used portion of this warranty.

This warranty also includes limited labor. WPI will allow up to \$75 per hour labor costs for replacement of the below mentioned parts for the amount of hours described in association with that part. It does not include labor charges for adjustment repairs or refrigerant replacement. This warranty does not apply to any equipment which in the company's opinion has been subjected to misuse, negligence, or operation in excess of recommended limits. This includes freezing of the evaporator or equipment that has been repaired or altered without notification prior to work being done. The limited labor warranty will only be valid for 90 days FROM SHIPMENT DATE.

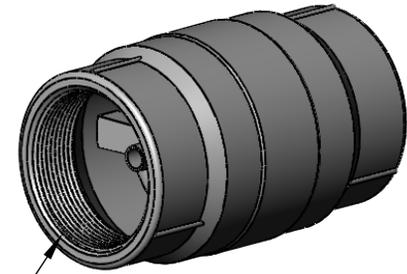
Part Being Replaced	Labor Hours Allowed
Compressor	4.00
Evaporator	2.00
Pump	1.00
Condensing Coil	4.00
TXV	0.75
Filter Dryer	0.75
Fan / Fan Assembly	0.50
Encapsulated Pressure Switch	1.00
Adjustable Pressure Switch	0.50

The company is not liable for any incidental, consequential or special damages or expenses. The company's obligation for parts not furnished as components of its manufactured equipment is limited to the warranty of the manufacturers of said parts. Any sales, use, excise, or other tax incident to the replacement of parts under this warranty is the responsibility of the purchaser.

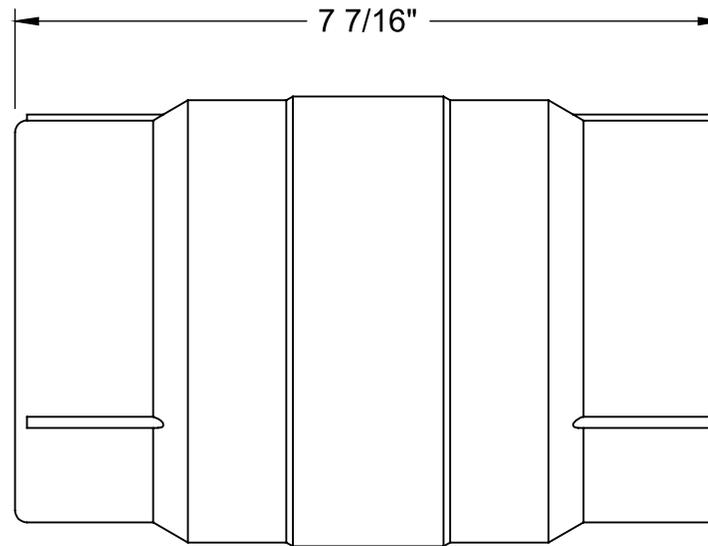
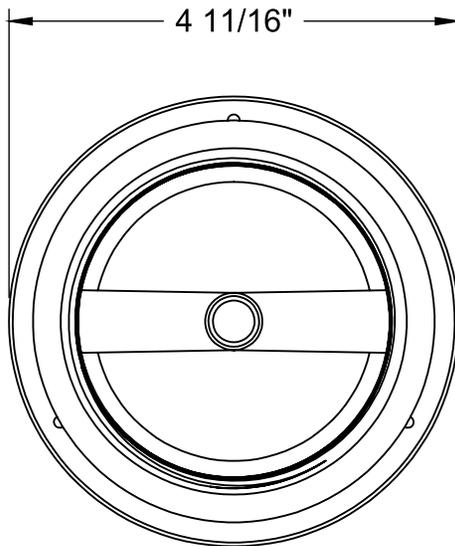
The company neither assumes, nor authorizes any other persons to assume for it, any liability in connection with

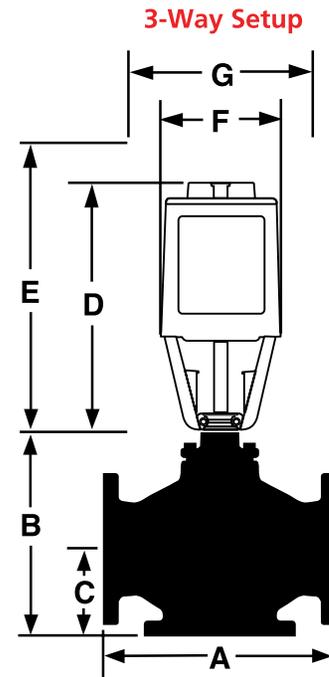
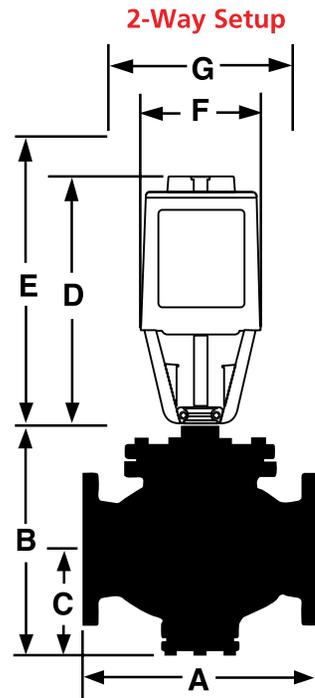
the sale of its equipment not expressed in this warranty.

Warranty is invalid if the chiller is not operated with proper amount of freeze protection per Whaley recommendation (%Ethylene or %Propylene glycol) and proper filtration. Upgraded evaporators and glycol/water heat exchanger can be used if glycol is prohibited in the process. Contact WPI's application engineering for assistance. Warranty is also invalid if the equipment is not installed by a licensed mechanical/refrigeration contractor.



3 NPT Pipe Size, 8 Threads Per Inch,
1.20" Thread Engagement





3-Way DG Dimensions - For VAL Series Actuator

Valve Models	Size in.(mm)	Flow Coefficient		Stroke in.(mm)	A	B	C	D Actuator Height	E Service Height	F Actuator Width	G Service Width	Weight ¹	
		Cv	Kv									lbs.	kg.
DG250-3-63	2-1/2 (65)	63	54	3/4 (20)	10-7/8 (276)	9-3/8 (239)	3-3/4 (95)	14-3/4 (375)	22-3/4 (578)	7 (178)	25 (635)	50	23
DG3-3-100	3 (80)	100	85	3/4 (20)	11-3/4 (299)	10-3/4 (272)	4-3/8 (111)					65	30
DG4-3-160	4 (100)	160	137	1-1/2 (40)	13-7/8 (352)	12-1/2 (318)	5-1/8 (132)					110	50
DG5-3-250	5 (125)	250	214	1-1/2 (40)	15-3/4 (400)	13-3/4 (349)	5-3/4 (146)					136	62
DG6-3-400	6 (150)	400	340	1-1/2 (40)	17-3/4 (451)	15-1/2 (393)	6-5/8 (167)					141	64

¹ - Weights are for Valve Only.

- VAL-SRS07P Actuator Weight 18.9 lb. (8.6 kg)

- VAL-SRS15P Actuator Weight 22.0 lb. (10.0 kg)



TECHNICAL DATA SHEET

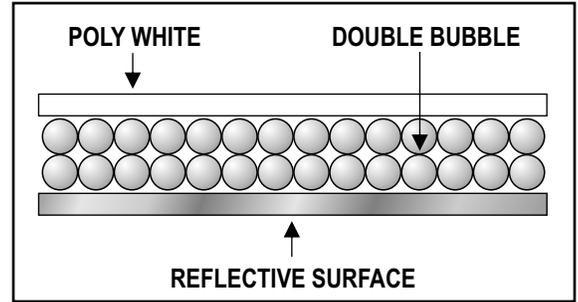
POLY - REFLECTIVE INSULATION

www.rFOIL.com

Product Description:

rFOIL™ Reflective Bubble Insulation is a single or double layer of polyethylene bubbles, sandwiched between a highly reflective surface and a white polyethylene sheet. It is ideal for many residential and commercial building applications, including walls and ceilings.

Adding rFOIL™ Reflective Bubble Insulation to your construction project improves the insulation value of the building envelope and significantly increases its energy efficiency. As well, all products in this line are classified as Class 1 / Class A in accordance with the ASTM-E84 fire test standard.



Stock Sizes Available (Rolls):

Size	48" X 125'	72" X 102'	72" X 125'
Part No.	2510-48-125	2512-72-102	2521-72-125
	2512-48-125	2513-72-102	2520-72-125
	2513-48-125	2522-72-102	
	2520-48-125	2523-72-102	
	2522-48-125		
	2523-48-125		

Features:

- Class 1/Class A Fire Rating
- Neat, washable white polyethylene surface
- Double bubble provides an effective thermal break
- 97% Reflectivity for optimal thermal performance
- Radiant and vapor barrier all-in-one
- Available in Square Edge, Quick-Seam or Tab Two

Applications:

- Metal Buildings (roof, walls)
- Residential Wall Cavities
- Post Frame Buildings

Physical Properties	Test	Reflective / Double Bubble / White Poly
NOMINAL THICKNESS	—	5/16"
WEIGHT	—	1.25 oz / sq. ft.
TEMPERATURE RANGE	ASTM C411	-50°F to 180°F
FIRE RATING	ASTM E84	CLASS 1 / CLASS A
THERMAL RESISTANCE	ASTM C1224	R-6.6 to R-15.2 (Horizontal & Downwards)
EMISSIVITY	ASTM C1371	0.03
REFLECTIVITY	ASTM E903	0.97
WATER VAPOR PERMEABILITY	ASTM E96	<0.01 Perms
RESISTANCE TO FUNGI & BACTERIA	ASTM C1338	DOES NOT PROMOTE GROWTH





TECHNICAL DATA SHEET

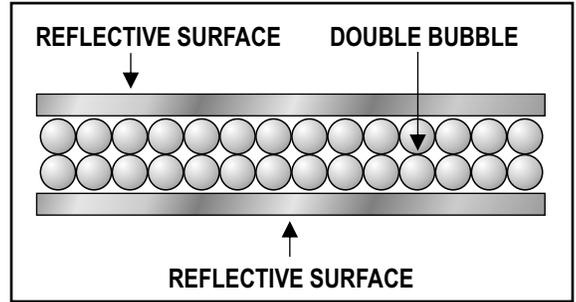
REFLECTIVE INSULATION

www.rFOIL.com

Product Description:

rFOIL™ Reflective Insulation is a double layer of polyethylene bubbles, sandwiched between two highly reflective aluminum surfaces. This product has been specifically designed for insulating commercial and residential building assemblies, reducing the amount of radiant heat transfer.

Typical system R-values incorporating rFOIL™ Reflective Insulation, range from R-6.6 to R-15.2, and all products in this line are Class 1 / Class A in accordance with the ASTM E84 fire test standard. In addition to increasing the thermal resistance of a building envelope, all rFOIL™ bubble-core products are approved vapor barriers.



Stock Sizes Available (Rolls):

Size	48" X 125'	72" X 125'	72" X 102'
Part No.	2210-48-125 2212-48-125 2220-48-125	2220-72-125	2222-72-102

This is the product Whaley indicated is used for the tanks in email on 2/7/2024.

Features:

- Class 1/Class A Fire Rating
- Unaffected by moisture & controls condensation
- Double bubble provides an effective thermal break
- 97% Reflectivity for optimal thermal performance
- Radiant barrier and vapor barrier all-in-one
- Available in Square Edge or Tab Two format

Applications:

- Crawlspace
- Basement Insulation
- Residential Insulation
- Cathedral Ceiling

Physical Properties	Test	Reflective / Double Bubble / Reflective
NOMINAL THICKNESS	—	5/16"
WEIGHT	—	1.25 oz / sq. ft.
TEMPERATURE RANGE	ASTM C411	-50°F to 180°F
FIRE RATING	ASTM E84	CLASS 1 / CLASS A
THERMAL RESISTANCE (SYSTEM)	ASTM C1224	R-15.2 (Heat Flow Down)
		R-15.2 (Horizontal Heat Flow)
EMISSIVITY	ASTM C1371	0.03
REFLECTIVITY	ASTM E903	0.97
WATER VAPOR PERMEABILITY	ASTM E96	<0.02 Perms
RESISTANCE TO FUNGI & BACTERIA	ASTM C1338	DOES NOT PROMOTE GROWTH





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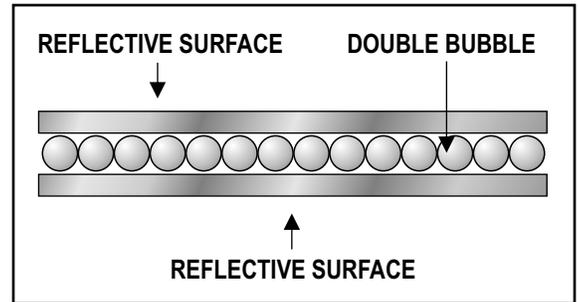
rFOIL286™ - Fire Retardant Insulation

www.rFOIL.com

Product Description:

rFOIL286™ reflective insulation is a 1/4" thick layer of polyethylene bubbles, bonded to - and sandwiched between - two highly reflective surfaces, or a reflective surface and a white polyethylene sheet.

rFOIL286™ is specifically designed for applications that require code compliance for exposed insulation. Not only does this product meet Class 1 / Class A requirements according to ASTM E84, but it also passes the NFPA 286 full room burn test. This is the ideal insulation for metal buildings and other structures where the insulation may be exposed.



Stock Sizes Available (Rolls):

Size	48" X 125'	72" X 102'	48" X 125'	72" X 102'	48" X 125'
Part No.	6272-48-125	6272-72-102	6273-48-125	6273-72-102	6572-48-125

Size	72" X 102'	48" X 125'	72" X 102'
Part No.	6572-72-102	6573-48-125	6573-72-102

Features:

- Available in Tab Two or Quick-Seam
- Approved vapor barrier protection
- Ideal for exposed insulation applications
- Passes NFPA 286 full room burn test!
- Insect and rodent resistant
- Inhibits the formation of mold, mildew, and fungi

Applications:

- Metal Building Walls
- Metal Building Retrofit
- Mini-Storage Insulation

Physical Properties	Test	Reflective / 1/4" Bubble / Reflective
NOMINAL THICKNESS	—	1/4"
WEIGHT	—	0.78 oz / sq. ft.
TEMPERATURE RANGE	ASTM C411	-50°F to 180°F
FIRE RATING - SURFACE BURN	ASTM E84	CLASS 1 / CLASS A
FIRE RATING - FULL ROOM BURN	NFPA 286	PASSES
EMISSION	ASTM C1371	0.04
REFLECTIVITY	ASTM E903	0.96
WATER VAPOR PERMEABILITY	ASTM E96	<0.01 Perms
RESISTANCE TO FUNGI & BACTERIA	ASTM C1338	DOES NOT PROMOTE GROWTH
TENSILE & ELONGATION	ASTM D882	Machine 69 lbs / sq. in. (173%)
TENSILE & ELONGATION	ASTM D882	Transverse 57 lbs / sq. in. (194%)





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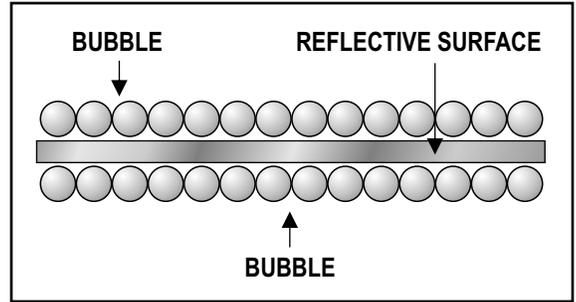
ULTRA (CBF) CONCRETE BARRIER FOIL

www.rFOIL.com

Product Description:

rFOIL™ Ultra CBF is a patented under-concrete insulation product, comprised of a highly reflective aluminum sheet, sandwiched between two layers of industrial strength polyethylene bubbles. This unique design protects the reflective surface from corrosive chemicals, and ensures that an airspace is maintained for optimum thermal performance.

Installing Ultra CBF can result in noticeably warmer floors, faster slab response times and reduced BTU consumption of radiant heating systems. Sealing seams with rFOIL™ White Poly Tape ensures a uniform insulator and vapor barrier.



Stock Sizes Available (Rolls):

Size	48" X 125'	16" X 125'
Part No.	1620-48-125	1620-16-125

Features:

- Can easily be installed over rough grade
- Superior bubble strength withstands jobsite traffic
- Methane, radiant and vapor barrier all-in-one
- Helps direct radiant heat into the living space
- Can easily be formed around plumbing, wiring etc.
- Installation is quick, safe and easy

Applications:

- Radiant heating in a concrete floor
- Duct wrap for below-grade HVAC
- Radiant heating with a subfloor
- Radiant heating in a snowmelt

Physical Properties	Test	Reflective / 1/4" Bubble / Reflective
NOMINAL THICKNESS	—	5/16"
WEIGHT	—	1.35 oz / sq. ft.
TEMPERATURE RANGE	ASTM C411	-50°F to 180°F
FIRE RATING	ASTM E84	CLASS 2 / CLASS B
COMPRESSION STRENGTH	—	140 psi
FLEXIBILITY & PLIABILITY	TAPPI T512	No Cracking or Delamination
BURSTING STRENGTH	ASTM D751	180 psi
THERMAL RESISTANCE	ASTM C236*	R-3.8*
WATER VAPOR TRANSMISSION	ASTM E96	<0.02 Perms
RESISTANCE TO FUNGI & BACTERIA	ASTM C1338	DOES NOT PROMOTE GROWTH

* ASTM C236 modified to demonstrate the radiation effect of reflective foil on reducing the energy input at the room-side of the Guarded Hot Box.





TECHNICAL DATA SHEET

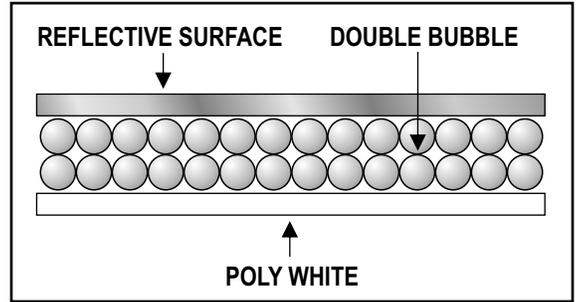
CONCRETE UNDERPAD

www.rFOIL.com

Product Description:

rFOIL™ Concrete Underpad consists of a double layer of polyethylene bubbles, sandwiched between an aluminum surface, and a white polyethylene sheet. It is ideal for many under-slab insulation applications, as a protective film is applied to the aluminum surface - virtually eliminating the risk of corrosion.

Using rFOIL™ Concrete Underpad in your construction project can improve the efficiency of radiant heating systems and significantly decreases heat loss to the ground below.



Stock Sizes Available (Rolls):

Size	48" X 125'	72" X 125'	96" X 125'
Part No.	4320-48-125	4320-72-125	4320-96-125

Features:

- Protective coating over aluminum surface
- Reduces heat loss to the ground below
- Quick, safe and easy to install
- Double bubble provides an effective thermal break
- Approved vapor barrier
- Available in 500, 750, and 1000 sq. ft. rolls.

Applications:

- Radiant heating applications
- Under-slab insulation

Physical Properties	Test	Reflective / 1/4" Bubble / Reflective
NOMINAL THICKNESS	—	5/16"
WEIGHT	—	1.25 oz / sq. ft.
TEMPERATURE RANGE	ASTM C411	-50°F to 180°F
FIRE RATING	ASTM E84	CLASS 2 / CLASS B
LINEAR SHRINKAGE	—	None
PLIABILITY	CAN/CGSB 51.33	No Cracking
TENSILE & ELONGATION	ASTM D882	57 lbs./in ² / 194%
WATER VAPOR PERMEABILITY	ASTM E96	<0.01 Perms
RESISTANCE TO FUNGI & BACTERIA	ASTM C1338	DOES NOT PROMOTE GROWTH





TECHNICAL DATA SHEET

rFOIL™ TAPES

www.rFOIL.com

Product Description:

rFOIL™ TAPES are made of a special UV metalized polypropylene film, with a high tack acrylic adhesive. These tapes can help maintain a complete seal in radiant barrier systems and are resistant to moisture, flame spread and smoke generation. High temperature resistance makes rFOIL™ TAPES ideal for use in heat repelling applications.



Available Configurations:

rFOIL™ TAPES can be obtained with either a metalized aluminum surface or a durable white poly surface. The acrylic adhesive was specially formulated for excellent performance at sub-freezing temperatures, without compromising ease of application.

Stock Items:

FOIL TAPE

WHITE POLY TAPE

Size	3" X 150'	2" X 150'	2" X 30'		3" X 150'	2" X 150'
Part No.	15213	15212	IK00011		15853	15852

Features:

- Pressure-sensitive acrylic adhesive forms a bond that strengthens with time
- In exposed applications, rFOIL tapes help create a seamless finish to interior walls and ceiling
- Maintain a continuous vapor barrier and constant insulator

Applications:

WHITE POLY TAPE

ALUMINUM (FOIL) TAPE

- Seam sealing & repair of any POLY Barrier rFOIL™
- Sealing seams in all under-concrete applications
- Seam sealing of any FOIL-faced insulation
- Repairing radiant barrier rips and tears

Physical Properties	FOIL TAPE	WHITE POLY TAPE
THICKNESS	3.0 MILS (0.003")	3.0 MILS (0.003")
ADHESION	40 oz. / in.	40 oz. / in.
PEEL	98 oz. / in. width	16 oz. / in. width
BACKING	UV Metalized Polypropylene	UV Metalized Polypropylene
ELONGATION	140%	140%
TENSILE STRENGTH	30 lbs. / in.	30 lbs. / in.
APPLICATION TEMPERATURE	-10°C to 50°C	-10°C to 50°C
TEMPERATURE RESISTANCE	-40°C to 140°C	-10°C to 100°C
ADHESIVE	Acrylic	Acrylic

