



\*\*\* PUBLIC NOTICE \*\*\*

**NOTICE OF A CITY COUNCIL REGULAR SESSION IMMEDIATELY FOLLOWING  
A WORKSHOP SESSION  
OF THE CITY OF CORINTH**

**Thursday, January 18, 2018, 5:30 P.M.  
CITY HALL - 3300 CORINTH PARKWAY**

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**CALL TO ORDER:**

**WORKSHOP BUSINESS AGENDA**

1. Discuss Regular Meeting Items on Regular Session Agenda, including the consideration of closed session items as set forth in the Closed Session agenda items below.
2. Discussion regarding amending the Comprehensive Zoning Ordinance being a part of the Unified Development Code (UDC) Ordinance No. 13-05-02-08, as amended, Section 2.09.01 Landscape Regulations, Table 15: Approved Plant Material List.

**ADJOURN WORKSHOP SESSION**

**\*NOTICE IS HEREBY GIVEN** of a Regular Session of the Corinth City Council to be held at Corinth City Hall located at 3300 Corinth Parkway, Corinth, Texas. The agenda is as follows:

**CALL TO ORDER, INVOCATION, PLEDGE OF ALLEGIANCE & TEXAS PLEDGE:**

**"Honor the Texas Flag: I pledge allegiance to thee, Texas, one state under God, one and indivisible".**

**PROCLAMATIONS:**

- Proclaiming Drexler Shiloh Rowe for his Leadership and Service to the Community and his rank as Eagle Scout.
- Proclaiming Grayson Hurst for his Dedication and Act of Kindness to Denton Animal Shelter.
- Proclaiming Emerson Hurst for her Dedication and Act of Kindness to the Corinth Police Department.

**PRESENTATION:**

Receive a presentation and hold a discussion on the Community Waste Disposal Annual Review.

**CONSENT AGENDA**

All matters listed under the Consent Agenda are considered to be routine and will be enacted in one motion. Should the Mayor, a Councilmember, or any citizen desire discussion of any Item that Item will be removed from the Consent Agenda and will be considered separately.

1. Consider and act on minutes from the January 4, 2018 Workshop Session.
2. Consider and act on minutes from the January 4, 2018 Regular Session.
3. Consider and act on an ordinance approving an amendment to the fiscal year 2017-2018 Budget and Annual Program of Services to provide for expenditures of additional funds from the Police Confiscation Fund.

#### **CITIZENS COMMENTS**

In accordance with the Open Meetings Act, Council is prohibited from acting on or discussing (other than factual responses to specific questions) any items brought before them at this time. Citizen's comments will be limited to 3 minutes. Comments about any of the Council agenda items are appreciated by the Council and may be taken into consideration at this time or during that agenda item. Please complete a Public Input form if you desire to address the City Council. All remarks and questions addressed to the Council shall be addressed to the Council as a whole and not to any individual member thereof. Section 30.041B Code of Ordinance of the City of Corinth.

#### **PUBLIC HEARING**

4. **PUBLIC HEARING:** TO HEAR PUBLIC OPINION REGARDING A REQUEST FROM THE APPLICANT TREY WALLETT, AUTHORIZED REPRESENTATIVE FOR THE PROPERTY OWNER, CROSSPOINTE COMMUNITY CHURCH OF CORINTH FOR AN AMENDMENT TO THE COMPREHENSIVE PLAN FUTURE LAND USE MAP DESIGNATION FROM HIGH DENSITY RESIDENTIAL (MULTI-FAMILY) TO LOW DENSITY RESIDENTIAL (SINGLE-FAMILY) ON APPROXIMATELY 6.38 ACRES OF LAND SITUATED IN THE E. MARSH SURVEY, ABSTRACT NO. 833, IN THE CITY OF CORINTH, DENTON COUNTY, TEXAS.

**BUSINESS:** Consider and act on an ordinance to amend the Comprehensive Plan Future Land Use Designation from High Density Residential (Multi-Family) to Low Density Residential (Single-Family) on approximately 6.38 acres of land situated in the E. Marsh Survey, Abstract No. 833, in the City of Corinth, Denton County, Texas. (This property is located on the southwest corner of Lake Sharon Drive and Tower Ridge Road.)

5. **PUBLIC HEARING:** TO HEAR PUBLIC OPINION REGARDING A REQUEST FROM THE APPLICANT TREY WALLETT, AUTHORIZED REPRESENTATIVE FOR THE PROPERTY OWNER, CROSSPOINTE COMMUNITY CHURCH OF CORINTH FOR A ZONING CHANGE FROM MF-3, MULTI-FAMILY RESIDENTIAL TO PLANNED DEVELOPMENT (PD) SF-4, SINGLE-FAMILY RESIDENTIAL (DETACHED) ON APPROXIMATELY 6.38 ACRES OF LAND SITUATED IN THE E. MARSH SURVEY, ABSTRACT NO. 833, IN THE CITY OF CORINTH, DENTON COUNTY, TEXAS.

**BUSINESS:** Consider and act on an ordinance for a zoning change from MF-3, Multi-Family Residential to Planned Development (PD) SF-4, Single-Family Residential (Detached) on approximately 6.38 acres of land situated in the E. Marsh Survey, Abstract No. 833, in the City of Corinth, Denton County, Texas. (This property is located on the southwest corner of Lake Sharon Drive and Tower Ridge Road.)

#### **BUSINESS AGENDA**

6. Consider and Act on a proposal from JCI Controls, Inc. to install and program a new Heating/Ventilation/Air-Conditioning system in City Hall, replacing worn and inefficient units.
7. Consider and act on a 1 year extension of Contract with Community Waste Disposal for solid waste and recycling services.

**COUNCIL COMMENTS & FUTURE AGENDA ITEMS**

The purpose of this section is to allow each councilmember the opportunity to provide general updates and/or comments to fellow councilmembers, the public, and/or staff on any issues or future events. Also, in accordance with Section 30.085 of the Code of Ordinances, at this time, any Councilmember may direct that an item be added as a business item to any future agenda.

**CLOSED SESSION**

The City Council will convene in such executive or (closed session) to consider any matters regarding any of the above agenda items as well as the following matters pursuant to Chapter 551 of the Texas Government Code.

**Section 551.071.** (1) Private consultation with its attorney to seek advice about pending or contemplated litigation; and/or settlement offer; and/or (2) a matter in which the duty of the attorney to the government body under the Texas Disciplinary Rules of Professional Conduct of the State of Texas clearly conflicts with chapter 551.

**Section 551.072.** To deliberate the purchase, exchange, lease or value of real property if deliberation in an open meeting would have a detrimental effect on the position of the governmental body in negotiations with a third person.

**Section 551.074.** To deliberate the appointment, employment, evaluation, reassignment, duties, discipline, or dismissal of a public officer or employee; or to hear a complaint or charge against an officer or employee.

**Section 551.087.** To deliberate or discuss regarding commercial or financial information that the governmental body has received from a business prospect that the governmental body seeks to have locate, stay, or expand in or near the territory of the governmental body and with which the governmental body is conducting economic development negotiations; or to deliberate the offer of a financial or other incentive to a business prospect.

After discussion of any matters in closed session, any final action or vote taken will be in public by the City Council. City Council shall have the right at any time to seek legal advice in Closed Session from its Attorney on any agenda item, whether posted for Closed Session or not.

RECONVENE IN OPEN SESSION TO TAKE ACTION, IF NECESSARY, ON CLOSED SESSION ITEMS.

**ADJOURN:**

Posted this 11 day of January, 2018 at 5:00 p.m. on the bulletin board at Corinth City Hall.

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Kimberly Pence, City Secretary  
City of Corinth, Texas

**WORKSHOP BUSINESS ITEM 2.**

**City Council Regular and Workshop Session**

**Meeting Date:** 01/18/2018  
**Title:** Landscape Regulations Amendment Unified Development Code  
**Submitted For:** Fred Gibbs, Director  
**Submitted By:** Barbara Cubbage, Planning & Development Manager  
**City Manager Review: Approval:** Bob Hart, City Manager

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**AGENDA ITEM**

Discussion regarding amending the Comprehensive Zoning Ordinance being a part of the Unified Development Code (UDC) Ordinance No. 13-05-02-08, as amended, Section 2.09.01 Landscape Regulations, Table 15: Approved Plant Material List.

**AGENDA ITEM SUMMARY/BACKGROUND**

The Unified Development Code was adopted by City Council in May 2013. Periodically changes and updates are needed to improve the predictability and flexibility of the City’s development process. City Council specified earlier this year that native plants should be added to the plant list found in the Landscape Section of the UDC. The proposed changes to the Approved Plant Material List found in Table 15 attached adds a Grasses Section to the current list as well updates the plant list to remove duplicates and correct errors. Both the current list and the proposed list are attached. In addition UDC Section 2.09.01 Landscaping Regulations is attached.

**RECOMMENDATION**

Consider changes and additions to the Recommended Plant List

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**Attachments**

Current Table Approved Plant List  
Proposed Table Approved Plant List  
Landscaping Regulations

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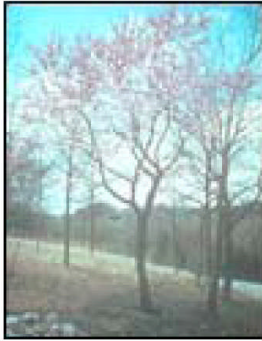
1. The use of artificial plants or turf are expressly prohibited for compliance with this UDC.
2. Use of drought tolerant plants are encouraged to meet the requirements of this UDC.
3. The following is the approved plant material list for plant materials required in this UDC:

*Table 15: Approved Plant Material List*


<i>Type of Planting</i>	<i>Common Name</i>	<i>Botanical Name</i>
<div data-bbox="212 674 574 999" style="text-align: center;">  </div> <p data-bbox="233 1115 553 1157" style="text-align: center;"><b>Large Trees (Shade)</b></p> <div data-bbox="228 1304 558 1549" style="text-align: center;">  </div>	Caddo Maple	Acer barbatum "Caddo"
	*Pecan	Carya illinoensis
	Shagbark Hickory	Carya ovata
	Deodar Cedar	Cedrus deodara
	Texas Persimmon	Diospyros virginiana
	Russian Olive	Eleagnus anigustifolia
	Honey locust	Gleditsia triacanthos
	Black Walnut	Juglans nigra
	Eastern Black Walnut	Juglans nigra
	*Eastern Red Cedar	Juniperus virginiana
	Red Cedar	Juniperus virginiana
	Sweetgum	Liquidambar styraciflua
	*Southern Magnolia	Magnolia grandifolia

*Chinese Pistachio	<i>Pistacia chinensi</i>
Texas Pistache	<i>Pistacia texana</i>
*Bur Oak	<i>Quercus macrocarpa</i>
*Chinquapin Oak	<i>Quercus muhlenbergii</i>
*Shumard Oak	<i>Quercus shumardi</i>
*Texas Red Oak	<i>Quercus shumardi</i> "Texana"
*Live Oak	<i>Quercus virginiana</i>
Western Soapberry	<i>Sapindus drummondii</i>
*Bald Cypress	<i>Taxodium distichum</i>
Winged Elm	<i>Ulmus alata</i>
American Elm	<i>Ulmus americana</i>
Cedar Elm	<i>Ulmus crassifolia</i>
*Chinese Elm	<i>Ulmus parvifolia</i>
Lacebark Elm	<i>Ulmus parvifolia</i>
Siberian Elm	<i>Ulmus pumila</i>
River Birch	<i>Betula nigra</i>
Eastern Redbud	<i>Cercis canadensis</i>
*Redbud	<i>Cercis canadensis</i>


**Small Trees (Ornamental)**



*Desert Willow	Chilopsis linearis
Dogwood	Cornus florida
*Possumhaw Holly	Ilex decidua
Eastern Platka Holly	Ilex opaca
Foster Holly	Ilex opaca #1—#5
*Yaupon Holly	Ilex vomitoria
Golden Raintree	Koelrutaria paniculata
*Crepe Myrtle	Lagerstroernia indica
Flowering Crabapple	Malis Spp.
Wax Myrtle	Myrica cerifera
*Afghan (Eldarica) Pine	Pinus eldarica
Ornamental Plum	Prunus blireiana
Cherry Laurel	Prunus caroliniana
Purple Plum	Prunus cerasifera
*Mexican Plum	Prunus mexicana
*Callery Pear	Purus calleryana
Flowering Pear	Purus calleryana "Bradford," Capital, Aristocrat"

	Texas Sophora	Sophora affinis
	Chaste Tree	Vitex agnus-castus
<p style="text-align: center;"><b>Living Screen</b></p> 	Atlas Cedar	Cedrus atlantica "Manetti"
	Deordar cedar	Cedrus deodara
	Cryptomeria	Cryptomeria japonica
	Leyland Cypress	Cupressocyparis leylandi
	NRS Holly	Ilex aquifolium
	Burford Holly	Ilex cornuta "burfordii"
	Tree Form Holly	Ilex opaca AIT / Ilex perny
	Yaupon Holly	Ilex vomitoria
	Cedar spp.	Juniperus spp.
	Juniper spp.	Juniperus spp.
	Wax Myrtle	Myrica cerifera
	Mock Orange	Philadelphus sp.
	Fraser Photinia	Photinia xfraseri
Afghan (Eldarica) Pine	Pinus eldarica	



	Cherry Laurel	Prunus caroliniana
	Vitex	Vitex angus-castus
<p style="text-align: center;"><b>Shrubs</b></p> 	Abelia	Abelia sp.
	Barberry	Berberis sp.
	Japanese Boxwood	Buxus sp.
	Elaeagnus	Eldesnus sp.
	Dwarf Yaupon	Flex vomituria 'nana'
	Chinese Holly	Ilex cornuta
	Dwarf Burford Holly	Ilex cornuta "burfordii"
	Junipers	Juniperus spp.
	Texas Sage	Leucophyllum frutescens
	Nandina	Nandina domestica
	Fraser Photinia	Photinia xfraseri
* Appears on Corinth Approved Park Tree List		

F. Approval of Alternative Compliance A request for Alternative Compliance may be submitted and acted upon in accordance with 2.10.02. Alternative Compliance. The City Council may approve the following, based upon a finding that the proposed alternative is, at a minimum, equivalent to and meets the spirit and intent of this 2.09.01. Landscaping Regulations.

**“2.09.01, Table 15: Recommended Plant Material**

Table 1: Recommended Plant Material List		
Type of Planting	Common Name	Botanical Name
<p><b>Large Trees</b></p>   	Caddo Maple	<i>Acer saccharum</i> “Caddo”
	Pecan	<i>Carya illinoensis</i>
	Black Hickory	<i>Carya texana</i>
	Deodar Cedar	<i>Cedrus deodara</i>
	Thorn less Honey locust	<i>Gleditsia triacanthos</i> ‘inerma’
	Black Walnut	<i>Juglans nigra</i>
	Eastern Red Cedar	<i>Juniperus virginiana</i>
	Sweetgum	<i>Liquidambar styraciflua</i>
	Southern Magnolia	<i>Magnolia grandiflora</i>
	Chinese Pistache	<i>Pistacia chinensis</i>
	Bur Oak	<i>Quercus macrocarpa</i>
	Chinquapin Oak	<i>Quercus muhlenbergii</i>
	Shumard Oak	<i>Quercus shumardi</i>
	Texas Red Oak	<i>Quercus shumardi</i> “Texana”
	Live Oak	<i>Quercus virginiana</i>
	Western Soapberry	<i>Saponaria drummondii</i>
	Bald Cypress	<i>Taxodium distichum</i>
	Winged Elm	<i>Ulmus alata</i>
	American Elm	<i>Ulmus americana</i>
	Cedar Elm	<i>Ulmus crassifolia</i>
Lacebark Elm	<i>Ulmus parvifolia</i>	

Table 1: Recommended Plant Material List




Type of Planting	Common Name	Botanical Name
<p><b>Small Trees</b></p>   	River Birch	Betula nigra
	Eastern Redbud	Cercis canadensis
	Desert Willow	Chilopsis linearis
	Dogwood	Cornus florida
	Possumhaw/Deciduous Holly	Ilex decidua
	Eastern Palatka Holly	Ilex xattenuata 'East Palatka'
	Foster/American Holly	Ilex opaca
	Yaupon Holly	Ilex vomitoria
	Golden Raintree	Koelreuteria paniculata
	Crapemyrtle	Lagerstroemia indica
	Flowering Crabapple	Malus Spp.
	Waxmyrtle	Morella cerifera
	Afghan Pine	Pinus eldarica
	Ornamental Plum	Prunus blireiana
	Cherry Laurel	Prunus caroliniana
	Purple Plum	Prunus cerasifera
	Mexican Plum	Prunus mexicana
	Flowering Pear	Purus calleryana 'Bradford', 'Capital', 'Aristocrat'
	Texas Sophora	Sophora affinis
	Chaste Tree/Vitex	Vitex agnus-castus
Texas Persimmon	Diospyros texana	
	Russian Olive	Eleagnus angustifolia
Type of Planting	Common Name	Botanical Name
	Atlas Cedar	<i>Cedrus atlantica</i> "Manetti"

Table 1: Recommended Plant Material List








<p><b>Living Screen</b></p>  	Deordar cedar	<i>Cedrus deodara</i>
	Cryptomeria	<i>Cryptomeria japonica</i>
	Leyland Cypress	<i>Cupressocyparis leylandi</i>
	NRS Holly	<i>Ilex aquifolium</i>
	Burford Holly	<i>Ilex cornuta "burfordii"</i>
	Tree Form Holly	<i>Ilex opaca AIT / Ilex perny</i>
	Yaupon Holly	<i>Ilex vomitoria</i>
	Juniper spp.	<i>Juniperus spp.</i>
	Wax Myrtle	<i>Myrica cerifera</i>
	Mock Orange	<i>Philadelphus sp.</i>
	Fraser Photinia	<i>Photinia xfraseri</i>
	Afghan (Eldarica) Pine	<i>Pinus eldarica</i>
	Cherry Laurel	<i>Prunus caroliniana</i>
	Vitex	<i>Vitex angus-castus</i>
<b>Type of Planting</b>	<b>Common Name</b>	<b>Botanical Name</b>
<p><b>Shrubs</b></p> 	Abelia	<i>Abelia sp.</i>
	Barberry	<i>Berberis sp.</i>
	Japanese Boxwood	<i>Buxus microphylla</i>
	Elaeagnus/Silverberry	<i>Elaeagnus sp.</i>
	Dwarf Yaupon	<i>Ilex vomitoria 'nana'</i>
	Dwarf Burford Holly	<i>Ilex cornuta 'burfordii nana'</i>
	Junipers	<i>Juniperus spp.</i>
	Texas Sage	<i>Leucophyllum frutescens</i>
	Nandina	<i>Nandina domestica</i>
	Spirea	<i>Spirea sp.</i>
<p><b>Shrubs</b></p> 	Fraser Photinia	<i>Photinia xfraseri</i>

Table 1: Recommended Plant Material List

Type of Planting	Common Name	Botanical Name
<p><b>Grasses</b></p>   	Lemongrass	<i>Cymbopogon citratus</i>
	Dwarf Fountain Grass	<i>Pennisetum alopecuroides 'Hameln'</i>
	Inland Sea Oats	<i>Chasmanthium latifolium</i>
	Little Bluestem	<i>Schizachyrium scoparium</i>
	Mexican Feather Grass	<i>Nassella tenuissima</i>
	Pink Muhly Grass	<i>Muhlenbergia capillaris</i>
	Dwarf Pampas Grass	<i>Cortaderia selloana 'Pumila'</i>
	Purple Fountain Grass	<i>Pennisetum setaceum 'Rubrum'</i>
	Sideoats Grama	<i>Bouteloua curtipendula</i>
	Switchgrass	<i>Panicum virgatum</i>
	Indiangrass	<i>Sorghastrum nutans</i>
	Big Muhly/Lindeheimer's	<i>Muhlenbergia lindheimeri</i>
	Bamboo Muhly Grass	<i>Muhlenbergia dumosa</i>
	Maiden Grass	<i>Miscanthus sinensis</i>
	Dwarf Zebra Grass	<i>Miscanthus sinensis 'Little Zebra'</i>

2.09.01. - Landscaping Regulations

- A. Nonresidential Landscaping Requirements These standards shall apply to all Nonresidential Zoning Districts and Special Zoning Districts. Any area within a PD, Planned Development district containing landscaping standards shall be regulated by the more restrictive standards.

Nonresidential Landscaping shall be required according to the following sections:

<i>Table 13: Nonresidential Landscaping Requirements (Section References)</i>	
<i>Section Number</i>	<i>Section Title</i>
<u>2.09.01.</u> A.1	Landscaping Along Street Right-of-Way
<u>2.09.01.</u> A.2	Interior Parking Lot Landscaping
<u>2.09.01.</u> A.3	Landscaping for Corner Lots
<u>2.09.01.</u> A.4	Landscaping/Screening for Parking Lots Adjacent to Residential Areas
<u>2.09.01.</u> A.5	Foundation Plantings for Buildings 50,000 Square Feet or Larger
<u>2.09.01.</u> A.6	Landscaping for Nonresidential Areas Adjacent to Residential Areas
<u>2.09.01.</u> A.7	Landscaping for Below-Grade Open Parking Structures in the Front Yard

- 1. Landscaping Along Street Right-of-Way. All commercial, industrial and other nonresidential uses shall comply with the following streetscape requirements:
  - a. Landscaped Edge. A landscaped edge shall be provided adjacent to all

streets.

- i. The landscaped edge shall be the following minimum widths, exclusive of street Right-of-Way.
    - (a) Landscape buffer width adjacent to Arterial Street: Twenty (20) feet.
    - (b) Landscape buffer width adjacent to Collector Street: Fifteen (15) feet.
    - (c) Landscape buffer width adjacent to Local Street: Ten (10) feet.
  - ii. Within the landscaped edge, one (1) shade tree (3" caliper minimum) (per Table 15: Approved Plant Material List) shall be planted per 30 feet of landscaped edge. The Director of Planning may approve the grouping or clustering of trees to accommodate driveway spacing, utilities, drainage facilities, or similar site features.
  - iii. The number of required trees shall be calculated solely on the area of the required landscaped edge.
- b. Vehicle headlight screening abutting the landscape edge. Where parking lots, drives, and access easements abut the landscaped edge, shrubs (5 gallon minimum) shall be planted to form a contiguous buffer along the common boundary line.
    - i. The number of required shrubs shall be calculated solely on the area of the required landscaped edge.
    - ii. Shrubs shall be planted in planting beds.
    - iii. A berm may be placed within the landscaped edge in lieu of the required shrubs unless needed for a headlight screen. (See 2.09.01. A.4 for possible additional landscaping requirements.)
    - iv. The berm must be 18 to 40 inches above the average grade of the street and parking lot curbs.
    - v. The slope of the berm shall not exceed a 33 percent grade.
  - c. If the parking lot is located 50 feet or more from the street Right-of-Way line, no shrubs or berms will be required unless needed for a headlight screen. (See 2.09.01. A.4 for possible additional landscaping requirements.)
  - d. The Applicant is also encouraged to plant a variety of ornamental trees

and flowers in addition to the required plantings.

- e. Any permeable surface not occupied by trees, shrubs, planting beds, signs or other permitted fixtures shall be planted with turf or other living ground cover.
  - f. The Planning and Zoning Commission and the City Council may reduce the width of the required landscape edge during Site Plan review when the reduction is required for a Public Improvement.
2. Interior Parking Lot Landscaping. Any nonresidential parking area which contains more than 20 parking spaces shall provide interior landscaping in addition to the required Landscaped Edge (2.09.01. A.1.a):
- a. Interior Parking Lot Landscaping shall include all areas within the paved boundaries of the parking lot as well as planting islands, curbed areas, corner lots, parking spaces and all interior driveways and aisles except those with no parking spaces located on either side.
    - i. Landscaped areas outside of the parking lot may not be used to meet the Interior Parking Lot Landscaping requirement.
  - b. There shall be ten (10) square feet of Interior Parking Lot Landscaping for each parking space or fraction thereof.
  - c. There shall be one (1) shade tree (3" caliper minimum) or an ornamental (per Table 15: Approved Plant Material List) tree for every ten (10) parking spaces or fraction thereof.
  - d. All landscaped areas shall be protected by a raised six (6) inch concrete curb.
    - i. Pavement shall not be placed closer than five (5) feet from the trunk of a tree unless a City approved root barrier is utilized.
  - e. Where an existing parking area is altered or expanded to increase the number of spaces to more than twenty (20), Interior Parking Lot Landscaping shall be provided on the new portion of the lot in accordance with the above standards.
  - f. The requirements listed above shall not apply to structured parking garages.
- 3.



Landscaping for Corner Lots. Corner lots (Lot, Corner) at the intersection of Arterial Streets shall comply with the following landscaping requirements in addition to the required plantings for the Landscaped Edge and Interior Parking Lot Landscaping:

- a. A minimum of ten percent (10%) of the site area shall be devoted to landscaping;
  - b. A minimum 15-foot wide landscaped edge shall be located along all street Right-of-Way lines beginning at the corner and extending 175 feet or to the closest driveway.
    - i. Beyond this point, the landscaped edge may be gradually reduced (over a distance of 25 feet) to 10 feet in width.
  - c. A minimum landscaped area of 900 square feet shall be located at the intersection corner of the lot.
    - i. This landscaped area shall be provided within an area measured a minimum distance of 40 feet from the projected corner of the intersection on both sides of the lot.
4. Landscaping/Screening for Parking Lots Adjacent to Residential Areas. Where parking is within 50 feet of residentially zoned property and is not screened from view by a wall, berm or other screen, a continuous screen of shrubs (5 gallon minimum at the time of planting and planted in planting beds) must be placed adjacent to the parking. The required landscaping shall comply with the following regulations:
- a. The required shrubs shall create a minimum three (3) foot tall screen within two (2) years of the date of planting.
5. Foundation Plantings for Buildings 50,000 Square Feet or Larger.



**Figure 2: Building with Foundation Plantings**

- a. Foundation plantings are required for buildings or groups of contiguous buildings that are 50,000 square feet or larger.
- b. One large tree [three (3) inch minimum caliper] shall be required for every ten thousand square feet of gross building area.
- c. These trees shall be planted within thirty feet (30') of the front facade.
- d. These plantings are intended to provide pedestrian areas while breaking up the large areas of impervious surface.
- e. Plantings required by this section are in addition to trees required by other sections of this UDC.



**Figure 3: Building without Foundation Plantings**

- f. Trees can be grouped or planted in singular form.

- g. These tree plantings should be placed so as not to impede sign visibility or pedestrian safety.
- h. Trees intended for foundation plantings shall meet the following criteria:
  - i. Trees planted less than four feet (4') from the back of curb shall be planted in a tree grate with a minimum diameter width of four feet (4').
  - ii. Ornamental trees may be substituted for large trees at a building's foundation at the rate of five ornamentals for each required Large Tree (5:1).
    - (a) Ornamental trees shall have a minimum size of three (3) inch caliper.
    - (b) Multi-trunked trees will be required to meet a three (3) inch requirement based on standard nursery trade specifications.
  - iii. Trees may be placed in groups with appropriate spacing for the species.
  - iv. The requirements of this section may be reduced if approved by the City Council and when additional pedestrian features; such as, plazas, seating areas, fountains, and outdoor recreation facilities are provided. These facilities must occupy an area equal to or greater than five percent (5%) of the building's total square footage.
- 6. Landscaping for Nonresidential Areas Adjacent to Residential Areas. A 20-foot wide landscaped buffer shall be provided adjacent to existing residential or vacant land zoned for residential uses.
- 7. Landscaping for Below-Grade Open Parking Structures in the Front Yard
  - a. Where below grade open parking is provided in the front yard setback of nonresidentially zoned properties, the required landscaping shall comply with the following regulations:
    - i. An 18-foot wide landscape edge shall be provided between the below-grade Parking Structure and the street Right-of-Way.
      - (a) The landscape edge is exclusive of street Right-of-Way; and
    - ii. The 18-foot landscape edge shall include a minimum 36-inch tall berm, measured from the property line after grading.
      - (a) The berm shall not exceed a 33 percent slope.

- (b) One shade tree (3 inch caliper minimum) (per Table 15: Approved Plant Material List) shall be provided for each 50 feet of street frontage within the landscape edge between the below grade open parking and the street Right-of-Way.

B. Residential Landscaping Requirements These standards shall apply to all Residential Zoning Districts. Any area within a PD, Planned Development containing landscaping standards shall be regulated by the more restrictive standards.

Residential Landscaping shall be required according to the following sections:

<i>Table 14: Residential Landscaping Requirements (Section References)</i>	
<i>Section Number</i>	<i>Section Title</i>
<u>2.09.01. B.1</u>	Multi-Family, Single Family Attached and Retirement Housing Landscaping Requirements
<u>2.09.01. B.2</u>	Landscaping Requirements for Single Family Developments

1. Multi-Family, Single Family Attached and Retirement Housing Landscaping Requirements.
  - a. Landscape Edge. A landscaped edge shall be provided adjacent to all streets.
    - i. The landscaped edge shall be a minimum width of ten (10) feet, exclusive of street Right-of-Way.
    - ii. Within the landscaped edge, one (1) shade tree (3 inch caliper minimum) (per Table 15: Approved Plant Material List) shall be planted per 30 feet of landscaped edge. The Director of Planning may approve the grouping or clustering of trees to accommodate driveway spacing, utilities, drainage facilities, or similar site features.
    - iii. The number of required trees shall be calculated solely on the area of the required landscaped edge.

- b. Shrub Buffer for Parking Lots and Drives. Where parking lots and drives abut the landscaped edge, shrubs (5 gallon minimum) shall be planted to form a contiguous buffer along the common boundary line.
  - i. The number of required shrubs shall be calculated solely on the area of the required landscaped edge.
  - ii. Shrubs shall be planted in planting beds.
  - iii. A berm may be placed within the landscaped edge in lieu of the required shrubs unless needed for a headlight screen.
  - iv. The berm must be 18 to 40 inches above the average grade of the street and parking lot curbs.
  - v. The slope of berm shall not exceed a 33 percent grade.
- c. If the parking lot is located 50 feet or more from the street Right-of-Way line, no shrubs or berms will be required unless needed for a headlight screen.
- d. The Applicant is also encouraged to plant a variety of ornamental trees and flowers in addition to the required plantings.
- e. Any permeable surface not occupied by trees, shrubs, plantings beds, signs or other permitted fixtures shall be planted with turf or other living ground cover.
- f. The Planning and Zoning Commission and the City Council may reduce the width of the required landscaped edge during Site Plan review when the reduction is required for a Public Improvement.
- g. Parking areas shall be landscaped in addition to the required landscaped edge.
  - i. Twenty (20) square feet of landscaping for each parking space shall be provided within the paved boundaries including one (1) shade tree (3" caliper minimum) or ornamental tree (per Table 15: Approved Plant Material List) per ten (10) parking spaces.
- h. All landscaped areas shall be protected by a raised six (6) inch concrete curb.
  - i. Pavement shall not be placed closer than five (5) feet from the trunk of a tree unless a staff approved root barrier is utilized.
- i.

One (1) shade tree (3" caliper minimum) or ornamental tree per 1,000 square feet of required open space (e.g., required yards) shall be provided.

- j. No site developed prior to the effective date of this section shall be required to conform to the landscaping requirements of this section unless the site is redeveloped or there is a thirty percent (30%) or more increase in the existing square footage of building area and/or reconstruction of the existing parking lot.
- k. Additional Multi-family Landscape Requirements. The multi-family complex shall be landscaped in accordance with 2.09.01. Landscaping Regulations. If more than one apartment building is permitted to be placed upon a single lot, the following areas shall be landscaped:
  - i. A twenty (20) foot strip along the front and rear of the buildings as measured from the foundation.
  - ii. A fifteen (15) foot strip along all other sides of the buildings as measured from the foundation.
  - iii. That area adjacent to building corners determined by extending the front, rear, and side landscape limits to their point of intersection.
  - iv. Any additional landscape area that is needed to meet the City's requirements shall be indicated and fully described upon the plat.

2. Landscaping Requirements for Single Family Developments.

- a. Two shade trees (3" caliper minimum) or ornamental trees shall be provided in residential subdivisions for each lot.
- b. All required trees must be planted prior to request for final building inspection of the dwelling unit.

C. Landscape Maintenance Requirements

- 1. All plant material shall be maintained in a healthy and growing condition, and must be replaced with plant material of similar variety and size if damaged, destroyed, or removed.
- 2. Landscaped areas shall be kept free of trash, litter, weeds and other such materials or plants not a part of the landscaping.
- 3. An automatic irrigation system with rain and freeze sensors is required for all landscaping except for single family residences.

4. All cut areas front, side, and rear must have sod for erosion control.
5. Any Developer desiring to install and maintain landscaping materials and irrigation facilities within the City Right-of-Way must first receive written approval from the Director of Public Works.
6. This subsection (2.09.01. C) shall not apply to single family lots for single family structures.
7. Replacement of dead landscaping shall occur prior to the issuance of a certificate of occupancy.

D. Landscaping Incentives: Private Detention and Retention Ponds Designed as Amenities

1. Incentive. If a private detention or retention pond is designed and maintained according to the following standards, then a ten (10) percent increase in the maximum building area coverage listed in 2.08.05. Nonresidential Dimensional Regulations Chart shall be granted.
2. Applicability. All nonresidentially zoned land or uses shall be eligible for the incentive.
3. Standards for Detention and Retention Ponds as Amenities. A private detention or retention pond shall be considered an amenity if it meets the following design considerations:
  - a. Located between the building and the street or completely bounded by streets,
  - b. Viewable from public space,
  - c. Any slope of the pond area does not exceed thirty-three (33) percent,
  - d. Accessible by patrons,
  - e. Seating area, public art, or fountain,
  - f. One tree or planter at least sixteen (16) square feet for every two hundred (200) square feet of open space, and be located within or adjacent to the open space, and
  - g. The Site Plan and plat, if applicable acknowledge the responsibility of the owner to maintain the pond.
4. Example of a Detention/Retention Pond Designed as an Amenity.



Figure 4: Example of a Detention/Retention Pond Designed as an Amenity

5. Example of a Detention/Retention Pond not Designed as an Amenity.



Figure 5: Example of a Detention/Retention Pond not Designed as an Amenity

E. Approved Plant Materials



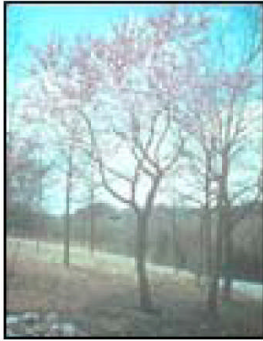
1. The use of artificial plants or turf are expressly prohibited for compliance with this UDC.
2. Use of drought tolerant plants are encouraged to meet the requirements of this UDC.
3. The following is the approved plant material list for plant materials required in this UDC:

*Table 15: Approved Plant Material List*


<i>Type of Planting</i>	<i>Common Name</i>	<i>Botanical Name</i>
<div data-bbox="212 674 574 999" data-label="Image"> </div> <p data-bbox="232 1115 553 1157"><b>Large Trees (Shade)</b></p> <div data-bbox="228 1304 557 1549" data-label="Image"> </div>	Caddo Maple	Acer barbatum "Caddo"
	*Pecan	Carya illinoensis
	Shagbark Hickory	Carya ovata
	Deodar Cedar	Cedrus deodara
	Texas Persimmon	Diospyros virginiana
	Russian Olive	Eleagnus anigustifolia
	Honey locust	Gleditsia triacanthos
	Black Walnut	Juglans nigra
	Eastern Black Walnut	Juglans nigra
	*Eastern Red Cedar	Juniperus virginiana
	Red Cedar	Juniperus virginiana
	Sweetgum	Liquidambar styraciflua
	*Southern Magnolia	Magnolia grandifolia


*Chinese Pistachio	<i>Pistacia chinensi</i>
Texas Pistache	<i>Pistacia texana</i>
*Bur Oak	<i>Quercus macrocarpa</i>
*Chinquapin Oak	<i>Quercus muhlenbergii</i>
*Shumard Oak	<i>Quercus shumardi</i>
*Texas Red Oak	<i>Quercus shumardi</i> "Texana"
*Live Oak	<i>Quercus virginiana</i>
Western Soapberry	<i>Sapindus drummondii</i>
*Bald Cypress	<i>Taxodium distichum</i>
Winged Elm	<i>Ulmus alata</i>
American Elm	<i>Ulmus americana</i>
Cedar Elm	<i>Ulmus crassifolia</i>
*Chinese Elm	<i>Ulmus parvifolia</i>
Lacebark Elm	<i>Ulmus parvifolia</i>
Siberian Elm	<i>Ulmus pumila</i>
River Birch	<i>Betula nigra</i>
Eastern Redbud	<i>Cercis canadensis</i>
*Redbud	<i>Cercis canadensis</i>

**Small Trees (Ornamental)**



*Desert Willow	Chilopsis linearis
Dogwood	Cornus florida
*Possumhaw Holly	Ilex decidua
Eastern Platka Holly	Ilex opaca
Foster Holly	Ilex opaca #1—#5
*Yaupon Holly	Ilex vomitoria
Golden Raintree	Koelrutaria paniculata
*Crepe Myrtle	Lagerstroernia indica
Flowering Crabapple	Malis Spp.
Wax Myrtle	Myrica cerifera
*Afghan (Eldarica) Pine	Pinus eldarica
Ornamental Plum	Prunus blireiana
Cherry Laurel	Prunus caroliniana
Purple Plum	Prunus cerasifera
*Mexican Plum	Prunus mexicana
*Callery Pear	Purus calleryana
Flowering Pear	Purus calleryana "Bradford," Capital, Aristocrat"

	Texas Sophora	Sophora affinis
	Chaste Tree	Vitex agnus-castus
<p style="text-align: center;"><b>Living Screen</b></p> 	Atlas Cedar	Cedrus atlantica "Manetti"
	Deordar cedar	Cedrus deodara
	Cryptomeria	Cryptomeria japonica
	Leyland Cypress	Cupressocyparis leylandi
	NRS Holly	Ilex aquifolium
	Burford Holly	Ilex cornuta "burfordii"
	Tree Form Holly	Ilex opaca AIT / Ilex perny
	Yaupon Holly	Ilex vomitoria
	Cedar spp.	Juniperus spp.
	Juniper spp.	Juniperus spp.
	Wax Myrtle	Myrica cerifera
	Mock Orange	Philadelphus sp.
	Fraser Photinia	Photinia xfraseri
Afghan (Eldarica) Pine	Pinus eldarica	

	Cherry Laurel	Prunus caroliniana
	Vitex	Vitex angus-castus
<p style="text-align: center;"><b>Shrubs</b></p> 	Abelia	Abelia sp.
	Barberry	Berberis sp.
	Japanese Boxwood	Buxus sp.
	Elaeagnus	Eldesnus sp.
	Dwarf Yaupon	Flex vomituria 'nana'
	Chinese Holly	Ilex cornuta
	Dwarf Burford Holly	Ilex cornuta "burfordii"
	Junipers	Juniperus spp.
	Texas Sage	Leucophyllum frutescens
	Nandina	Nandina domestica
	Fraser Photinia	Photinia xfraseri
* Appears on Corinth Approved Park Tree List		

F. Approval of Alternative Compliance A request for Alternative Compliance may be submitted and acted upon in accordance with 2.10.02. Alternative Compliance. The City Council may approve the following, based upon a finding that the proposed alternative is, at a minimum, equivalent to and meets the spirit and intent of this 2.09.01. Landscaping Regulations.

1. Location or Type of Required Landscape Material.
  - a. Alternatives or minor changes to the location or type of required landscape materials due to unusual topographic constraints, sight restrictions, siting requirements, preservation of existing stands of native trees or similar conditions, or in order to maintain consistency of established front yard setbacks.
  - b. These minor changes may vary the location of required landscape materials, but may not reduce the amount of required landscape area or the amount of landscape materials.
2. Required Landscaping Edges and Buffers.
  - a. Alternatives or minor changes to the required landscape edges and buffers along a street frontage if immediately adjacent properties on both sides (at side property lines) have a smaller or no landscape buffer strip, in order to maintain consistency between existing parking lot and drive aisle alignments.
  - b. If an alternative landscape edge or buffer is granted, an equal amount of landscaped area and trees shall be provided elsewhere on the site as may be deemed appropriate by the City Council.
3. Landscaping for Nonresidential Areas Adjacent to Residential Areas.
  - a. Partial or complete relief from the landscaping buffer requirement within 2.09.01. A.6, if the applicable lot is smaller than two (2) acres.
  - b. If an alternative buffer is granted, adequate screening shall be provided to ensure an equivalent buffer effect.

G. Entryways and Amenity Features within City Right-of-Way

1. Entryway or amenity features within City Right-of-Way may be developed under the responsibility of a Homeowners' or Property Owners' Association.
  - a. Documents shall be submitted, reviewed, and approved by the Director of Planning.

A.

Definitions For the purposes of this Section 2.09.02, Tree Preservation, the following terms shall have the special meaning respectively ascribed to them below, which special meanings shall govern in case of any conflict with other definitions set forth in the City Code of Ordinances.

1.

Approval. Approval of a Preliminary Plat Application, or Site Plan Application pursuant to a duly executed Application for a Tree Survey, Tree Protection Plan, or Tree Mitigation Plan.

2.

Owner. The person who has legal title to the property or a lessee, agent, employee or other person acting on behalf of the titleholder with authorization to do so.

3.

a. Protected Tree.

Any tree having a trunk caliper of six inches (6") or more, measured 4' 6" above natural grade level.

b.

The following trees are excluded from the above definition of Protected Tree:

<i>Table 16: Trees Excluded from the Protected Tree Definition</i>		
<i>#</i>	<i>Common Name</i>	<i>Botanical Name</i>
1	Bois d' Arc	Maclura pomifera
2	Chinaberry	Melia azedarach
3	Cottonwood	Populus deltoides
4	Hackberry, Texas Sugarberry	Celtis laevigata
5	Honey Locust	Gleditsia triacanthos
6	Mesquite	Populus deltoides
7	Mimosa	Mimosa sp.
8	Mulberry	Morus rubra

9	Silver Leaf Maple	Acer saccharinum
10	White Poplar	Populus alba
11	Willow	Willow sp.

4.

Removal. As applied to a Protected Tree, means uprooting, severing the main trunk of the tree, or any act which causes, or may reasonably be expected to cause, the tree to die, including but not limited to:

a.

Damage inflicted upon the root system by machinery, storage of materials, or soil compaction;

b.

Substantially changing the natural grade above the root system or around the trunk;

c.

d. Excessive pruning; or

Paving with concrete, asphalt, or other impervious materials in a manner which may reasonably be expected to kill the tree.

5.

Tree. A self-supporting, woody, perennial plant which may have one or more stems or trunks, in which case the cumulative total diameters of those trunks shall be calculated in determining whether the trunk of the tree is six inches (6") in diameter or larger.

B. 1. Tree Preservation and Replacement

City Approval Required. Any person commits an offense if the person, directly or indirectly, causes, permits or allows the cutting down, destruction, removal, or damaging of any Protected Tree prior to the approval of a:

a.

b. Tree Survey, Tree Protection Plan, or

c.

2. Tree Mitigation Plan.

a. The following are exempt from Section 2.09.02. B.1:

A tree is located in the yard area of developed and owner-occupied residential property, or

b.



A tree or parts of trees and branches over hang and extend laterally into the space over public property.

3. a. Replacement Trees Required.

The owner of the property from which a Protected Tree was removed or where such tree died shall replace the tree with new trees having a total tree caliper width equal to the width of the tree(s) removed.

b.

Replacement trees must be of a variety listed within Table 15: Approved Plant Material List.

4. a. Heavily Treed Lots.

A lot shall be considered "heavily treed" if the lot has tree canopy coverage of 50 percent or more of the lot's land area.

b.

The Applicant shall be responsible for showing and calculating the tree canopy coverage on the Application.

c.

A heavily treed lot shall be allowed to reduce the amount of Protected Trees (required in 2.09.02.B.3) needing to be replaced by 50 percent.

C.

Tree Survey Every Preliminary Plat Application, or Site Plan Application must be accompanied by a Tree Survey and Tree Protection Plan.

1.

The Tree Survey shall graphically identify all trees including Protected Trees and be in a format acceptable to the Director of Planning.

2.

No Application shall be deemed complete for filing until a Tree Survey has been submitted.

D.

Tree Protection Plan At or before the Preliminary Plat or Site Plan review and prior to the removal of any trees, the Applicant shall submit a Tree Protection Plan, which shall graphically identify Protected Trees and identify those being preserved and those being removed. Notably, the Tree Protection Plan is submitted jointly with the Tree Survey or a previously approved Tree Survey, if development is occurring in stages or phases.

E.

Tree Mitigation Plan If a property owner or his agent removes a Protected Tree without an approved Tree Survey/Tree Protection Plan, he shall submit a Tree Mitigation Plan to remedy the damage and such plan shall not become effective until approved by the City Council.

F.

Tree Removal Prohibited Any person commits an offense if the person, directly or indirectly, causes, permits or allows development subject to 2.09.02. C. Tree Survey to begin; including, but not limited to, grading or tree removal on applicable sites prior to the approval of a Tree Survey and Tree Protection Plan.

G. 1. Tree Protection at Time of Construction

All trees within an approved building site to be preserved shall be flagged and encircled with protective fencing that extends beyond the full spread of the tree branches.

2.

No construction is to occur within an area that constitutes more than fifty (50) percent of the critical root zone (as measured from the edge of the drip line to the trunk of the tree) for each tree being preserved.

3.

Additionally, no more than thirty (30) percent of the viable portion of a Protected Tree's crown may be removed.

4.

No grading or tree removal shall occur on a lot until the grading and Tree Protection Plan has been approved.

a.

Tree wells. Tree wells shall be limited to a maximum depth of four (4) feet measured from finished grade.

b.

Tree Islands. Tree islands shall be limited to a maximum height of four (4) feet measured from finished grade.

H. 1. Enforcement and Violations

2. Enforcement of these criteria shall be in the field as well as on the plan.

Plan adjustments made during construction must be approved by the Director of Planning.

I. 1. Protected Tree Removal Information

Application for the removal of a Protected Tree located on privately owned property shall be made by the owner of the property on which such tree is located.

2.

- a. An application for the removal of a Protected Tree shall specify:
- b. The location of the tree.

The caliper of the trunk of the tree, as measured 4' 6" above natural grade level.

- c. The diameter of the trunk of the tree.
- d. The approximate crown size of the tree.
- e. The species and/or common name of the tree.
- f. The approximate size of the lot, tract, or parcel on which it is located.
- g. The reason for the proposed removal.

J. Such other information as may be reasonably required by the Director of Planning.

1. Protected Tree Removal

Approval Criteria for Public Land. The City shall approve an Application for the removal of a Protected Tree in connection with construction, maintenance, or repair of public facilities in or above a public street, alley, Right-of-Way or easement, or other public land under one or more of the following conditions:

a.

The location of the tree prevents the opening of reasonable and necessary vehicular traffic lanes in a street or alley;

b.

The location of the tree prevents the construction of utility lines or drainage facilities which may not feasibly be rerouted;

c.

The location of the tree prevents all reasonable access to the property; or

d.

The denial of approval of such Application would deny a political subdivision of the state the reasonable use of public property for the achievement of its public purpose.

2.

Approval Criteria for Building Sites. The City shall approve an Application for the removal of a Protected Tree in connection with one or more of the following conditions:

a.

Building pad site (including an area 5' from the edge of the building pad), Street Right-of-Way,

b.

c. Utility Easement, or Driveway.

d.

3.

Special Approval Criteria. Notwithstanding any of the foregoing provisions of this section, the City shall approve an Application for the removal of a Protected Tree under the following circumstances:

a.

The Building Official determines that the tree constitutes a hazard to life or property which cannot reasonably be mitigated without removing the tree; or

b.

The Building Official determines that the tree is dying, dead or diseased to the point that its restoration to sound condition is not practicable, or that its disease can be expected to be transmitted to other trees and to endanger their health.

K. 1. Approval of Alternative Compliance Replacement Trees.

a.

The City Council may approve a developer's request to plant replacement tree(s) either on the same property from which the tree was removed or on other property within the City Limits. Trees may be planted on City property.

b.

The applicant shall plant trees selected from the City approved list of trees and purchase them from a nursery or supplier approved by the City. A list of approved suppliers shall be kept on file in the Planning and Development Department.

c.

The trees shall be shown on the approved Landscape Plan as part of the Site Plan.

2.

a. Fee in Lieu of Replacement Trees.

The City Council may approve payment of a fee in lieu of replacement trees. A developer may apply for approval of a fee in lieu of replacement only for developments which meet the following criteria:

i.

If the proposed subdivision is heavily treed and the existing tree canopy would prohibit the growth of the replacement trees, or

ii.

If the required replacement trees were to be installed, the replacement trees would be planted under the canopy of any existing tree.

3.

The fee shall be established by the City Council and shall be calculated based on the cost of purchase and installation of the trees from a supplier on the list maintained in the Planning Department and approved by the City Manager. The applicant shall submit a quote from a supplier on the list for fee in lieu of the required replacement trees.

4.

a. Administration of Tree Fund.

The City shall administer the Tree Fund. Tree funds shall be used only for the following purposes: to purchase, plant and irrigate trees on public property, to preserve wooded property that remains in a naturalistic state in perpetuity, to perform and maintain a city-wide tree inventory and to educate citizens and developers on the benefits and value of trees.

b.

Fees contributed to the Tree Fund shall be paid prior to the pre-construction meeting on all Commercial, Industrial, Multi-Family Residential, Residential and Mixed Use Developments, and prior to filing a Final Plat in the Denton County Clerk's Office for all single-family Residential Subdivisions.

c.

No acceptance of public improvements shall be authorized until all replacement trees have been planted or a fee in lieu of replacement has been approved, and required payments have been made to the Tree Fund.

d.

Voluntary contributions for tree preservation shall be placed in the Tree Fund.

(Ord. No. 15-11-19-23, § I, 11-19-15)

### 2.09.03. Vehicle Parking Regulations

#### Applicability

Except as hereinafter provided, no building or structure or part thereof shall be erected, altered, or converted for any permitted use unless vehicle parking is provided according to the following standards.

Vehicle parking shall be provided on the lot or tract, on an immediately contiguous lot or tract, or within one hundred fifty feet (150') of such building or structure.

An established use lawfully existing at the effective date of this UDC need not provide vehicle parking as hereinafter set forth. No existing vehicle parking in connection with said use, at the effective date of this UDC, may be reduced below the minimum number of spaces as hereinafter required.

#### General Requirements

**Parking Areas and Driveways.** Unless otherwise noted, parking areas and driveways shall be curbed, paved concrete and maintained to the City specifications.

**Parking Space Dimension.** In all zoning districts, all parking spaces shall not be less than ten feet (10') by twenty feet (20').

**Front and Side Entry Garages.**

A garage shall be determined to be a front entry or side entry garage based upon which property line (front or side) a driveway crosses.

b.

Front and side entry garage access driveways are permitted where the respective building set back line is a minimum of twenty-five feet (25').

c.

Side entry garages must face a public street private street, alley, public access easement, or private access easement.

4.

a. Rear Entry Garages.

A garage shall be determined to be a rear entry garage if the driveway crosses the rear property line.

b.

Rear entry garage access driveways are only permitted when access is by means of a public alley, unless the property has double street frontage.

5.

a. Driveway Access to the Rear Yard.

Access driveways to the rear yard or to an Accessory Building are permitted only from a public alley or by means of the main garage access driveway.

b.

Access to a rear yard or an Accessory Building from a public street by means of an additional driveway is not permitted.

C.

1. Parking Space Schedule: Residential Uses

In all Single Family districts the minimum off street parking spaces for residential uses shall be two (2) spaces for each dwelling unit.

2.

No off-street parking shall be allowed in any front yard area, except on the paved driveway.

3.

No parking area or vehicle storage space shall be used for the storage or parking of any vehicle with more than two axles.

D.

1. Parking Space Schedule: Multi-Family Uses

Off-street parking shall be provided behind the front building line in the side or rear yard of the lot or tract of land upon which an Apartment building is constructed.

2.

Adequate off-street parking space shall be provided to meet the requirements of the residents and their guests in each Apartment project, with a minimum of a one parking space per dwelling unit plus one additional parking space per bedroom.

3.

No parking area or vehicle storage space shall be used for the storage or parking of any vehicle with more than two axles.

E.

Parking Space Schedule: Nonresidential Uses Applicable to All Districts Off-street parking spaces shall be provided according to the following. In cases where a use is not listed below, see 2.09.03. G Parking Requirements for New or Unlisted Use.

1.

Bank, Savings and Loan, or Similar Financial Establishment. One space for each three hundred (300) square feet of Floor Area.

2.

3.

Bowling Alley. Six (6) spaces for each lane.

Child-care, Kindergartens, Day Schools, and Similar Establishments. One (1) space per eight (8) pupils plus one (1) space per employee.

4.

Church or Other Place of Worship. One (1) space per three (3) seats within the main sanctuary.

5.

Clinics or Doctor's Offices. One (1) space for each three hundred (300) square feet of Floor Area, minimum of five (5).

6.

Commercial Outdoor Amusement. Ten (10) Spaces plus one (1) space for every three (3) persons to be normally accommodated in the establishment.

7.

Convalescent Home or Nursing Home or Assisted Living Facility. One (1) space for each six (6) rooms or beds.

8.

Gasoline Service Station. Minimum of six (6) spaces, areas adjacent to pumps where vehicles park to refuel shall not be considered a parking space.

9.

10.

Golf Course. Minimum of thirty (30) spaces.

High School, College or University. One (1) space for each classroom, laboratory or instruction area, plus one (1) space for each three (3) students accommodated in the institution.

11.

12. Hospitals. One (1) space for every two (2) beds.

13. Hotel or Motel. One (1) space for each room, unit or guest accommodation.

Institutions of a Philanthropic Nature. Ten (10) spaces plus one (1) space for each employee.

14.

Library or Museum. Ten (10) spaces plus one (1) for each three hundred (300) square feet of Floor Area.

15.

Manufacturing, Processing or Repairing. One (1) space for each two (2) employees or one (1) space for each one thousand (1,000) square feet of Floor Area, whichever is greater.

16.

Offices, General. One (1) space for each three hundred (300) square feet of Floor Area, minimum of five (5) spaces.

17.

Parks. Due to the wide variety of park types and uses, the number of spaces shall be submitted by the applicant and be based on best/current planning parking ratios (recommended sources: Institute of Transportation Engineers [ITE] or the American Planning Association [APA]) and approved by the Director of Planning.

18.

Places of public assembly not listed. One (1) space for each three (3) seats provided.

19.

Recreational, Private or Commercial Area or Building (Other than Listed). One (1) space for every three (3) persons to be normally accommodated in the establishment.

20.

Restaurant or Cafeteria. One (1) space for every three (3) seats under maximum seating arrangements, minimum of five (5) spaces.

21.

Retail or Personal Service. One (1) space for each two hundred (200) square feet of Floor Area, minimum of five (5) spaces.

22.

RV Park. Two (2) spaces for each recreational vehicle space.

23.

Schools, Elementary, Junior High. One (1) space for each classroom, plus one (1) space for each four (4) seats in any auditorium, gymnasium, or other place of assembly.

24.



Storage or Warehousing. One (1) space for each two (2) employees or one (1) space for each one thousand (1,000) square feet of Floor Area, whichever is greater.

25.

Theaters, meeting rooms, and places of public assembly. One (1) space for every three (3) seats.

26.

Best Practices Parking Ratio. For uses shown in the Use Chart that have atypical standards or single uses which have varying parking needs depending on the function of that specific single use, an applicant may submit a parking ratio based on best planning and transportation practices.

a. Best Practices Parking Ratio Application.

i.

An applicant shall fully cite the sources used to derive the applicant-submitted parking ratio, possible resources include parking standards materials from the Institute of Transportation Engineers (ITE) or the American Planning Association (APA).

ii.

The Director of Planning shall review the applicant submitted parking ratio to confirm best planning practices for a use.

iii.

The Director of Planning shall approve, modify, or deny the applicant submitted parking ratio.

b.

Parking Ratio Determination in Case where no Application is Submitted. If the applicant does not submit a parking ratio, then the Director of Planning shall determine the parking ratio based on the best/current planning and transportation practices.

F. 1. Off-Street Parking Regulations

In computing the parking requirements for any building or development, the total parking requirements shall be the sum of the specific parking space requirements for each class of use included in the building or development.

2.

Floor Area of structure devoted to off-street parking of vehicles shall be excluded in computing the off-street parking requirements of any use.

G.

Parking Requirements for New or Unlisted Use Where questions arise concerning the minimum off-street parking requirements for any use not specifically listed, the requirements may be determined by the Director of Planning as those of a similar use.

H.

Alternative Parking Standards In order to provide flexible parking standards and to continue to provide for a sufficient amount of parking space, the Director of Planning may approve Alternative Parking Standards in accordance with process outlined above in 2.09.03. E.26 Best Practices Parking Ratio.

I. Circulation and Parking Requirements for all Nonresidential Developments

1.

Applicability. The regulations provided in this section shall apply to all nonresidential development.

2.

Parking Aisles. Parking aisles shall be designed perpendicular to the front of the primary building in the development.

3.

Wheel Stops and/or Bollards. If curbs are not provided, then parking spaces that face and are adjacent to a building or required landscaped area shall utilize wheel stops and/or bollards, within 12 inches from the end of the space.

J.

Parking Space Design Details Each standard off-street surface parking space size shall be in accordance with the design standards as shown on the following illustrations for space size and design.

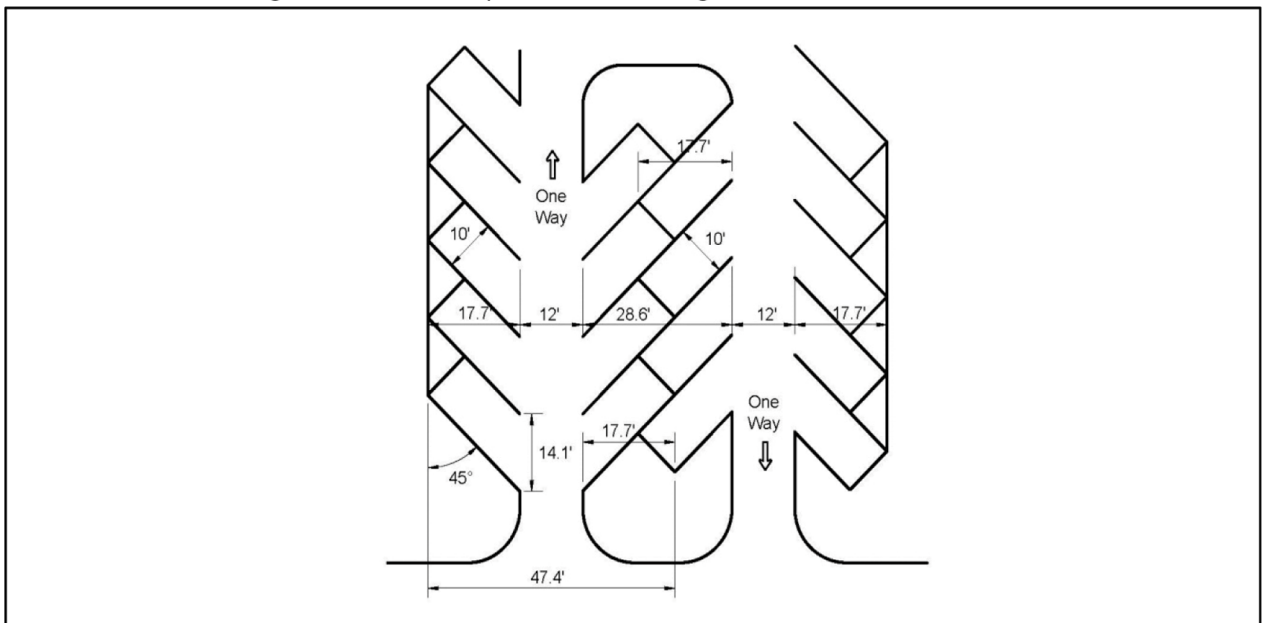


Figure 6: 45 Degree Layout with One-Way Traffic

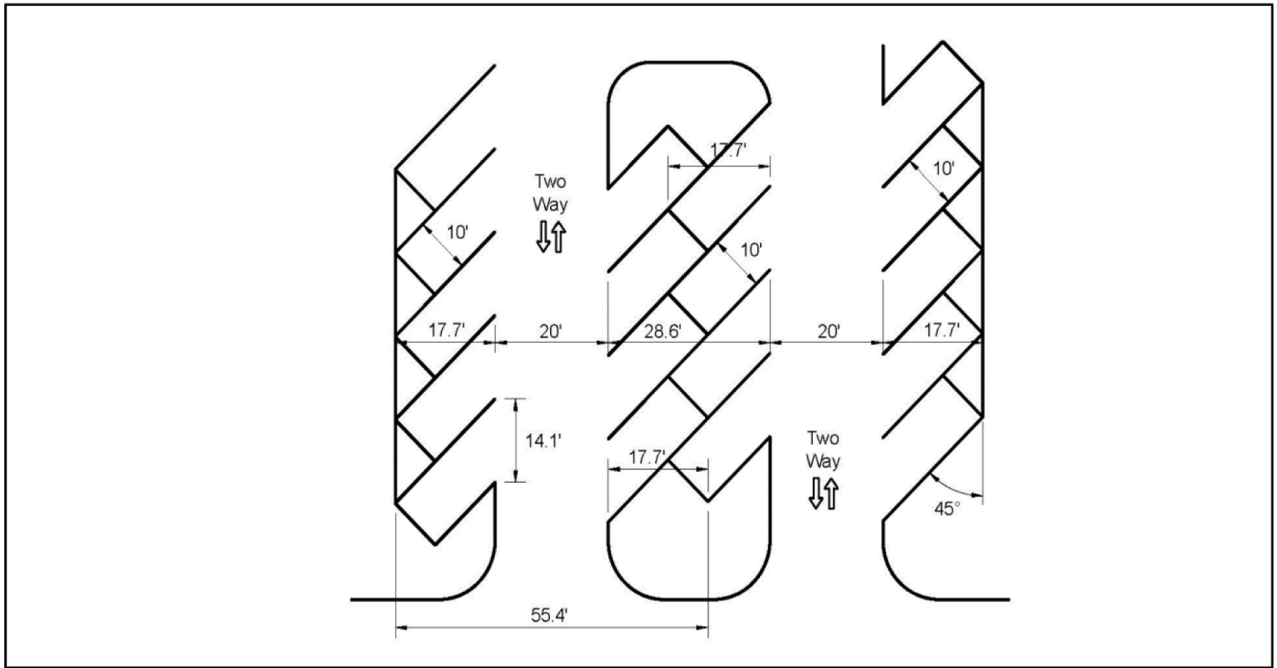


Figure 7: 45 Degree Layout with Two-Way Traffic

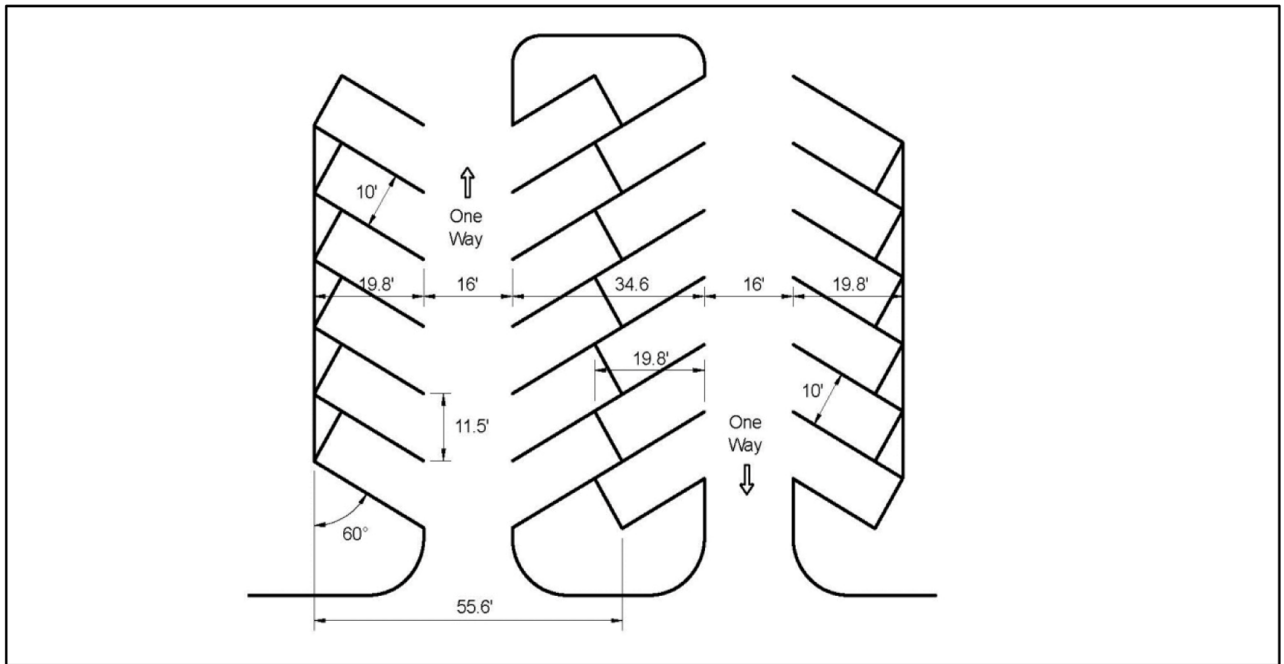


Figure 8: 60 Degree Layout with One-Way Traffic

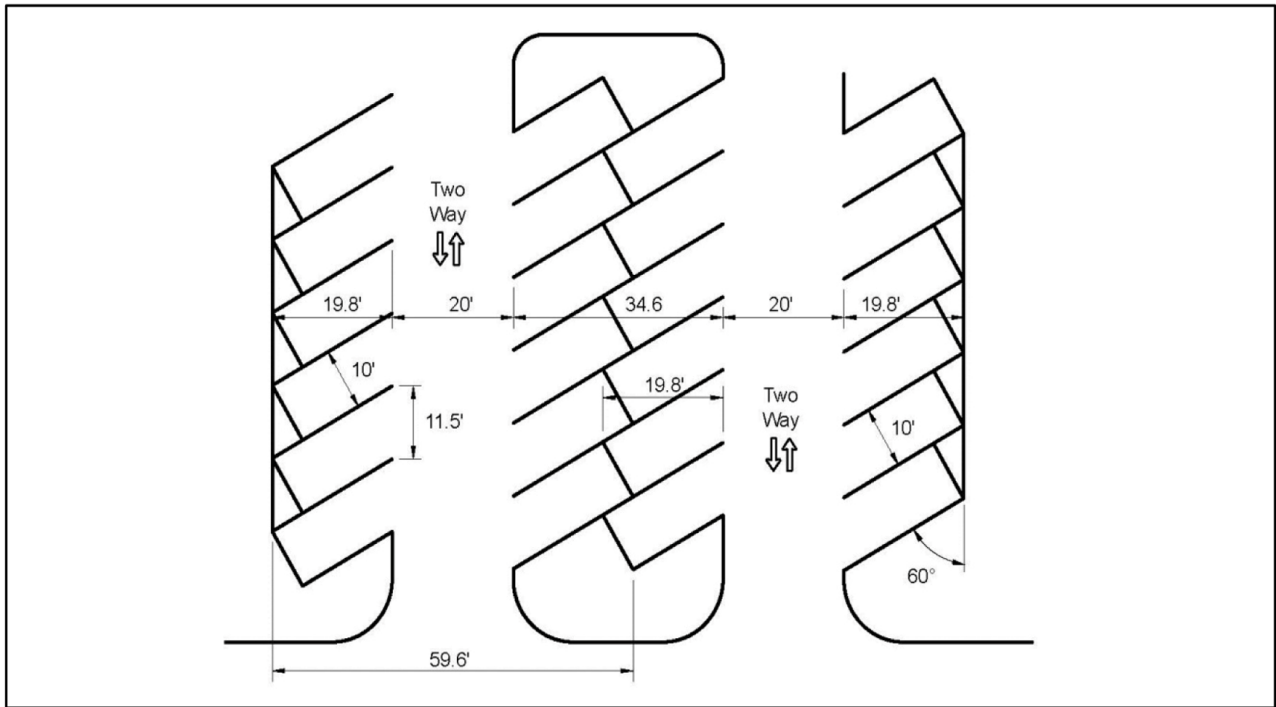


Figure 9: 60 Degree Layout with Two-Way Traffic

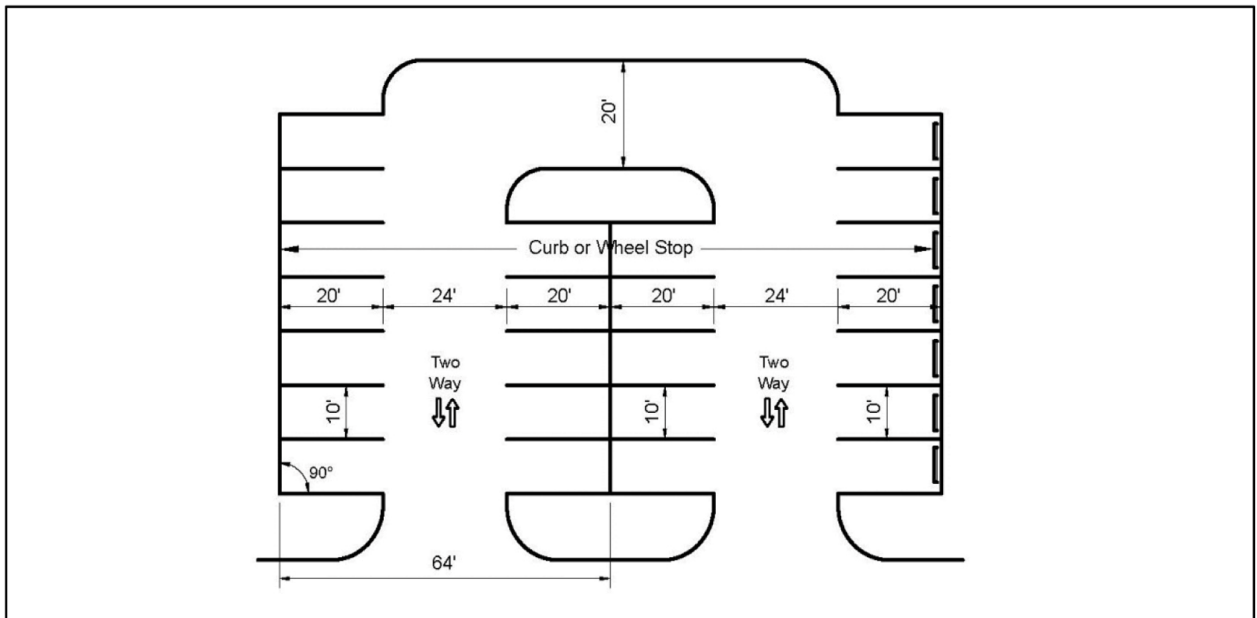


Figure 10: 90 Degree Layout

- K.
  - 1. Electric Vehicle (EV) Parking Spaces Required
    - a. Number of EV Spaces Required.
      - i. Parking Lots with 50 to 100 Parking Spaces Required.

If a nonresidential use requires 50 to 100 parking spaces, then one (1) electric vehicle (EV) parking space shall be created and reserved for the sole use of electric vehicles only.

- b. Parking Lots with more than 100 Parking Spaces Required.
  - i.

If a nonresidential use requires more than 100 parking spaces, then two (2) electric vehicle (EV) parking spaces shall be created and reserved for the sole use of electric vehicles only.

- c.

The number of EV parking spaces shall be in addition to the minimum number of required parking spaces.

- 2. a. Design of EV Spaces.

All EV parking spaces shall have a sign posted in front of the parking space reading "RESERVED PARKING ELECTRIC VEHICLES ONLY" and shall have pavement markings indicating the space as EV parking.

- b.

All EV parking spaces shall have the same dimensions as standard parking spaces.



**Figure 11: An EV Charger is not required to be installed for EV Parking Spaces**

Electric Vehicle (EV) Chargers not Required.

An "Electric Vehicle (EV) Charger" shall be defined as an electrical appliance designed specifically to charge batteries within one or more electric vehicles. Charger styles include pedestal and wall or pole-mounted. Chargers are also called electric vehicle supply equipment (EVSE).

EV parking spaces shall not require the installation of an "Electric Vehicle (EV) Charger."

1. Vehicle Stacking Requirements

Stacking Space Definition. Stacking spaces provide the ability for vehicles to queue on site prior to receiving a service.

2.

Stacking Space Size and Location. A stacking space shall be a minimum of ten (10) feet in width and twenty (20) feet in length and shall not be located within or interfere with any other circulation driveway, parking space, fire lane, or maneuvering area.

3.

Additional Stacking Space Location Criteria. Stacking spaces shall be provided behind the vehicle bay door, middle of the service window, or middle of the service island, whichever is applicable.

4.

Number of Required Stacking Spaces (All Districts). In all zoning districts, at the time any building or structure is erected or altered, stacking spaces shall be provided in the number and manner set forth in the following list of property uses.

- a. Automated Teller Machine (ATM). Three (3) stacking spaces.
- b.

Automobile Oil Change and Similar Establishments. Three (3) stacking spaces per bay.

- c. Car Wash, Full Service. Six (6) stacking spaces per bay.
- d. Car Wash, Self Service (Automated). Three (3) stacking spaces per bay.
- e. Car Wash, Self Service (Open Bay). Two (2) stacking spaces per bay.
- f.

Car Wash, Self Service (Drying Areas and Vacuum Islands). Two (2) stacking spaces per drying area and/or vacuum island.

g.

Child-care, Kindergartens, day schools, and similar child training and care establishments. One (1) stacking space per twenty (20) students provided on a through "circular" drive.

h.

Dry Cleaning, Pharmacy, or Other Retail Establishments with a Drive-Through. Three (3) stacking spaces for first service window.

- i. Financial Institution. Five (5) stacking spaces per window or service lane.
- j.

Restaurant with Drive-Through. Five (5) stacking spaces for first window, order board, or other stopping point.

k.

Schools, Public or Private. The number of stacking spaces shall be determined during Site Plan review and approved by the Director of Public Works.

5.

Single Stacking Space Required after the Final Window, Order Board, or Stopping Point. A single stacking space shall be provided after the final window, order board, or stopping point to allow vehicles to pull clear of the transaction area prior to entering an intersecting on-site driveway or maneuvering aisle.

6.

Visibility Triangle Requirement for Drive-Through Lanes and Escape Lanes. Buildings and other structures shall have a ten (10) foot visibility triangle at the end point of drive-through lane and escape lane to provide adequate visibility to allow vehicles to safely exit the drive-through lane and escape lane prior to merging into intersecting driveways or maneuvering aisles.

7. Escape Lane Requirement for Drive-Through Facilities.

a.

An escape lane shall be provided for any use containing a drive-through facility.

b.

An escape lane shall be nine (9) feet in width and shall provide access around the drive-through facility.

c. M. An escape lane may be part of a circulation aisle.

Approval of Alternative Compliance A request for Alternative Compliance may be submitted and acted upon in accordance with 2.10.02. Alternative Compliance. The City Council may approve the following, based upon a finding that the proposed alternative meets the spirit and intent of this 2.09.03. Vehicle Parking Regulations.

1.

Alternative Parking Ratio. A parking ratio which differs from that specified within this subsection 2.09.03. Vehicle Parking Regulations, based on a parking study conducted by a certified traffic planner or traffic engineer which sets forth an alternative ratio, which the City Council determines is equivalent, at a minimum, to the standards set forth above.

#### 2.09.04. Building Façade Material Standards

##### Exterior Material Requirements for all Single Family Units

Applicability. This section applies to all single family (attached and detached) units.

Residential Material Standards.

The exterior façades of a main building or structure shall be constructed of eighty-five (85) percent Class 1: Masonry Construction or stucco unless otherwise specified in this UDC.

i.

Individual exterior walls shall contain no less than fifty (50) percent Class 1: Masonry Construction or stucco.

b.

Fiber cement siding may constitute fifty (50) percent of stories other than the first story, where located over the roofline.

i.

Fiber cement siding may also be used for architectural features, including window box-outs, bay windows, roof dormers, garage door headers of rear entry garages, columns, chimneys not part of an exterior wall, or other architectural features.

B. 1. Exterior Material Requirements for all Multi-family Units

2. Applicability. This section applies to all multi-family units.

Residential Material Standards. The exterior façades of a main building or structure shall be constructed of eighty-five (85) percent Class 1: Masonry Construction on the first and second floors and fifty (50) percent on all other floors.

C. Exterior Material Requirements for Nonresidential Districts and Uses

1. Applicability. This section applies to all nonresidential buildings.

2. a. Nonresidential Material Standards.

Within Commercial Zoning Districts, exterior façades of a main building or structure shall consist of one hundred (100) percent Class 2: Masonry Construction.

b.

Within Industrial Zoning Districts, exterior façades of a main building or structure adjacent to a public street shall consist of one hundred (100) Class 2: Masonry Construction. All exterior façades of a main building or structure shall consist of at least sixty (60) percent Class 3: Masonry Construction.

c.

If a nonresidential use is within a residential district, then exterior façades of a main building or structure shall consist of one hundred (100) percent Class 1: Masonry Construction.

3.

Maximum Material Coverage. No single building material shall cover more than eighty percent (80%) of the front of any building, with the exception of on-site utility or service structures.

4.



a. Windows.

Clear glass shall be used for commercial storefront display windows and doors.

b.

Windows shall be individually defined with detail elements such as frames, sills, and lintels, and placed to visually define the building stories.

D.

Approval of Alternative Compliance A request for Alternative Compliance may be submitted and acted upon in accordance with 2.10.02. Alternative Compliance. The City Council may approve the following, based upon a finding that the proposed alternative meets the spirit and intent of this 2.09.04. Building Façade Material Standards.

1.

Alternative Materials. For nonresidential and multi-family buildings, the following alternative materials or percentages may be approved:

a.

Any new material not specified in the definition of masonry construction that the City Council determines is equal or superior in appearance, safety and quality to masonry.

b.

Any use of a veneer which simulates a masonry material and that the City Council determines equal or superior in appearance, safety, and quality to masonry.

c.

A reduction of the required masonry percentage by a maximum of ten percent (10%) when a unique and attractive architectural design is used.

2.

Original Building Materials. For existing nonresidential buildings undergoing expansion, the use of materials used on the original building provided they are allowed materials or an integral part of the character of the building.

3.

Transfer the Location of Masonry Materials. For existing nonresidential buildings undergoing expansion, the transfer of the required masonry materials to the front (i.e., more visible) façade(s) of the building in lieu of placing the required masonry materials on a side or rear façade.

4.

Non-Masonry Building Materials. The use of non-masonry building materials for portable buildings, if extra landscaping is provided to offset any visual effects.

5.

Cement Fiberboard Siding. The use of cement fiberboard siding (also commonly referred to as "HardiePlank" or "SmartBoard") for single family, two-family and townhouse residential buildings.

6. a. Supporting Evidence.

It shall be the sole responsibility of the Applicant to provide evidence in support of the specified criteria in subsections 2.09.04. D.1 through 2.09.04. D.5 above.

b.

The Applicant's evidence shall include any additional information and/or sample materials requested by the Director of Planning, Planning and Zoning Commission, or City Council that would assist in a decision to approve or deny the request.

2.09.05. Residential Adjacency Standards

Purpose and Intent In order to preserve and protect the integrity of single family residential neighborhoods and in an effort to protect the quiet enjoyment of single family residential properties and to maintain property values, the City has determined that it is necessary and appropriate to adopt specialized regulations for non-single family residential uses and buildings that are constructed within 400 feet of properties used for single family residences.

Applicability

The following residential adjacency standards shall apply to all non-single family residential buildings or uses that lie within four hundred feet (400') of properties used for single family residences.

For purposes of the Section, the four hundred (400) foot distance shall be measured from the non-single family residential building and/or use to the property line of the single family residence.

Development Regulations Masonry Requirements:

All facades of a building shall be finished on all four sides with the same materials (meeting the masonry requirements), detailing, and features.

The use of cement, standard (i.e., smooth-faced) concrete block, concrete tilt wall, stucco and other masonry materials of similar characteristics is not permitted.

Exception for facades not visible from public streets:

The rear wall of the building may be constructed of standard concrete block, concrete tilt wall, stucco and other masonry materials of similar characteristics provided that:

It is of the same color as the other facades, and

A double row of trees on offset fifty (50) foot centers is planted in a fifteen (15) foot landscape edge, where 50% of the trees are Large Evergreen Trees.

This exception does not apply to buildings on pad sites (i.e., "out" buildings).

a. Roof Design Standards.

To screen rooftop mechanical equipment, other appurtenances, and flat or built-up roofs, all structures having a footprint of 6,000 square feet or less shall be constructed with a pitched roof.

b.

Those structures having a footprint greater than 6,000 square feet shall be constructed with either a pitched, parapet, or mansard roof system (enclosed on all sides).

c.

Standing seam metal roofs shall be constructed of a factory-treated, non-metallic, matte finish.

d.

Metal roofs with lapped seamed construction, bituminous built-up roofs, and flat, membrane-type roofs that are visible are not permitted.

3. a. Mechanical Equipment Screening:

This subsection shall apply to equipment on the roof, on the ground or otherwise attached to the building or located on the site.

b.

All buildings must be designed such that no mechanical equipment (HVAC, etc.) or satellite dishes shall be visible from adjacent residential uses.

c.

Rooftop mechanical equipment and/or other rooftop appurtenance screening shall be accomplished by either the construction of:

i.

The roof systems described in 2.09.05. C.2 Roof Design Standards; or,

ii.

An architectural feature which is integral to the building's design and ensures that such equipment is not visible.

d.

The fencing or enclosure of individual mechanical units shall not be permitted except as described above.

e.

All rooftop mechanicals or architectural features described herein shall be shown on the required building elevations on the Site Plan.

4. a. Loading and Service Areas:

Loading and service areas shall be located at the side or rear of buildings.

b.

Where visible from the property line, a solid masonry screening wall at least ten feet (10') in height shall be required to screen views of loading docks and loading spaces intended for tractor/semi-trailer delivery.

c. This 10-foot wall must screen the entire loading dock or space.

d.

Screening materials shall utilize similar masonry materials to the building's facades.

e.

The accommodation of adequate access for service delivery trucks may be evaluated to determine the extent of screening required.

5. a. Trash Receptacles and Recycling Receptacles:

No trash receptacles or recycling receptacles shall be located within fifty feet (50') of properties used for single family residences.

b.

Trash and recycling receptacles shall be four sided with a metal gate and shall be located to the side or rear of the principal building.

c.

Trash and recycling receptacles shall be screened by a solid masonry screen at least eight feet (8') in height and shall utilize similar masonry materials to the building's facades.

6. a. Setbacks/Yards:

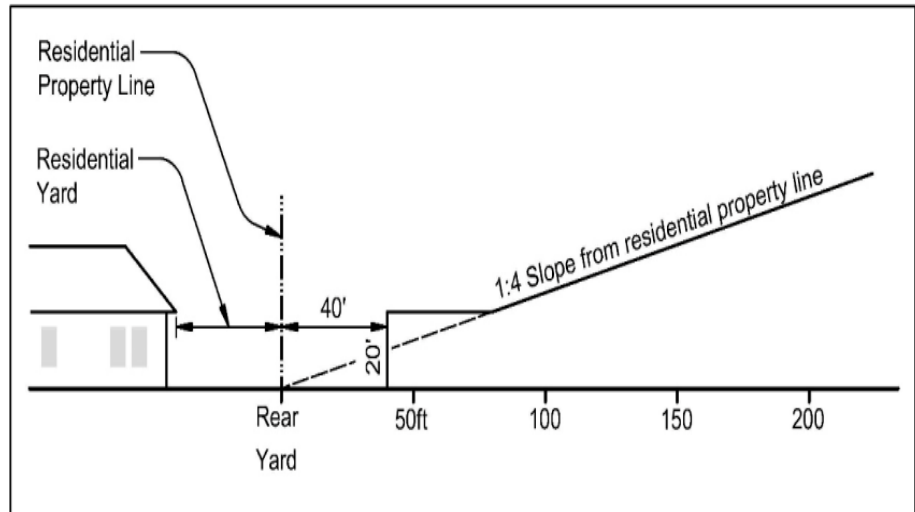
A structure may not be built within 40 feet of the residential property line.

b.

No non-single family residential building may encroach in the area above a line having a slope of 1:4 from any single family residential property line, except as provided below:

i.

If a structure is at least 40 feet from residential property line and is no greater than one story or 20 feet in height, then the structure may exceed the above 1:4 slope.



**Figure 12: Building Setback from Residential Property Line**

2.09.06. Nonresidential Architectural Standards

A. 1. Purpose and Intent

This section of the UDC is intended to ensure that all nonresidential buildings shall be compatible with the architectural character and design as described within the Comprehensive Plan in terms of style, mass, material, height, roof design, and other exterior elements.

2.

All buildings shall be finished on all four sides with the same materials (meeting the masonry requirements as set forth below), detailing, and features and with a higher level of finish on the front facades (as set forth in the requirements below).

B. C. Applicability All nonresidential buildings shall comply with this section.

Nonresidential Building Orientation Any building (excluding parking garages) within view of a public Right-of-Way shall either face such Right-of-Way or shall have a facade facing such Right-of-Way in keeping with the character of the Front Façade.

D. 1. Nonresidential Design Elements Requirements

Following is a list of design elements that, based upon the size of a building (see 2.09.06. D.2 below), shall be incorporated into a building's design:

<i>Table 17: Menu of Nonresidential Design Elements</i>	
1	Canopies, awnings, or porticos
2	Overhangs

3	Recesses or projections
4	Arcades
5	Peaked roof forms
6	Arches
7	Outdoor patios
8	Display windows
9	Architectural details; such as, tile work or moldings, integrated into the building façade
10	Integrated planters or wing walls that incorporate landscape and sitting areas
11	Offsets, reveals or projecting ribs used to express architectural or structural bays

2.

A building's floor area shall determine the minimum number of required design elements implemented in its construction as set forth in the table below:

*Table 18: Required Minimum Number of Design Element*

Building Square Footage	Minimum Number of Design Elements
0—50,000 s.f.	3
50,001—100,000 s.f.	5
Over 100,001 s.f.	7

E. 1. Nonresidential Front Façade Entry Requirements

A Front Façade shall be articulated and designed to present a distinctive entry presence, emphasizing the building's entry point along the façade.

2. F. Each building shall provide a sheltered entry.

Nonresidential Building Articulation Façade depth and height articulation shall be required on the front façade of a building, per the following:

1.

Depth articulation of at least three (3) feet shall be required for every thirty (30) feet of building façade length. Depth articulation applies only below the roofline.

2.

Height articulation for flat roofs of at least five (5) feet shall be required for every fifty (50) feet of building façade length. Pitched roofs do not require height articulation.

G. 1. Tripartite Building Design/Composition

Buildings shall incorporate a tripartite building composition (base, middle and top).

2.

The tripartite shall be proportioned to the other elements of the tripartite and the overall structure.



Figure 13: Tripartite Building Design/Composition

H. 1. Roof Design Standards

All structures shall be constructed with a pitched roof, flat roof with a parapet, true mansard roof, or any combination thereof.

2.

All flat roof surfaces shall be screened from ground level views so that such roof surfaces are not visible.

3.

4.

Parking structure decks shall not be considered roofs.

Roofs of stairwells and elevator machine rooms and other similar spaces shall be exempt from roofing design standards so long as they are not visible from ground level. For the purpose of this paragraph, visible shall be defined as "capable of being seen at a height of six feet (6') while standing at the highest grade on the property line."

I.



Approval of Alternative Compliance A request for Alternative Compliance may be submitted and acted upon in accordance with 2.10.02. Alternative Compliance. The City Council may approve the following, based upon a finding that the proposed alternative meets the spirit and intent of this 2.09.06. Nonresidential Architectural Standards.

1. a. Nonresidential Design Elements.

b. Alternatives to the nonresidential design elements listed in Table 17.

Alternatives shall, in the determination of the City Council, produce a similar or greater level of architectural design than the elements listed in Table 17.

2. a. Nonresidential Building Articulation.

Alternative articulation standards which differ from the requirement found in 2.09.06. F may be approved.

b.

Alternative articulation standards shall, in the determination of the City Council, produce a similar or greater level of articulation than the requirement found in 2.09.06. F.

#### 2.09.07. Lighting and Glare Regulations

Purpose The purpose of this section is to set forth the minimum criteria for the installation, use and maintenance of outdoor lighting, the purposes of which are to:

Preserve and enhance the lawful nighttime use and enjoyment of property;

Protect drivers and pedestrians on nearby travel ways from disabling glare from non-vehicular light sources that shine directly into their eyes and thereby impair safe travel;

Shield adjacent properties from nuisance glare and trespass light resulting from improperly directed and unshielded light sources;

Preclude or lessen light pollution; and

B. Promote efficient design and operation with regard to energy conservation. Definitions

1.

Foot-Candle. The amount of illumination provided by one lumen uniformly distributed on one square foot of surface.

2.

Glare. Light emitting from a luminaire with an intensity great enough to cause annoyance, discomfort or loss in visual performance and visibility.

3.

Illumination. The density of light (luminous flux or lumens) on a surface. It is the quotient of the luminous flux divided by the area of the surface, expressed in foot-candles.

4.

Light Distribution. The luminance at all points on the illuminated surface from specified light sources at specified mounting heights and spacing.

5.

Light Trespass. The unwanted lighting of adjacent properties from light sources intended for the proposed sites.

6.

Lumen. The quantity of luminous flux intercepted by a surface of one square foot, all points of which are one foot from a uniform source of one candela. A one-candela source (i.e., one candlepower) provides 12.57 lumens.

7.

Luminaire. A device or fixture containing a light source and means for directing and controlling the distribution of light from the source.

8.

Luminance. The luminous intensity per unit projected area of a given surface viewed from a given direction for purposes of this UDC expressed in candelas divided by distance squared.

9.

Mounting Height. The vertical distance of the light source from the illuminated plane.

10.

C. Spacing. The horizontal distance between adjacent light sources.

General Standards All outdoor illumination shall meet the following conditions:

1.

Shielding Required. All roadway, parking lot, and walkway luminaires shall be shielded so that substantially all the directly emitted luminous flux falls within the property line.

2.

Luminous Flux Design. All exterior building floodlights shall be designed or retrofitted with shielding in a manner such that all of the luminous flux falls upon either the surface of the structure to be illuminated or on the ground.

3.

a. Required Turning Off of Parking Luminaires.

All parking luminaires, except those required for security, shall be extinguished within one hour after the end of business hours and remain extinguished until one hour prior to the commencement of business hours.

b.

Except for reasons of security, a maximum of twenty-five (25) percent of the total luminaires used for parking lot illumination may remain in operation during such period.

4. a. Required Turning Off of Building Luminaires.

All exterior building floodlights, except those required for security, shall be extinguished by 10:00 p.m. or within one hour after the end of business hours of the business served, whichever is later, and remain extinguished until one hour prior to the commencement of business hours.

b.

For reasons of security, however, a maximum average level of five foot-candles at entrances and loading docks and one foot-candle on the rest of the structure is permitted.

5. a. Required Turning Off of Stadium Luminaires.

All stadium and all other exterior sports arena luminaires used for the purpose of illumination of the playing area shall be extinguished by 10:00 p.m. or immediately after the conclusion of the final event of the day.

b.

The remainder of the facility lighting, except for reasons of security, shall be extinguished at 10:00 p.m. or within one hour after the event, whichever is later, and remains extinguished until one hour prior to the commencement of the next event.

c.

For reasons of security, however, a maximum average level of five foot-candles at an entrance and one foot-candle on the rest of the structure shall be permitted.

6.

No outdoor illumination shall be used in any manner that could interfere with the safe movement of motor vehicles on public streets, including:

a.

Any fixed luminaire not designed for roadway illumination that produces incident or reflected luminous flux that could be disturbing to the operator of a motor vehicle;

b.

Any luminaire that may be confused with or construed as a traffic control device; or

c.

Any blinking, flashing, or changing intensity lights, except for temporary holiday displays.

7.

Compliance for all Illumination. All outdoor illumination shall comply with the requirements of this section.

8.

Strings of Lights Prohibited. No person shall use a string of lights on property with nonresidential uses except for the following:

- a.
  - i. Strings of lights may only be used if:
    - (a) They are approved by a Site Plan.

Such a plan must comply with all of the standards of this section.

(b)

The purpose of such lighting shall be to create ambiance and pleasing pedestrian spaces in an energy efficient manner.

(c)

Low wattage or low voltage fixtures and luminaires are required.

(d)

Such lighting shall be limited to pedestrian areas including plazas, patios, landscape features, and primary entries into buildings.

(e)

No such illumination shall be allowed in any required landscaped setback adjacent to a street; or

ii.

For lighting displays from the last Thursday in November through the last Thursday in January.

b.

Strings of lights permitted under this subsection may be displayed only on a building, on a wall or fence, on trees or shrubs, and on poles, but may not be suspended horizontally between such objects.

i.

For the purposes of this paragraph, "horizontally" means any portion of the suspended string that dips less than forty-five degrees below the horizontal.

ii.

All such strings of lights shall comply with the applicable electrical and building code provisions.

c.

For the purposes of this subsection, "string of lights" means a series of lights attached to a light cord or wires in such a way that they can be moved about and hung in various ways, and whose bulbs are not in lighting fixtures permanently attached to a building or other structure.

9.

a. Neon lighting.

Neon lighting may be used as a lighting element, provided that the tubes are concealed and are an integral part of the building design.

D. Exemptions The following uses shall be exempt from the requirements of this section:

1.

Lighting, such as streetlights, traffic signal devices warning, or emergency lights/devices, installed by a governmental agency for traffic safety control purposes on public right-of-way or property.

2. Lighting that is not subject to this UDC by state or federal law.

3.

Specific exemptions as may be recommended by the Planning and Zoning Commission and/or approved by the City Council during consideration of the Site Plan, provided the Applicant can demonstrate that strict compliance with these provisions would not contrary to the purpose and intent of this Section or that alternatives proposed by the Applicant would satisfy the purposes of this Section at least to an equivalent degree, or, if determined that the Section's provisions restricts illumination to a standard insufficient for safety (per recommended practices adopted by the Illuminating Engineering Society of North America) or other evidence submitted by a professional engineer. The City Council may impose such conditions that it deems appropriate to further the purposes of this Section.

E. 1. Plans and Submittals

Lighting plans shall be submitted for review and approval concurrently with the Site Plan and shall include a schematic layout of all proposed exterior fixture locations, foot-candle data, and a plot demonstrating intensities and uniformities within the established limitation of this Section.

2.

When requested by the Building Official or Responsible Official, the Applicant shall submit a visual impact photometric plan that demonstrates both light coverage and light spillage resulting from the proposed lighting plan and the provision for adequate measures to mitigate nuisance and unsafe conditions from light pollution and glare both uses or development on site and on adjacent properties.

3.

Should any outdoor light fixture or the type of light source be changed after receiving approval pursuant to the approved Site Plan, the owner, or agents, shall submit a change request to the Building Official for his approval, together with adequate information to assure compliance with this Section.

F. 1. Lighting Design

Lighting systems, including the placement of luminaries, shall meet the requirements of this UDC.

2.

Luminaires on poles over 42 inches in height and exterior wall-mounted light fixtures shall be high-pressured sodium lights or other light giving a similar soft lighting effect. The Building Official may approve alternate lighting if he finds that it:

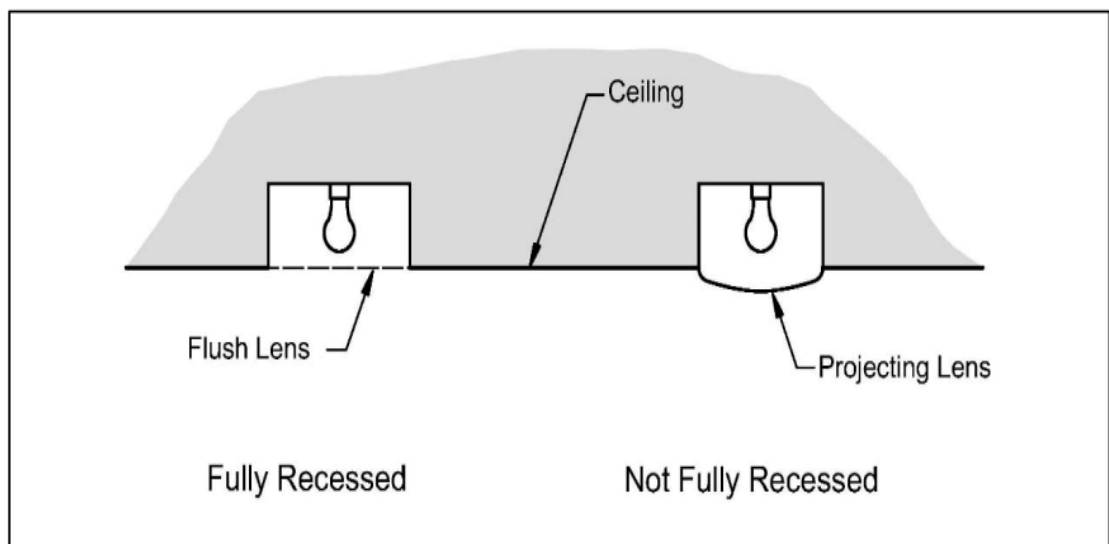
a.

Provides at least approximate equivalence to the applicable specific requirements of the UDC; and

b. Is otherwise satisfactory and complies with the intent of this UDC.

3.

Fully recessed lights in ceilings of canopies or roof overhangs may be of any type provided the level of illumination does not exceed the limitations specified in 2.09.07. G. See Figure 14: Ceiling Light in Canopy or Overhang (below).



**Figure 14: Ceiling Light in Canopy or Overhand**

Luminaries causing glare at property lines or in vehicle areas on streets or parking lots are prohibited.

Incandescent bulbs may be used as decorative lighting provided the individual lamps do not exceed 25 watts and do not otherwise conflict with this UDC.

Illumination

Intensity of Illumination. The intensity of illumination projected from one property to another property is determined by the zoning district classification of the adjacent property and shall not exceed the following intensities, as measured from the property line of the adjacent property:

<i>Table 19: Maximum Illumination between Properties</i>
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<i>Underlying Zoning of Adjacent Property</i>	<i>Foot-Candles Horizontal</i>	<i>Foot-Candles Vertical</i>
Single Family (detached and attached) Residential Districts	0.2	0.5
Multi-Family Residential Districts	0.5	0.5
Commercial Districts, streets	3.0	3.0
Industrial Districts	5.0	5.0

2.

Maximum Outdoor Illumination Level. The maximum computed or measured outdoor illumination level on a property shall not exceed 20 foot-candles outdoors at any point, except that lighting under canopies (such as for service stations) shall not exceed 30 foot-candles.

3.

a. Measurement of Illumination. Meter required.

i.

Lighting levels of outdoor lighting shall be measured in foot-candles with a direct-reading portable light meter with a color and cosine corrected sensor with multiple scales.

ii. Reading accuracy should be within ± five percent (5%).

iii.

The meter shall be tested and calibrated by an independent commercial photometric laboratory or manufacturer within one year of date of use as attested to by a certificate issued by such laboratory.

b.

i. Horizontal method of measurement.

The meter sensor shall be mounted not more than six inches above ground level in a horizontal position.

ii.

Readings shall be taken only after the cell has been exposed to provide a constant reading.

iii.

Measurements shall be made when the meteorological optical range is six miles or further so that measurements will not be adversely affected by atmospheric scatter.

iv.

Measurements shall be made after dark with the existing questioned light sources on, then with the same sources off.

v.

This procedure eliminates the effects of moonlight and other ambient light.

vi.

The difference between the two readings shall be compared to the foot-candle ratings listed in Table 19: Maximum Illumination between Properties (above).

c. i. Vertical method of measurement.

The meter sensor shall be mounted at five feet above ground level in a vertical position, perpendicular to the property line and facing the outdoor lighting in question.

ii.

Readings shall be taken only after the cell has been exposed to provide a constant reading.

Measurements shall be made after dark with the existing questioned light sources on, then with the same sources off.

iii.

This procedure eliminates the effects of moonlight and other ambient light.

iv.

The difference between the two readings shall be compared to the foot-candle ratings listed in Table 19: Maximum Illumination between Properties (above).

d. i. Computation of illumination.

ii. Illumination at a point may be computed in lieu of measurement.

Computation methods shall consist of a generally accepted Illuminating Engineering Society method, using certified photometric data furnished by the fixture manufacture, lamp manufacturer, photometric laboratory, or other reliable authority satisfactory to the city. Computations shall be based on new, properly seasoned lamps, new and clean fixtures, and at rated voltage and wattage, with ballasts, lenses, shields, diffusers, and other appurtenances in place, and with proper regard taken for mounting height, relative elevation, natural and manmade objects.

H. 1. Luminance

Limits. The intensity of Luminance projected from one property to another is determined by the zoning district classification of the adjacent property and shall not exceed the following limits:



<i>Table 20: Maximum Luminance between Properties</i>	
<i>Underlying Zoning of Adjacent Property</i>	<i>Luminance</i>
Single Family (detached and attached) Residential Districts	0.02
Multi-Family Residential Districts	0.05
Commercial Districts, streets	0.30
Industrial Districts	0.50

- 2. a. Calculations (generally).

Because of the lack of a practical means of measuring fixture Luminance in the field, and because of the factors involved in glare, a computational method shall be used to determine compliance with this section.

- b.

The point from which luminance calculations shall be made is five feet (5') above ground at the property line of the property adjacent to the property with the outdoor lighting.

- 3. Luminance Calculations using Luminaries Photometric Data.

- a. Luminance shall be computed by the formula:

$$L = \frac{I}{d^2 + h^2}$$

- i.

Where "I" is the fixture candlepower in candelas in the direction of the point from which the calculations are to be made,

ii.

"d" is the shortest distance in feet measured horizontally from the property line to a point directly under the luminaries, and

iii.

"h" is the height of the luminaries above the eye level as explained in the illustration below.

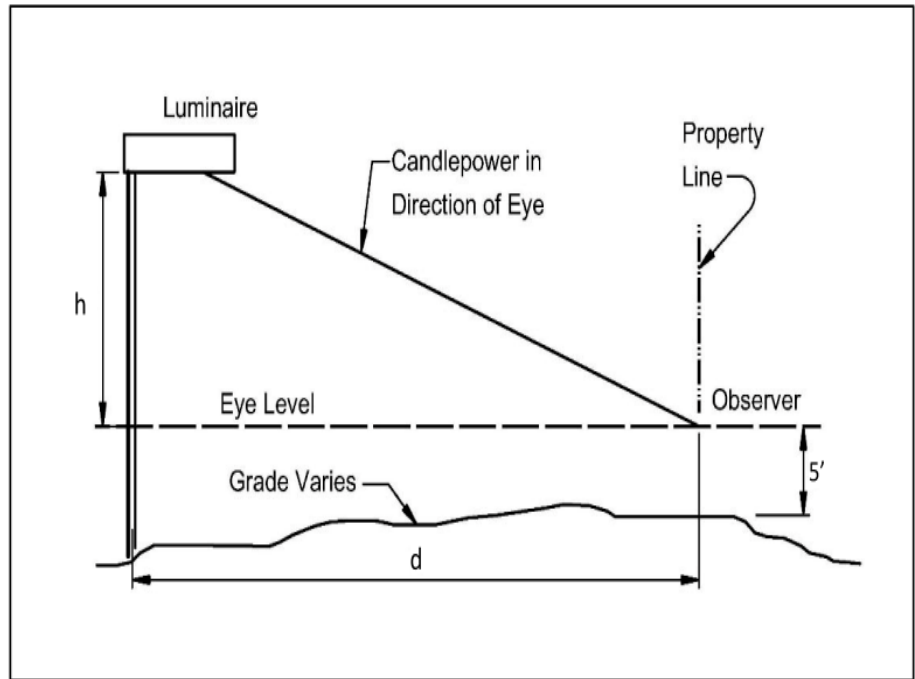


Figure 15: Factors for Luminance Determination

- 1. a. Enforcement Illumination in Excess of Limits.

If the Illumination, as measured, exceeds the limits stated in the above section, the Illumination shall be reduced until the Illumination is equal to or less than the limits prescribed in Section 2.09.07. G.

b.

This may be accomplished by removal of the light, reduction in the quantity of luminaries, reduction of the wattage of the lamps, shielding the luminaries or aiming of the luminaries.

- 2. a. Luminance in Excess of Limits.

If the Luminance of a luminaries, as calculated, exceeds the limitation in the above section, the Luminance shall be reduced until the Luminance is equal to or less than the limits prescribed in Section 2.09.07. H.

b.

This may be accomplished by reduction of the wattage of the lamps, shielding the luminaries or by re-aiming of the luminaries.

3.

a. Shielding.

Luminaries shall be aimed in such a manner that the viewer's eye, five feet above ground at or beyond the property line, shall not be exposed to fixture Luminance within the floodlight beam of the luminaries.

b.

If such luminaries cannot be aimed they shall be shielded such that the light source is effectively concealed from view from the adjacent property.

c.

Shielding may be accomplished by louvers, baffles, visors, or shields placed on the luminaries, or by plantings fences, berms, elevation or any other method such that the limitations of Section 2.09.07. H above are met.

J.

Existing Lighting When outdoor lighting lawfully existed on the effective date of this UDC and which does not conform to the provisions of this UDC or when plans for outdoor lighting have been lawfully submitted in connection with an application for a building permit, or site plan before the effective date of this UDC, it shall be deemed a lawful use, subject to the following conditions:

1.

If a person makes any change or addition to an existing lighting system, the change or addition shall conform to the provisions of this UDC; and

2.

If a person makes any change or addition to an existing building that results in an increase in the size of the building by more than twenty (20) percent, the person shall ensure that the existing outdoor lighting shall conform to the provisions of this UDC.

K.

Approval of Alternative Compliance A request for Alternative Compliance may be submitted to vary one (1) or more of the lighting-related regulations cited in subsections 2.09.07. K.1 through 2.09.07. K.4 below. A request for Alternative Compliance may be submitted and acted upon in accordance with 2.10.02. Alternative Compliance. The City Council may approve the following, based upon a finding that the proposed alternative meets the spirit and intent of this 2.09.07. Lighting and Glare Regulations in a manner equivalent or superior to the foregoing standards.

1.

2.

Height of free-standing lighting fixtures;

Style or illumination intensity of lighting fixtures (only if such fixtures are located at least three hundred feet (300') away from a residential zoning district or use);

- 3.
4. Maximum wattage of accent lighting; or  
Gaseous/electrified building lighting design.

**PROCLAMATION**

**City Council Regular and Workshop Session**

**Meeting Date:** 01/18/2018

**Title:** Proclamation for Drexler Shiloh Rowe for Eage Scout Award

**Submitted For:** Bob Hart, City Manager

**Submitted By:** Kim Pence, City Secretary

**Finance Review:** N/A

**Legal Review:** N/A

**City Manager Review: Approval:** Bob Hart, City Manager

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**AGENDA ITEM**

**PROCLAMATIONS:**

- Proclaiming Drexler Shiloh Rowe for his Leadership and Service to the Community and his rank as Eagle Scout.
- Proclaiming Grayson Hurst for his Dedication and Act of Kindness to Denton Animal Shelter.
- Proclaiming Emerson Hurst for her Dedication and Act of Kindness to the Corinth Police Department.

**AGENDA ITEM SUMMARY/BACKGROUND**

N/A

**RECOMMENDATION**

N/A

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**Attachments**

Proclamation

Proclamation

Proclamation

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## PROCLAMATION

### FROM THE OFFICE OF THE MAYOR OF CORINTH, TEXAS

**WHEREAS**, the Boy Scouts of America was founded on February 8, 1910, and has grown to be a vital force in the development of our youth through its many programs which encourage the ability of its members to do things for themselves and others; and,

**WHEREAS**, the Boy Scouts of America serves many through a wide variety of activities designed to complement and implement the youth programs offered by churches, civic organizations and public schools; and,

**WHEREAS**, Drexler Shiloh Rowe began his scouting career as a Tiger Club when he was 7 years old. Drexler has been a highly active scout in his pack, troop, and community. He faithfully completed all of his Cub Scout years and got the Super Achiever Award as well as the Webelos Rank and the Arrow of Light Awards; and,

**WHEREAS**, at the age of 11 Drexler moved from Cub Scouts into Boy Scouts where he has been growing and learning leadership and self-reliance. At one of the events called the Brown Sea Leadership Training, Drexler earned the top award called the Baiden Powell award recognizing him for being an outstanding Scout; and,

**WHEREAS**, Drexler has served his troop in a number of leadership roles including Chaplains Aid, Assistant Patrol Leader, Patrol Leader, Assistant Senior Patrol Leader, Senior Patrol Leader and has even gone back to Cub Scouts to serve as a youth leader as a Den Chief. He has become part of the Order of the Arrow as a Brotherhood Member and serves as Scouting's National Honor Society and demonstrates the Scout Oath and the Scout Law in his everyday life; and,

**WHEREAS**, Drexler's Eagle project was an effort to do fundraising. He raised around \$1400 dollars in donations to help supply kids in need with much needed school supplies. To assist with that effort he led a team of Scouts and adults to help obtain the supplies and the delivery of those supplies; and,

**WHEREAS**, the Eagle Scout Award has been awarded for over 100 years to a small number of young men who accomplish its requirements and demonstrate community leadership; and,

**WHEREAS**, Drexler Shiloh Rowe, will be recognized by the Boy Scouts of America for his faithful and steady path taken within the Scouting organization and successfully completing all requirements for Scouting's highest rank,

**NOW, THEREFORE**, I, Bill Heidemann, by virtue of the authority vested in me as Mayor of Corinth, Texas do hereby honor Drexler Shiloh Rowe for his leadership and service to his community and applaud his rank as Eagle Scout.

Signed this \_\_\_ day of \_\_\_\_\_

\_\_\_\_\_, 2018.

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*Bill Heidemann, Mayor*



## PROCLAMATION

### Donation and Act of Kindness

WHEREAS, Grayson, a resident of Corinth, received \$26.52 over the course of one year from his grandmother to donate to a charity of his choice; and

WHEREAS, Grayson chose to make his donation to the City of Denton, Texas Animal Shelter; and

WHEREAS, the Animal Shelter sincerely appreciates Grayson's donation and act of kindness.

NOW, THEREFORE, the Mayor and City Council wish to honor and recognize Grayson Hurst for his donation and act of kindness.

IN WITNESS WHEREOF, I have hereunto set my hand and caused the official seal of the City of Corinth, Texas to be affixed this the 18<sup>th</sup> day of January, 2018.

---

Bill Heidemann, Mayor





## PROCLAMATION

### Donation and Act of Kindness

WHEREAS, Emerson, a resident of Corinth and five years old, saved \$55.62 over the course of one year to donate to the men and women of the City of Corinth Police Department; and

WHEREAS, Emerson made a donation to the Corinth Police Department to demonstrate her sincere appreciation and gratitude for their service and dedication to the Community; and

WHEREAS, the Corinth Police Department sincerely appreciates Emerson's donation and act of kindness;

NOW, THEREFORE, the Mayor and City Council wish to honor and recognize Emerson Hurst for her donation and act of kindness,

IN WITNESS WHEREOF, I have hereunto set my hand and caused the official seal of the City of Corinth, Texas to be affixed this the 18<sup>th</sup> day of January, 2018.

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Bill Heidemann, Mayor

**CONSENT ITEM 1.**

**City Council Regular and Workshop Session**

**Meeting Date:** 01/18/2018

**Title:** January 4, 2018 Workshop Session

**Submitted For:** Kim Pence, City Secretary

**Submitted By:** Kim Pence, City Secretary

**City Manager Review: Approval:** Bob Hart, City Manager

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**AGENDA ITEM**

Consider and act on minutes from the January 4, 2018 Workshop Session.

**AGENDA ITEM SUMMARY/BACKGROUND**

Attached are minutes from the January 4, 2018 Workshop Session. The minutes are in draft form and not considered official until formally approved by the City Council.

**RECOMMENDATION**

Staff recommends approval of the January 4, 2018 Workshop Session minutes.

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**Attachments**

Minutes

Exhibit A

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**STATE OF TEXAS  
COUNTY OF DENTON  
CITY OF CORINTH**

On this the 4<sup>th</sup> day of January 2018 the City Council of the City of Corinth, Texas met in a Workshop Session at the Corinth City Hall at 5:30 P.M., located at 3300 Corinth Parkway, Corinth, Texas. The meeting date, time, place and purpose as required by Title 5, Subtitle A, Chapter 551, Subchapter C, Section 551.041, Government Code, with the following members to wit:

**Members Present:**

Bill Heidemann, Mayor  
Joe Harrison, Mayor Pro-Tem  
Sam Burke, Council Member  
Lowell Johnson, Council Member  
Scott Garber, Council Member  
Don Glockel, Council Member

**Members Absent:**

None

**Staff Members Present:**

Bob Hart, City Manager  
Debra Walthall, Chief of Police  
Kevin Tyson, Police Lieutenant  
Barbara Cabbage, Interim Planning and Development Director  
Mike Brownlee, City Engineer  
Jason Alexander, Economic Development Corporation Director  
Kim Pence, City Secretary  
Shea, Technology Services Assistant  
Mack Reinwand, City Attorney

**Others Present:**

Mia Brown, NCTCOG  
Kori Mullen, NCTCOG  
Edith Marvin, NCTCOG  
Angela Davidson, Halff & Associates  
Jessica Baker, Halff & Associates  
Jarred Overbey, Halff & Associates  
Samuel Amoako-Atta, Halff & Associates

**CALL TO ORDER:**

**Mayor Heidemann called the meeting to order at 5:30 P.M.**

**WORKSHOP BUSINESS AGENDA**

1. Discuss Regular Meeting Items on Regular Session Agenda, including the consideration of closed session items as set forth in the Closed Session agenda items below.

Business Item #6 discussion:

6. Discuss and consider approval of a Professional Services Agreement with Birkhoff, Hendricks and Carter, L.L.P. for work associated with the City of Corinth's Lake Sharon Drive/Dobbs Road alignment (Lake Sharon Drive Extension) and Quail Run Elevated Tank in the amount of \$916,205.

**Mike Brownlee, City Engineer** - this project scope includes the following:

- Completion of Lake Sharon per Corinth's Master Thoroughfare Plan
- New Quail Run Elevated Tank for growth and economic development of the east side of IH-35E
- Supporting water infrastructure for supply and distribution for the new tank and growth along the IH-35E corridor.
  
- We have this broken into three separate projects in order to capture elements of the work that attract bidders who specialize in various types of construction.
- Project "A" consists of Lake Sharon Drive and includes paving, drainage and utility work inside the proposed street right of way at an estimated cost of \$4.26M. The estimated cost of construction does not include ROW acquisition or the cost to relocate the existing billboard in the proposed ROW.
- Project "B" consists of the new IMG elevated tank located on Coserv property. The estimated construction cost of the new tank is \$4.59M, which does not include land acquisition costs.
- Project "C" includes the supporting utility infrastructure to support the new tank and growth for the east side of IH-35. Project "C" is estimated to cost \$1.75M.

All of the work included in the project is Impact Fee eligible. The combined estimate for all three projects is \$10,602,855.

**Councilmember Harrison** - I understand what we are dealing with item #6 is in the amount of \$916,205. I assume that you are going to pay for that using some of the dollars amounts that we had left over from the Road Impact Fees?

**Bob Hart, City Manager** - yes.

**Councilmember Harrison** - where are you going to get this money?

**Bob Hart, City Manager** - this would be a contract to do the design on the 3 pieces. We have the money.

**Councilmember Harrison** - where are you going to get this \$10 million dollars to build all of this?

**Bob Hart, City Manager** - that would be debt financed. We would have to issue debt.

**Councilmember Harrison** - you are going to have to increase taxes?

**Bob Hart, City Manager** - yes, taxes and water rates. At the last triannual inspection that we did with TCEQ, we were on the lip of having to develop additional elevated storage and they come in every 3 years to do that. On this last inspection, we are on notice that we are on the bubble for that. I think you could probably delay that..... We will get dinged on the next inspection but I don't think it will be fatal. Six years from now it is fatal. You could lose a rating on the water system. When you talk about the "window" part of that is going to be dictated by the county and TxDOT on the roadway....

**Councilmember Burke** - is the \$28 million for the bridge?

**Bob Hart, City Manager** - yes.

**Councilmember Burke** - so we are doing everything up to the bridge and they are going to do the bridge...

**Bob Hart, City Manager** - yes, they are going to do the bridge.

**Mayor Heidemann** - you talk about development and it is going to open up opportunities for commercial development, if we don't do this do we have the water capacity to be able to support that?

**Mike Brownlee, City Engineer** - no. Our water customers will complain because of low water pressure, or sitting there on a hot day in August watching our water tank level real carefully. That is not a situation you want to be in.

**Councilmember Harrison** - I agree that we need all of this. My problem is how are we going to finance it? Eighteen people we have to hire for the Health, Safety and Welfare so we are going to have to make a decision whether or not it is important for the 18 people or this? I see there is an acre that you are going to buy to put this water tower on it?

**Mike Brownlee, City Engineer** - we hope they will donate it. They were willing to donate in the past. We have not talked to them about it yet.

**Bob Hart, City Manager** - there was some discussion in the past but we have not talked recently. Then if you remember for our part of the alignment of Dobbs and Lake Sharon, I will go back to the County and ask for that back. I don't know if we will get it or not but I will certainly go out there and ask for it.

**Councilmember Burke** - so part of what you want to do is have them do this work, get solid cost numbers and the ultimate decision on whether to bid it or not, we will have that in budget discussions.

**Bob Hart, City Manager** - that is correct.

**Councilmember Burke** - the part I am struggling with is that is \$1 million dollars we are spending to have a conversation about whether or not we want to do it.

**Bob Hart, City Manager** - yes. To me the reason I think you would want to go forward with it is 1. Let's go back to the Lake Sharon Alignment issue, there is activity starting to occur there at the Millennium Project on the Yasi Land Company and then across Bracket and Huffines. There are demands right now where we have to preserve the right-of-way or that project is over.

**Councilmember Burke** - what do you mean by we have to preserve the right-of-way?

**Bob Hart, City Manager** - you have people wanting to do some development in that area and we don't have any kind of right-of-way of what we need.

**Councilmember Burke** - ok, and if they buy it and develop it, it would be cost prohibited or impossible to put the roadway in?

**Bob Hart, City Manager** - yes that is right.

**Mike Brownlee, City Engineer** - it gives us a chance to do it the way we want to do it, not the way TxDOT wants to do it.

**Bob Hart, City Manager** - the 2<sup>nd</sup> component is that TCEQ deficiency. We are on notice now. By 2020 we have to have something happening and I certainly would not want to go to an inspection without plans in my hip pocket.

**Councilmember Harrison** - I don't have a problem with the engineering, I said that but tell me how are we financing the \$916,205?

**Bob Hart, City Manager** - it is a combination of impact fees, funds left over from other debt.....

**Councilmember Harrison** - if we are going to issue a contract for \$916,205, we have it covered so I don't have any problem with doing that but when you get into tying in the rest, it will come up when we hit the budget in February.

**Bob Hart, City Manager** - what I would like to be able to do in this budget is to incorporate a combination of the Capital Improvement Plan and Asset Management Plan so that you can get about a 10 year look at what all needs to be done. Then we will figure out how to finance it all.

**Mayor Heidemann** - if we go ahead and do this engineering and all this preliminary work, how long is that valid for?

**Mike Brownlee, City Engineer** - there is, you can design a set of plans and put them on the shelf and you will have to go back and freshen them up and pull them back off the shelf. It might cost another 10% or 15% to freshen it up.

**Gary Hendricks, Birkhoff, Hendricks, & Carter, L.L.P** - If you are worried about the design phase, this contract is all the way through construction but there is a stop point just for design and that is about 60% of that so we could just go through the design and stop and we would not be spending the entire amount of the funds that were under our contract until you decided to move forward with bidding and decided to move forward with construction. Our services extend all the way through the construction so the risk is mitigated.

**Mayor Heidemann** - how long of a time line are you talking about to do all this?

**Gary Hendricks, Birkhoff, Hendricks, & Carter, L.L.P.** -this is all-together about a year.

**Mayor Heidemann** - you are way into the next budget season then.

**Councilmember Burke** - you are talking about the design part is about a year? The bidding is however long that takes?

**Gary Hendricks, Birkhoff, Hendricks, & Carter, L.L.P.** - yes.

**Councilmember Burke** - so that part of the contract is about \$600,000?

**Gary Hendricks, Birkhoff, Hendricks, & Carter, L.L.P.** - give or take. There is some special services in there that we may or may not need to use.

Business Item #7 Discussion

7 Consider and act on amending the Code of Ordinances of the City of Corinth, Texas by amending Chapter 70, Traffic Rules, by modifications to the maximum speed limits shown in Section 70.1, Speed Limits, Paragraph (c), Table of Maximum Speeds to set a maximum speed limit of 50 mph for the IH-35E frontage roads and 65 mph on the main lane of IH-35E inside Corinth.

**Mike Brownlee, City Engineer** - TxDOT recently performed a speed study and Speeds were observed during non-peak hours. Approximately 125 cars were measured at each location. Locations were about 1 mile apart. A summary at each location is shown with # cars, top speed and 85th percentile speed. Recommended speeds are 50 mph on the Frontage Roads and 65 mph on the main

The proposed ordinance will modify the existing City of Corinth Ordinance. The maximum speeds would be revised from 60 mph to 65 mph for the main lanes. Maximum speeds would be changed from 45 mph to 50 mph for the frontage road lanes.

**Councilmember Harrison** - have we talked to the Charter school to tell them we are going to raise it to 50 MPH?

**Debra Walthall, Chief of Police** - yes, we let her know and we already advised her that we may have to start issuing citations if they back up the service road.

**Councilmember Garber** - Corinth is not changing the speed limit, TxDOT is and we are just matching our Ordinance to what TxDOT is going to put on that access road.

**Mayor Heidemann** - as I drive down that frontage road, people use that inside lane which is not supposed to be there is that correct?

**Debra Walthall, Chief of Police** - yes, it is problematic.

**Mike Brownlee, City Engineer** - that will go away with Phase II.

**Bob Hart, City Manager** - in the interim we have got to get TxDOT to help with some of the markings.

**Councilmember Glockel** - FM 2181 has never been corrected has it? Has there ever been an Ordinance written to change FM 2181 to the speed limit of 50 MPH? The answer is no because I have never seen an Ordinance come to Council.

**Mike Brownlee, City Engineer** - I have asked TxDOT for that speed study on FM 2181 and I have not seen it either. We can bring that back.

## **WORKSHOP BUSINESS AGENDA:**

2. Receive a presentation on the Lynchburg Creek Watershed from the NCTCOG and Halff and Associates.

**Mike Brownlee, City Engineer** - Introduced Mia Brown from North Central Texas Council of Governments.

**Mia Brown, North Central Texas Council of Governments** - North Central Texas Council of Governments is a voluntary association of, by, and for local governments, established in 1966 to help with the following:

- Plan for common needs
- Strengthen their individual and collective power
- Recognize regional opportunities
- Resolve regional problems
- Make joint decisions/cooperate for mutual benefit

As a Regional Non-Regulatory Planning Agency, we participate in the first couple of phases of what FEMA calls the Risk Map process. This process is multiple phases that ultimately ends in new Flood Insurance Rate Maps for the community.

In 2013, the City of Corinth was very involved and active in participating in the Elm Fork Trinity Watershed Discovery. What that did was take existing data, field study data and community input and information to find out what flood risks were through that entire watershed and that resulted in a report that prioritized individual streams for study that had outdated information on flood risk for the communities.

The City requested that Lynchburg Creek be studied and in 2015 we were funded by FEMA as a cooperating technical partner to perform this study. Ultimately, that is why we are here today. The study has been completed.

Mia Brown introduced Angela Davidson from Halff & Associates.

**Angela Davidson, Halff & Associates** - Lynchburg Creek runs from the east to the west in the City of Corinth through Shady Shores. The study included 9.13 miles of Lynchburg Creek and a population of 15,000 people live inside this watershed. Our study included survey, hydrology to determine the amount of water in this stream. Hydraulics to determine how high that water would get in the river and floodplain mapping and that shows the location of where the flooding would happen.

Our first step was to gather topographic data and we gathered the 2010 TNRIS ground data and we also enhanced that with some survey in June 2016, surveying 20 bridge/Culvert crossings and 30 Cross Section Surveys and also gathered survey sketches, photographs, and digital data. We did not survey any individual building elevations.

A flood map is called a Flood Insurance Rate Map (FIRM). It presents the indication of the risk of flooding, including community's flood zones, your base flood elevations and floodplain boundaries. The Flood Insurance Rate Maps are used by the City to manage floodplains, develop sound building ordinances, and determine flood insurance premiums and requirements.

The flood insurance premiums are based on the degree of flood risk. High risk area or the 1% or higher annual risk of experiencing a flood. Moderate risk to low risk areas, the flood risks is less than 1% in any given year. No areas have no-risk, there is always some risk of flooding.

Currently, for the City of Corinth, you are included in the flood insurance study by FEMA that was done in 2011. This study was done from Map Mod and that was done to make their paper maps into digital maps. They took the City's flood plains and put them on topographic data but they did not do new studies.



Lynchburg Creek was last studied in 1984, Stream GS-1 in 2002, and Stream LC-1 in 1986. Your studies are almost 30 years old. Flood Plain maps change because flood risks changes over time. Water flow and drainage patterns can alter dramatically due to the following:

- Changes in land use
- Community Development
- natural forces
- Changing weather patterns
- Surface erosion
- changes in Infrastructure
- Newer technology and modeling

To reflect the most current flood risks, floodplain maps are updated with the latest modeling and mapping technology.

Today to show you the City's new floodplains I will use a tool called changes since last flood insurance rate map (FIRM). The red highlighted area has been added to your floodplain, the green highlighted area is being removed, and the blue area has not changed. The yellow dots are property being added, the blue dots are property that are currently in the floodplain and will stay in the floodplain and the purple dots are areas that are being removed. See Exhibit A.

Property added to Special Flood Hazard Area (SFHA) Floodplain, Flood insurance is mandatory and will be required if you have a mortgage from a federally regulated or insured lender. The buildings newly mapped into a high-risk area may initially be eligible for a lower-cost rate during the first 12 months following a map change.

Property removed from floodplain, the food insurance is optional, and the risk is reduced, but not removed.

The property with no change has no change in insurance rates or risks.

Revised floodplains will not be the effective FEMA floodplains or used for flood insurance until a FEMA Flood Insurance Rate Map (FIRM) revision is completed and goes effective. Once NCTCOG submits final study results to FEMA, map revision process can begin. Anticipated to start in 2018 and will take 12 to 18 months to become effective.

**Councilmember Harrison** - what are the steps to notify those people that we have added?

**Angela Davidson, Halff & Associates** - that will be in next phase when it goes to becoming a map. Now, it is just a study and it will be happening in the future but it has not started yet. There are public notices once FEMA starts to get the mapping moving.

**Councilmember Harrison** - do they notify those citizens that the study has been done in advance?

**Angela Davidson, Halff & Associates** - they do not notify in this phase.

**Councilmember Glockel** - there was a ditch on the west side, can that be modified to help?

**Mike Brownlee, City Engineer** - yes, we could like at that and we could look at a detention pond or taking it further downstream or a combination of all three.

3. Receive a presentation on the Water and Wastewater Master Plan Report from Kimley Horn and Associates.

**Anthony Sammaritus, Kimley-Horn & Associates** - previously the City updated their Water/Wastewater Master Plan in 2005. As part of the update, we looked at Future Land Use for the City, Future Growth Rates to project what the demands are going to be in the next 5 to 10 years all the way through buildout. We took that information and inserted it into a hydraulic model for water and wastewater projected demands and evaluated the City's existing infrastructure and projected what future capital project would be needed to support the additional road the City is going to see between now and buildout.

Through that process, we developed a CIP for water and wastewater, we then documented the results and provided the City reports which we finalized in November. If you look at water demands as an example from now to buildout we are projecting that your demands will increase about 45%.

#### Water Master Plan Projects

##### The 5 Year CIP (Highest Priority Projects)

- Quail Run Drive/Dobbs Road and 16 inch and 20 inch Water Lines - the primary function of those water lines is to take water to the new tank that will be on the east side of Interstate 35E.
- Quail Run 1.0 MG Elevated Storage Tank
- Lake Sharon 3 MG Ground Storage Tank Rehabilitation - This tank went in over 15 years ago. It is a steel tank and those routinely have to be re-painted so the steel is protected from corrosion and it is about time for that tank to be recoated.

#### Wastewater Master Plan Projects

- 5-year CIP (Highest Priority Projects)
- Lift Station 3A and Parallel Force Main - the City has started discussions with LCMUA to look at the feasibility of taking this area and gravity feeding down to LCMUA. That is the way the topology wants to fall and that is why there has to be a lift station here is the City elects to handle that sewer entirely themselves. Currently, the City is looking at possibly partnering with LCMUA to take this sewer, eliminate a lift station and see if that financially makes since.

We prioritize the projects and there was only 1 project that we considered a high priority on the wastewater side and it is the expansion of an existing lift station the City owns and it Lift Station 3A. It is identified to be upsized or expanded to handle projected future wastewater flow into this lift station. This information is very similar to the information we presented a few months ago.

### **CLOSED SESSION**

**There was no closed Session.**

The City Council will convene in such executive or closed session to consider any matters regarding any of the above agenda items as well as the following matters pursuant to Chapter 551 of the Texas Government Code.

**Section 551.071.** (1) Private consultation with its attorney to seek advice about pending or contemplated litigation; and/or settlement offer; and/or (2) a matter in which the duty of the attorney to the government body under the Texas Disciplinary Rules of Professional Conduct of the State of Texas clearly conflicts with chapter 551.

**a. Lake Sharon Dam Development Agreement.**

**Section 551.072.** To deliberate the purchase, exchange, lease or value of real property if deliberation in an open meeting would have a detrimental effect on the position of the governmental body in negotiations with a third person.

**Section 551.074.** To deliberate the appointment, employment, evaluation, reassignment, duties, discipline, or dismissal of a public officer or employee; or to hear a complaint or charge against an officer or employee.

**a. City Manager evaluation.**

**Section 551.087.** To deliberate or discuss regarding commercial or financial information that the governmental

**Section 551.087.** To deliberate or discuss regarding commercial or financial information that the governmental body has received from a business prospect that the governmental body seeks to have locate, stay, or expand in or near the territory of the governmental body and with which the governmental body is conducting economic development negotiations; or to deliberate the offer of a financial or other incentive to a business prospect.

After discussion of any matters in closed session, any final action or vote taken will be in public by the City Council. City Council shall have the right at any time to seek legal advice in Closed Session from its Attorney on any agenda item, whether posted for Closed Session or not.

**RECONVENE IN OPEN SESSION TO TAKE ACTION, IF NECESSARY, ON CLOSED SESSION ITEMS.**

**ADJOURN:**

Mayor Heidemann adjourned the Workshop meeting at 6:54 P.M.

**AYES:** All

Meeting adjourned.

Approved by Council on the \_\_\_\_\_ day of \_\_\_\_\_, 2018.

\_\_\_\_\_  
Kimberly Pence, City Secretary  
City of Corinth, Texas

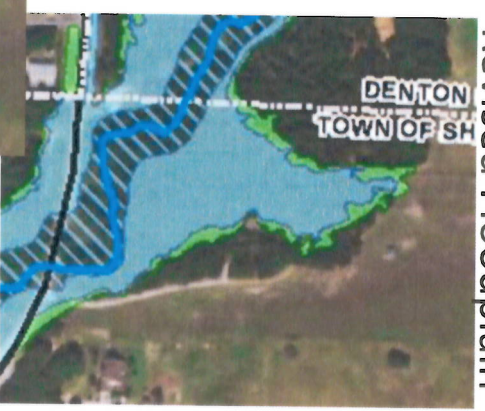
# Changes Since Last FIRM

- Illustrates changes in flood risk between effective and updated Special Flood Hazard Areas
  - Effective Study – 2011 FIRM
  - Updated SFHA – 2017 Study
- Key to Changes Since Last FIRM
  - Red Highlighted Area – Areas of new SFHA
  - Green Highlighted Area- Areas removed from SFHA
  - Light Blue Highlighted Area- No change in SFHA

Effective FIRM (2011)



Revised Floodplain



Changes Since Last FIRM

**Key to Legend**

	Special Flood Hazard Area Increase
	Special Flood Hazard Area Decrease
	No Change



FEMA

RiskMAP

Increasing Resilience Together

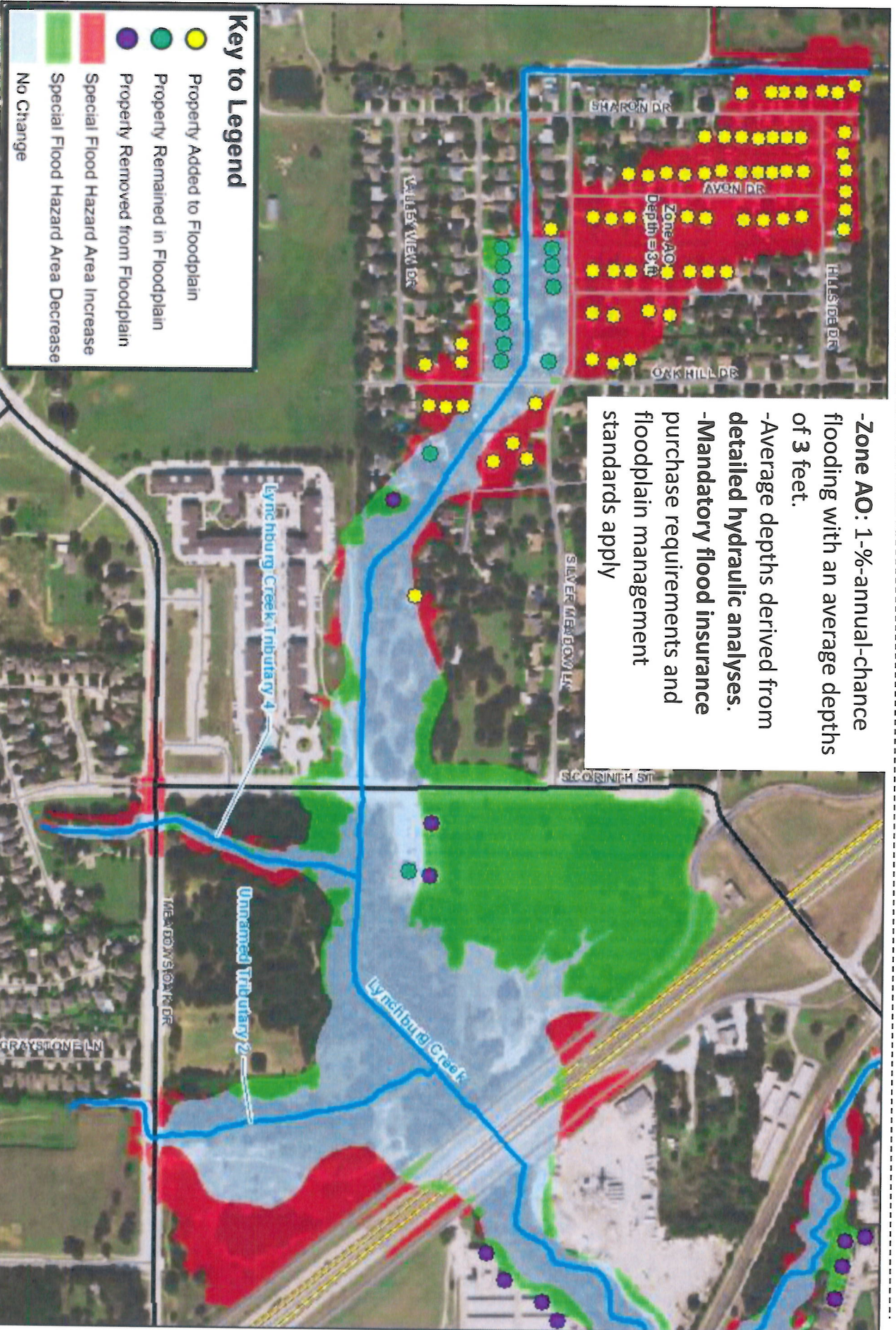


North Central Texas Council of Governments

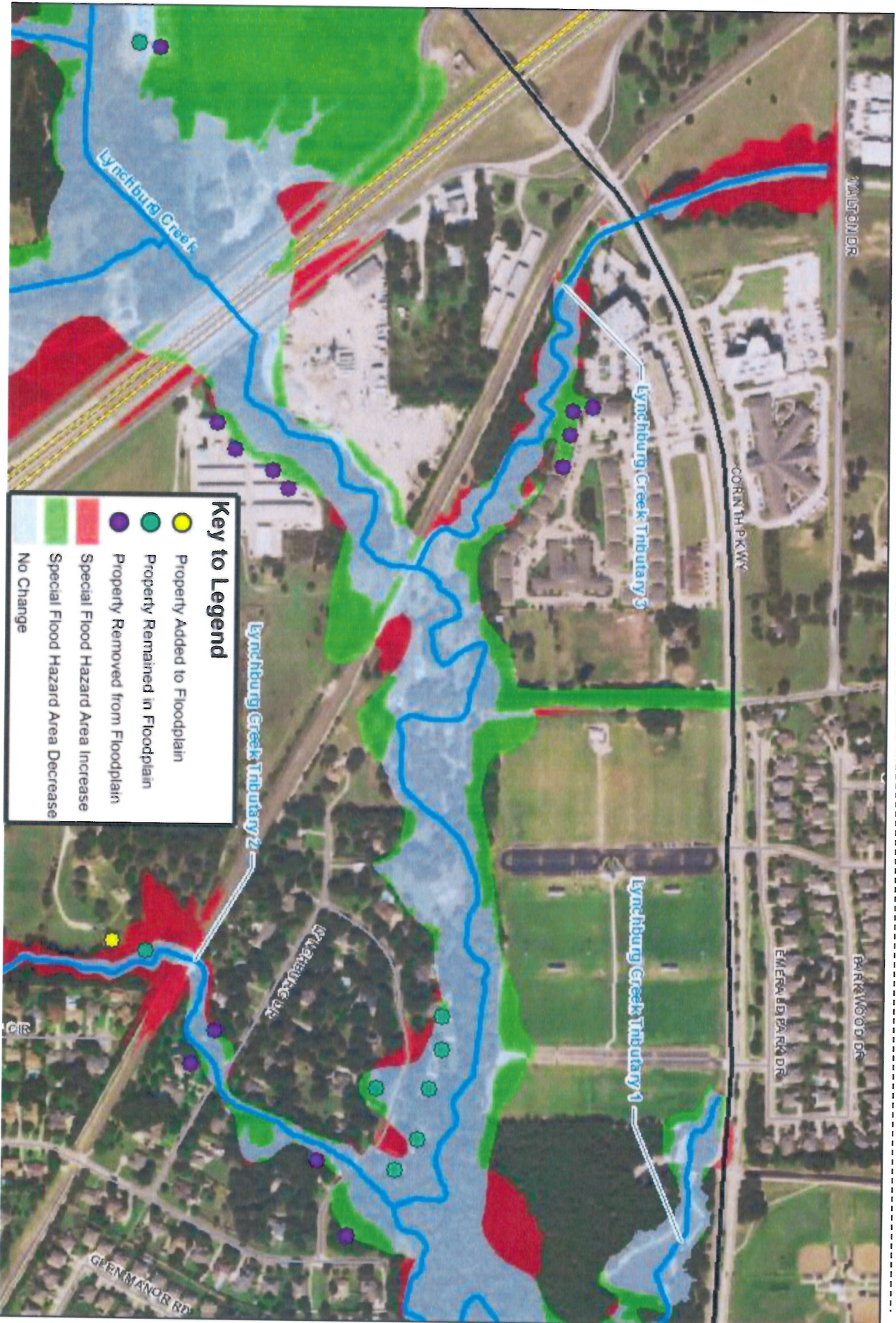
HALFF

# Changes Since Last Flood Map

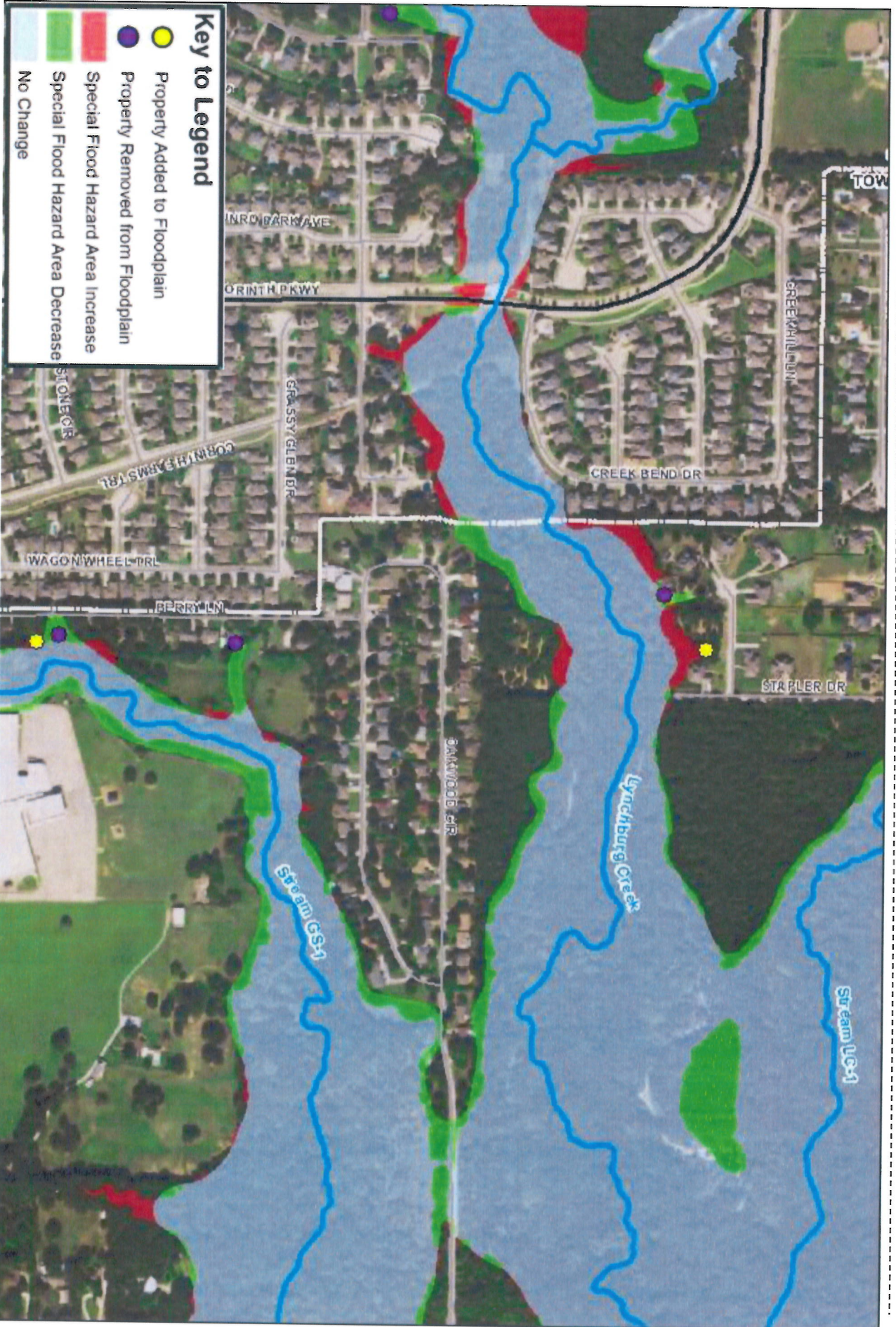
- Zone AO: 1%-annual-chance flooding with an average depths of 3 feet.
- Average depths derived from detailed hydraulic analyses.
- Mandatory flood insurance purchase requirements and floodplain management standards apply



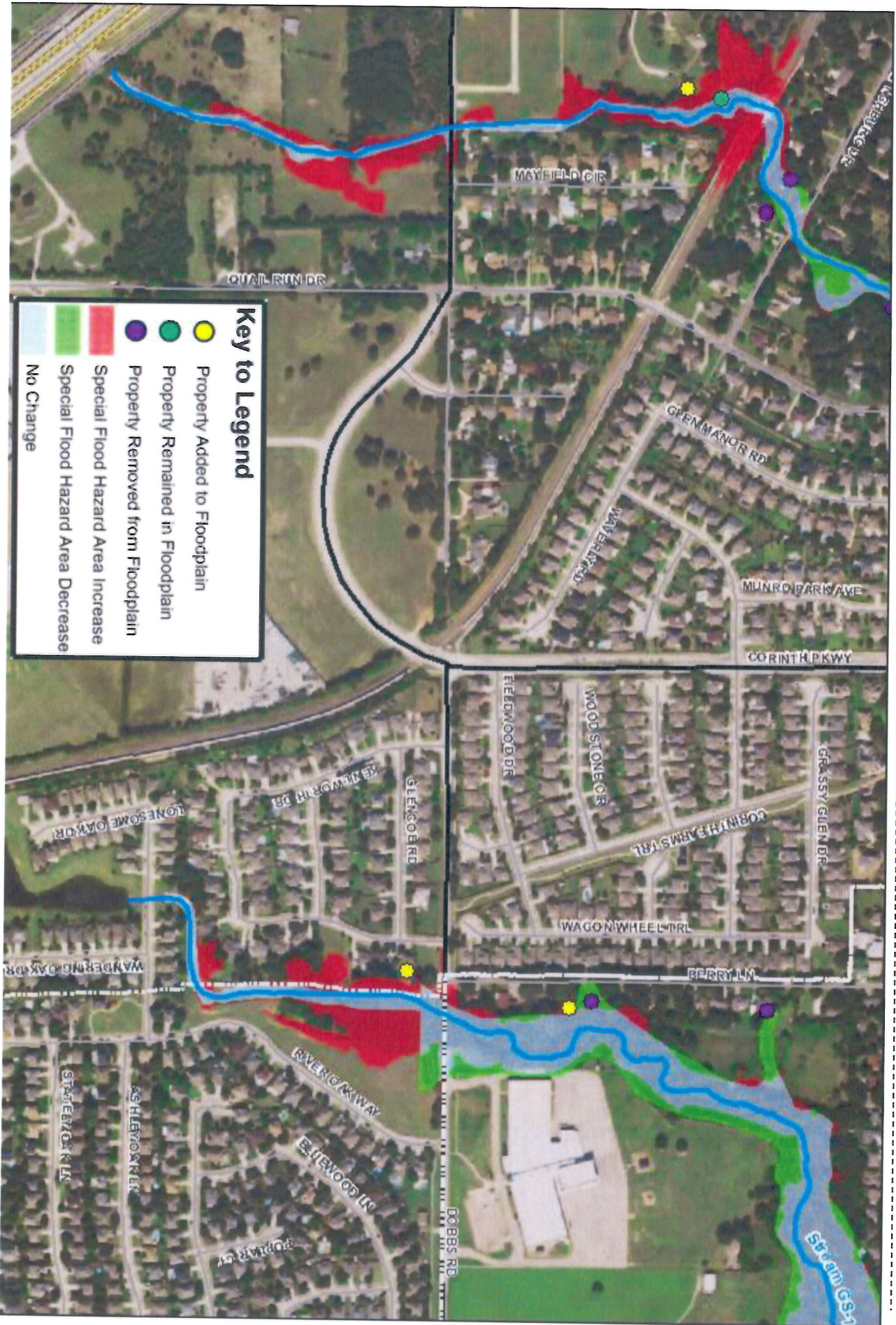
# Changes Since Last Flood Map



# Changes Since Last Flood Map



# Changes Since Last Flood Map





**CONSENT ITEM 2.**

**City Council Regular and Workshop Session**

**Meeting Date:** 01/18/2018

**Title:** January 4, 2018 Regular Session

**Submitted For:** Kim Pence, City Secretary

**Submitted By:** Kim Pence, City Secretary

**City Manager Review: Approval:** Bob Hart, City Manager

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**AGENDA ITEM**

Consider and act on minutes from the January 4, 2018 Regular Session.

**AGENDA ITEM SUMMARY/BACKGROUND**

Attached are minutes from the January 4, 2018 Regular Session. The minutes are in draft form and are not considered official until formally approved by the City Council.

**RECOMMENDATION**

Staff recommends approval of the January 4, 2018 Regular Session minutes.

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**Attachments**

Minutes

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**STATE OF TEXAS  
COUNTY OF DENTON  
CITY OF CORINTH**

On this the 4<sup>th</sup> day of January 2018 the City Council of the City of Corinth, Texas met in a Regular Session at the Corinth City Hall at 7:00 P.M., located at 3300 Corinth Parkway, Corinth, Texas. The meeting date, time, place and purpose as required by Title 5, Subtitle A, Chapter 551, Subchapter C, Section 551.041, Government Code, with the following members to wit:

**Members Present:**

Bill Heidemann, Mayor  
Joe Harrison, Mayor Pro-Tem  
Sam Burke, Council Member  
Lowell Johnson, Council Member  
Scott Garber, Council Member  
Don Glockel, Council Member

**Members Absent:**

None

**Staff Members Present:**

Bob Hart, City Manager  
Debra Walthall, Chief of Police  
Kevin Tyson, Lieutenant of Police  
Barbara Cabbage, Planning and Development Manager  
Mike Brownlee, City Engineer  
Jason Alexander, Economic Development Corporation Director  
Kim Pence, City Secretary  
Shea Rodgers, Technology Services Manager  
Mack Reinwand, City Attorney

**CALL TO ORDER:**

**7:00 P.M. CALL TO ORDER, INVOCATION, PLEDGE OF ALLEGIANCE & TEXAS PLEDGE:  
"Honor the Texas Flag: I pledge allegiance to thee, Texas, one state under God, one and indivisible".**

Mayor Heidemann called the Regular meeting to order at 7:00 p. m, Councilmember Garber delivered the invocation and led in the Pledge of Allegiance and Texas Pledge.

**CONSENT AGENDA**

**All matters listed under the Consent Agenda are considered to be routine and will be enacted in one motion. Should the Mayor, a Councilmember, or any citizen desire discussion of any Item that Item will be removed from the Consent Agenda and will be considered separately.**

1. Consider and act on minutes from the November 2, 2017 Workshop Session.
2. Consider and act on minutes from the November 2, 2017 Regular Session.
3. Consider and act on minutes from the December 7, 2017 Workshop Session.

4. Consider and act on minutes from the December 7, 2017 Regular Session.
5. Consider and act on Minutes from the December 14, 2017 Joint Workshop Session.
6. Discuss and consider approval of a Professional Services Agreement with Birkhoff, Hendricks and Carter, L.L.P. for work associated with the City of Corinth's Lake Sharon Drive/Dobbs Road alignment (Lake Sharon Drive Extension) and Quail Run Elevated Tank in the amount of \$916,205.

**MOTION** made by Councilmember Garber to approve the Consent Agenda as presented. Seconded by Councilmember Harrison.

**AYES:** Burke, Garber, Johnson, Harrison, Glockel  
**NOES:** None  
**ABSENT:** None

**MOTION CARRIED**

**CITIZENS COMMENTS**

**In accordance with the Open Meetings Act, Council is prohibited from acting on or discussing (other than factual responses to specific questions) any items brought before them at this time. Citizen's comments will be limited to 3 minutes. Comments about any of the Council agenda items are appreciated by the Council and may be taken into consideration at this time or during that agenda item. Please complete a Public Input form if you desire to address the City Council. All remarks and questions addressed to the Council shall be addressed to the Council as a whole and not to any individual member thereof. Section 30.041B Code of Ordinance of the City of Corinth.**

**No one spoke during Citizens Comments.**

**BUSINESS AGENDA**

- 7 Consider and act on amending the Code of Ordinances of the City of Corinth, Texas by amending Chapter 70, Traffic Rules, by modifications to the maximum speed limits shown in Section 70.1, Speed Limits, Paragraph (c), Table of Maximum Speeds to set a maximum speed limit of 50 mph for the IH-35E frontage roads and 65 mph on the main lane of IH-35E inside Corinth.

**Bob Hart, City Manager** - with the completion of the construction on Interstate 35, TxDOT has completed a speed study throughout the area of I-35E. In Corinth, their study indicated the need for a 50 MPH speed limit on the frontage roads throughout the City and 65 MPH on Interstate 35E. TxDOT has asked for the City's concurrence and this item has been brought to you as a recommendation consistent with the study from TxDOT.

**MOTION** made by Councilmember Johnson to approve the item as presented. Seconded by Councilmember Burke.

**AYES:** Burke, Garber, Johnson, Harrison, Glockel  
**NOES:** None  
**ABSENT:** None

## MOTION CARRIED

### **COUNCIL COMMENTS & FUTURE AGENDA ITEMS**

The purpose of this section is to allow each councilmember the opportunity to provide general updates and/or comments to fellow councilmembers, the public, and/or staff on any issues or future events. Also, in accordance with Section 30.085 of the Code of Ordinances, at this time, any Councilmember may direct that an item be added as a business item to any future agenda.

**Councilmember Harrison** - on the frontage road in front of Bill Utter Ford at Post Oak, people in the middle lane is supposed to be going straight and they are turning right. Can we suggest to TxDOT that they paint the roads like they do on Main Street in Lewisville?

**Mayor Heidemann recessed the meeting at 7:08 p.m. \* See Closed Session.**

### **CLOSED SESSION**

The City Council will convene in such executive or (closed session) to consider any matters regarding any of the above agenda items as well as the following matters pursuant to Chapter 551 of the Texas Government Code.

**Section 551.071.** (1) Private consultation with its attorney to seek advice about pending or contemplated litigation; and/or settlement offer; and/or (2) a matter in which the duty of the attorney to the government body under the Texas Disciplinary Rules of Professional Conduct of the State of Texas clearly conflicts with chapter 551.

**Council met in Closed Session from 7:09 p.m. until 8:48 p.m.**

**a. Lake Sharon Dam Development Agreement.**

**Section 551.072.** To deliberate the purchase, exchange, lease or value of real property if deliberation in an open meeting would have a detrimental effect on the position of the governmental body in negotiations with a third person.

**Section 551.074.** To deliberate the appointment, employment, evaluation, reassignment, duties, discipline, or dismissal of a public officer or employee; or to hear a complaint or charge against an officer or employee.

**Council met in Closed Session from 7:09 p.m. until 8:48 p.m.**

**a. City Manager evaluation.**

**Section 551.087.** To deliberate or discuss regarding commercial or financial information that the governmental body has received from a business prospect that the governmental body seeks to have locate, stay, or expand in or near the territory of the governmental body and with which the governmental body is conducting economic development negotiations; or to deliberate the offer of a financial or other incentive to a business prospect.

After discussion of any matters in closed session, any final action or vote taken will be in public by the City Council. City Council shall have the right at any time to seek legal advice in Closed Session from its Attorney on any agenda item, whether posted for Closed Session or not.

**RECONVENE IN OPEN SESSION TO TAKE ACTION, IF NECESSARY, ON CLOSED SESSION ITEMS.**

**ADJOURN:**

**Mayor Heidemann adjourned the meeting at 8:50 p.m.**

**AYES:** All

Meeting adjourned.

Approved by Council on the \_\_\_\_\_ day of \_\_\_\_\_ 2018.

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Kimberly Pence, City Secretary  
City of Corinth, Texas

**CONSENT ITEM 3.**

**City Council Regular and Workshop Session**

**Meeting Date:** 01/18/2018

**Title:** Police Confiscation Fund Amendment

**Submitted For:** Debra Walthall, Chief

**Submitted By:** Jimmie Gregg, Lieutenant

**City Manager Review: Approval:** Bob Hart, City Manager

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**AGENDA ITEM**

Consider and act on an ordinance approving an amendment to the fiscal year 2017-2018 Budget and Annual Program of Services to provide for expenditures of additional funds from the Police Confiscation Fund.

**AGENDA ITEM SUMMARY/BACKGROUND**

After the City of Corinth 2017-2018 Fiscal Year Budget was approved, the Corinth Police Department was awarded \$9,334 in forfeited funds stemming from a felony drug offense investigation.

The Corinth Police Department is anticipating additional forfeited funds from two pending felony drug offense investigations totaling approximately \$20,000.

The Corinth Police Department is required to submit payments to the Denton County District Clerk and the Denton County Criminal District Attorney's Office for fees related to these forfeited funds.

**RECOMMENDATION**

It is recommended that the City Council approve the budget amendment increasing the expenditures in the Police Department Confiscation Fund by \$20,000.

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**Attachments**

Final Judgment 17-8295-362

Ordinance Budget Amendment

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Paul Johnson

**Criminal District Attorney**

Denton County Courts Building  
1450 E. MCKINNEY, STE 3100  
P. O. BOX 2344  
DENTON, TEXAS 76202

Main Number 940-349-2600  
Main Fax 940-349-2601

Hot Checks 940-349-2700  
www.dentoncounty.com

December 14, 2017

Chief Debra Walthall  
CORINTH POLICE DEPARTMENT  
2003 S. Corinth Street  
Corinth, Texas 76210

Re: Cause No. 17-8295-362, styled *THE STATE OF TEXAS v. \$9,334.00 CURRENT MONEY OF THE UNITED STATES*. Respondent: BRADLEY BURGDORF.

Dear Chief Walthall:

Please find the enclosed certified copy of the Final Judgment in the above styled civil forfeiture case, in which BRADLEY BURGDORF was listed as the Respondent. The \$9,334.00 Current Money of the United States was forfeited to the State of Texas, namely the CORINTH POLICE DEPARTMENT, to be distributed in accordance with Article 59.06 of the Texas Code of Criminal Procedure and the local agreement between the Denton County Criminal District Attorney and the CORINTH POLICE DEPARTMENT.

**Please send payment in the amount of THREE HUNDRED SEVENTY FIVE AND NO/100 DOLLARS (\$375.00) for court costs to the Denton County District Clerk's Office at:**

Denton County District Clerk  
1450 East McKinney Street, Suite 1200  
Denton, Texas 76209-4524

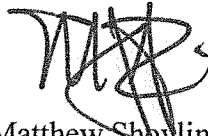
**Please remit to the Denton County Criminal District Attorney's Office's the sum of ONE THOUSAND SEVEN HUNDRED NINETY ONE AND 80/100 DOLLARS (\$1,791.80), made payable to the Denton County Criminal District Attorney's Office, which represents the District Attorney's twenty percent (20%) share of the seizure. Please indicate Cause No. 17-8295-362 on the check, and enclose a copy of this letter with your payment.**

**Please mail the District Attorney's payment of \$1,791.80 to the attention of:**

Mr. Jerry Pomposelli, Chief Investigator  
Denton County Criminal District Attorney's Office  
1450 E. McKinney, Suite 3100  
Denton, Texas 76209-4524.

Please notify our office if you need further assistance in this matter.

Sincerely,

A handwritten signature in black ink, appearing to read 'M. Showlin', with a stylized flourish at the end.

Matthew Showlin  
Assistant District Attorney

Enclosure:

cc: Sgt. Clint Ventrea

cc: Natalie Riegelman, Chief Assistant County Auditor



**ORDINANCE NO. 18-01-18-\_\_\_**

**AN ORDINANCE OF THE CITY OF CORINTH, TEXAS APPROVING AN AMENDMENT TO ORDINANCE NO. 17-09-21-13 REGARDING THE FISCAL YEAR 2017-2018 CITY OF CORINTH BUDGET AND ANNUAL PROGRAM OF SERVICES TO PROVIDE FOR AWARDED CASH REVENUE AND EXPENDITURES OF FUNDS FROM THE POLICE CONFISCATION FUND; AND PROVIDING AN EFFECTIVE DATE.**

**WHEREAS**, the City of Corinth is a home-rule municipality acting under its charter adopted by the electorate pursuant to Article XI, Section 5 of the Texas Constitution and Chapter 9 of the local Government Code; and

**WHEREAS**, the City Council adopted a budget and appropriated resources for the budget year beginning October 1, 2017, and ending September 30, 2018 by Ordinance No. 17-09-21-13; and

**WHEREAS**, the current adopted budget for fiscal year 2017-2018 does not have adequate funding of \$20,000 in awarded cash revenue and expenditures in the Police Confiscation Fund; and

**WHEREAS**, the City Council deems it appropriate and necessary to amend the budget to reflect awarded cash revenue and expenditures of \$20,000 in the Police Confiscation Fund; and

**WHEREAS**, the Council finds that this budget amendment is consistent with § 9.05 of the City Charter and the proposed change in the budget is for a municipal purpose;

**NOW THEREFORE, THE CITY COUNCIL OF THE CITY OF CORINTH HEREBY ORDAINS:**

**SECTION I**

The findings set forth in the above preamble to this Ordinance are true and correct.

**SECTION II**

Ordinance No. 17-09-21-13, the budget for the fiscal year beginning October 1, 2017, and ending September 30, 2018, shall be amended as follows:

**Twenty thousand dollars (\$20,000)** shall be appropriated into the awarded cash revenues and expenditures line items in the Police Confiscation Fund.

**SECTION III**

The City of Corinth Budget and Annual Program of Services is hereby amended to appropriate the sum of **\$20,000** in the Police Confiscation Fund. Further, the City Council affirms its approval of the increase in awarded cash revenue and the expenditure of funds.

Ordinance No. 18-01-18-\_\_\_

**SECTION IV**

The City Secretary is hereby directed to attach a copy of this Ordinance to Ordinance No. 17-09-21-13.

**SECTION V**

Pursuant to Section 102.009(d) of the Texas Local Government Code, the municipal budget officer is directed to file a true copy of this amendment with the Denton County Clerk. If the mayor objects to this ordinance, it shall be adopted by a majority of the entire City Council.

**SECTION VI**

This Ordinance shall be in full force and effect after its passage, and it is so ordained.

**PASSED AND APPROVED ON THIS THE 18th DAY OF JANUARY 2018.**

**SEAL**

\_\_\_\_\_  
**Bill Heidemann, Mayor**

**ATTEST:**

\_\_\_\_\_  
**Kimberly Pence, City Secretary**

**APPROVED AS TO FORM AND LEGALITY:**

\_\_\_\_\_  
**Wm. Andrew Messer, City Attorney**

**City Council Regular and Workshop Session**

**Meeting Date:** 01/18/2018

**Title:** Crosspointe Subdivision Comprehensive Plan Amendment

**Submitted For:** Fred Gibbs, Director

**Submitted By:** Lori Levy, Senior Planner

**City Manager Review: Approval:** Bob Hart, City Manager

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**AGENDA ITEM**

**PUBLIC HEARING:** TO HEAR PUBLIC OPINION REGARDING A REQUEST FROM THE APPLICANT TREY WALLETTE, AUTHORIZED REPRESENTATIVE FOR THE PROPERTY OWNER, CROSSPOINTE COMMUNITY CHURCH OF CORINTH FOR AN AMENDMENT TO THE COMPREHENSIVE PLAN FUTURE LAND USE MAP DESIGNATION FROM HIGH DENSITY RESIDENTIAL (MULTI-FAMILY) TO LOW DENSITY RESIDENTIAL (SINGLE-FAMILY) ON APPROXIMATELY 6.38 ACRES OF LAND SITUATED IN THE E. MARSH SURVEY, ABSTRACT NO. 833, IN THE CITY OF CORINTH, DENTON COUNTY, TEXAS.

**BUSINESS:** Consider and act on an ordinance to amend the Comprehensive Plan Future Land Use Designation from High Density Residential (Multi-Family) to Low Density Residential (Single-Family) on approximately 6.38 acres of land situated in the E. Marsh Survey, Abstract No. 833, in the City of Corinth, Denton County, Texas. (This property is located on the southwest corner of Lake Sharon Drive and Tower Ridge Road.)

**AGENDA ITEM SUMMARY/BACKGROUND**

**APPROVAL PROCESS**

A public hearing will be held for the amendment to the Comprehensive Plan Future Land Use Designation request. The companion rezoning request is **not** in conformance with the Comprehensive Plan. Therefore, this amendment to the Comprehensive Plan request is required in order for the Planning and Zoning Commission to consider the rezoning request.

The rezoning request is a companion item on this agenda. However, the City Council must consider and take action on the Comprehensive Plan Amendment request prior to the rezoning request.

The recommendation of the Planning and Zoning Commission for this amendment to the Comprehensive Plan Future Land Use Designation request is being forwarded to the City Council for final action for this item.

The applicant is proposing an amendment to the Future Land Use Designation from High Density Residential (Multi-Family) to Low Density Residential (Single-Family) in order to develop a subdivision with thirty-seven (37) single-family residential lots and five (5) open space, common area lots.

The applicant also has included a companion rezoning request on this agenda.

Although, the current MF-3, Multi-Family zoning allows single-family residential uses, the applicant is proposing modified standards to the single-family development standards; and is requesting a rezoning for a planned development. In order for the Commission to consider the rezoning request, the Commission must consider and take action on this request.

The proposed thirty-seven (37) single-family lots and five (5) open space, common area lots for the subdivision include a minimum 6' wide concrete trail within the subdivision with a connection to the existing 5' sidewalk along Lake Sharon Drive. The trail connection will provide access to Meadows Oak Park that is approximately ½ mile to the west. The applicant is also proposing to improve the existing 5' sidewalk along Tower Ridge Road to install two (2) benches with enhanced landscaping along Tower Ridge Road to be maintained by a Homeowner's

Association. Amenities for the subdivision include two (2) picnic tables and BBQ grills within the open space, common area lots for the residents that will also be maintained by the Homeowner's Association.

**NOTIFICATION TO PUBLIC**

Prior to the Planning and Zoning Commission meeting, public hearing notifications were sent to the twenty-two (22) property owners located within 200' of the subject property. A notice of public hearing was posted on the subject property along Lake Sharon Drive and Tower Ridge Road.

**SURROUNDING PROPERTIES EXISTING LAND USE**

- Subject Property      Undeveloped
- North                    Undeveloped
- South                    Multi-Family
- East                     Single-Family/Vacant/Commercial (pending)
- West                     Single-Family

**SURROUNDING PROPERTIES FUTURE LAND USE**

- Subject Property      Multi-Family
- North                    Mixed Use Non-Residential
- South                    Multi-Family
- East                     Mixed Use Non-Residential
- West                     Single-Family

**PROPOSED LAND USE**

The applicant is requesting an amendment to the Comprehensive Plan from High Density Residential (Multi-Family) to Low Density Residential (Single-Family) in order to rezone the property from MF-3, Multi-Family to Planned Development (PD) SF-4, Single-Family with modified development standards. The applicant intends to develop the property with a single-family subdivision with thirty-seven (37) single family lots and five (5) open space, common area lots.

**CONFORMANCE TO THE COMPREHENSIVE PLAN**

The Unified Development Code requires consistency between a Zoning Map Amendment (Rezoning) and the Comprehensive Plan. The proposed zoning is **not** in conformance with the Comprehensive Plan. Therefore, a Comprehensive Plan Amendment is necessary. In order for the Commission to consider the companion rezoning request, the Commission must first consider and take action on this Comprehensive Plan Amendment request.

**FINANCIAL SUMMARY**

**Source of Funding:** No funding is required.

**RECOMMENDATION**

**STAFF RECOMMENDATION**

Staff recommends **Approval** of this Comprehensive Plan Amendment Future Land Use Designation request as submitted.

The proposed Single-Family land use will be compatible with the adjacent, existing single-family land use immediately to the west, the existing single-family use immediately to the east, and will also provide another

housing option for residents to live in close proximity to the future Mixed Use Non-Residential Land Use Designation both to the north and east.

Since the property is only 6.38 acres, it is not feasible for multi-family development. The adjacent, existing single-family to the west, and near proximity to Meadows Oak Park, proposed trails, and access to I-35E, as well as the retail and commercial opportunities, will render this a compatible land use and desirable area for future residents of Corinth to call home.

**PLANNING AND ZONING COMMISSION RECOMMENDATION**

The Planning and Zoning Commission recommended unanimous **Approval** at the December 18, 2017 meeting by a vote of 6-0. No one spoke from the public regarding the request.

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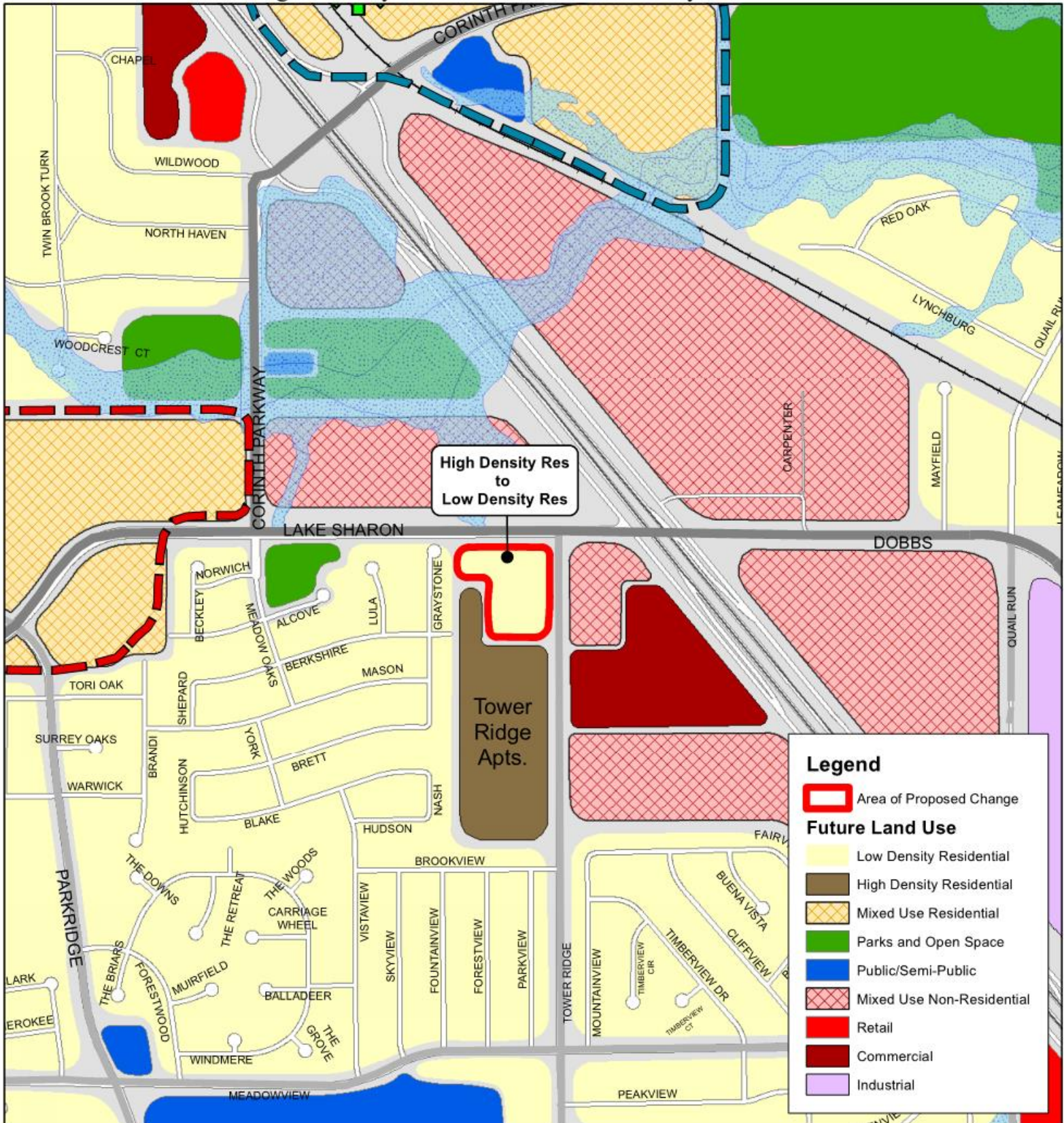
**Attachments**

Future Land Use Map Designation Request  
Comprehensive Plan Amendment Exhibit  
Proposed Comprehensive Plan Amendment Ordinance

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## Comprehensive Plan Amendment High Density Residential to Low Density Residential





**ORDINANCE NO. 18-01-18-**

**AN ORDINANCE OF THE CITY OF CORINTH, TEXAS, ADOPTING CHANGES TO THE FUTURE LAND USE PLAN ELEMENT OF THE CITY OF CORINTH'S COMPREHENSIVE PLAN FROM "HIGH DENSITY RESIDENTIAL" TO "LOW DENSITY RESIDENTIAL" ON 6.380 ACRES OF LAND LEGALLY DESCRIBED AS THAT TRACT OF LAND SITUATED IN THE E. MARSH SURVEY, ABSTRACT NO. 833, IN THE CITY OF CORINTH, DENTON COUNTY, TEXAS, PROVIDING A SEVERABILITY CLAUSE; PROVIDING A SAVINGS CLAUSE; AND PROVIDING AN EFFECTIVE DATE.**

**WHEREAS**, the City of Corinth, Texas is a home rule city acting under its charter adopted by the electorate pursuant to Article XI, Section 5 of the Texas Constitution and Chapter 9 of the Local Government Code' and

**WHEREAS**, the City Council has previously adopted Ordinance 10-05-06-12 adopting a new Comprehensive Plan to establish policies for guiding the long range development of the City, which Plan contains a Future Land Use Plan, a copy of which is attached hereto as Exhibit "A"; and

**WHEREAS**, the owners of properties described have requested that the City Council change the land use designations for 6.380 acres of property described herein from "High Density Residential" to "Low Density Residential"; and

**WHEREAS**, the Corinth Planning and Zoning Commission has reviewed and conducted a public hearing regarding the existing Comprehensive Plan and proposed amendments and has recommended to the City Council that the City Council not amend the Future Land Use Plan of the Comprehensive Plan as herein provided; and

**WHEREAS**, the City Council has reviewed and conducted a public hearing regarding the proposed changes and finds that the proposed amendment to the Future Land Use Map of the Comprehensive Plan for changing approximately 6.380 acres situated in the E. Marsh Survey, Abstract No. 833, designated as "High Density Residential" to "Low Density Residential" described as Exhibit "B" (Boundary Survey) is appropriate, as the following conditions exist:

1. The area is compatible with adjacent "Low Density Residential" land use designation;
2. The proposed uses will have a positive effect on land values; and
3. The proposed amendment is consistent with the Comprehensive Plan goals and policies and will be beneficial for the long term vitality of Corinth.

**NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF CORINTH, TEXAS:**



**SECTION 1.**

The City Council adopts the findings as set forth in the preamble hereof.

**SECTION 2**

The Future Land Use Plan of the City of Corinth Comprehensive Plan is hereby amended to change the land use designation of 6.380 acres of “High Density Residential” to “Low Density Residential” on property situated in the E. Marsh Survey, Abstract 833, and more particularly described in Exhibit “C” (Metes and Bounds), attached hereto and incorporated herein.

**SECTION 3.**

It is hereby declared to be the intention of the City Council that the phrases, clauses, sentences, paragraphs, and sections of the Ordinance are severable, and if any phrase, clause, sentence, paragraph or section of this Ordinance shall be declared unconstitutional by the valid judgement or decree of any court of competent jurisdiction, such unconstitutionality shall not affect any of the remaining phrases, clauses, sentences, paragraphs and section of this Ordinance since the same would have been enacted by the City Council without the incorporation in this Ordinance of any such unconstitutional phrase, clause, sentence, paragraph or section.

**SECTION 4.**

This Ordinance shall be in full force and effect from and after its passage and approval, and it is so ordained.

**PASSED AND APPROVED ON THIS 18<sup>th</sup> DAY OF JANUARY, 2018.**

APPROVED:

\_\_\_\_\_  
Bill Heidemann, Mayor

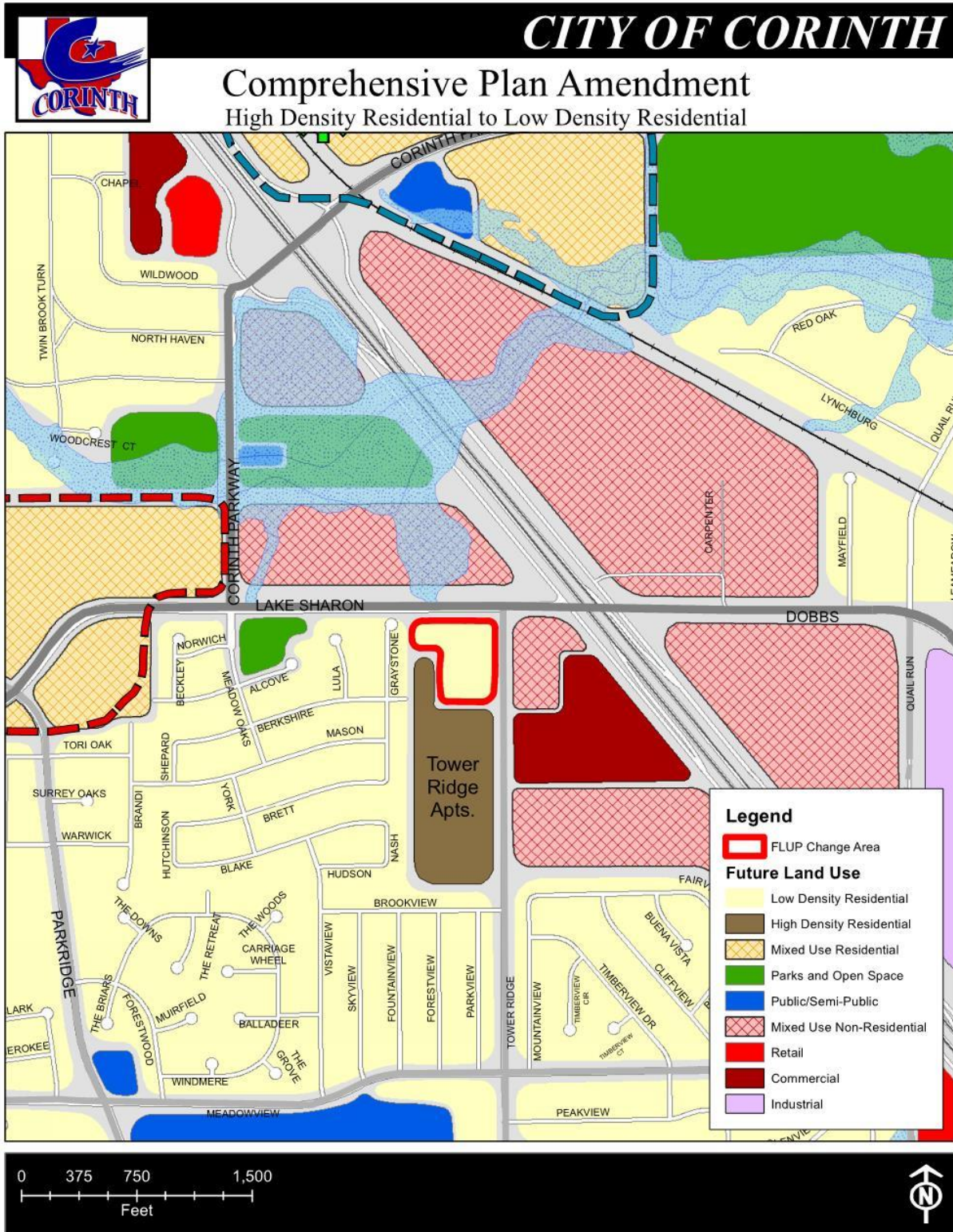
**ATTEST:**

\_\_\_\_\_  
Kimberly Pence, City Secretary

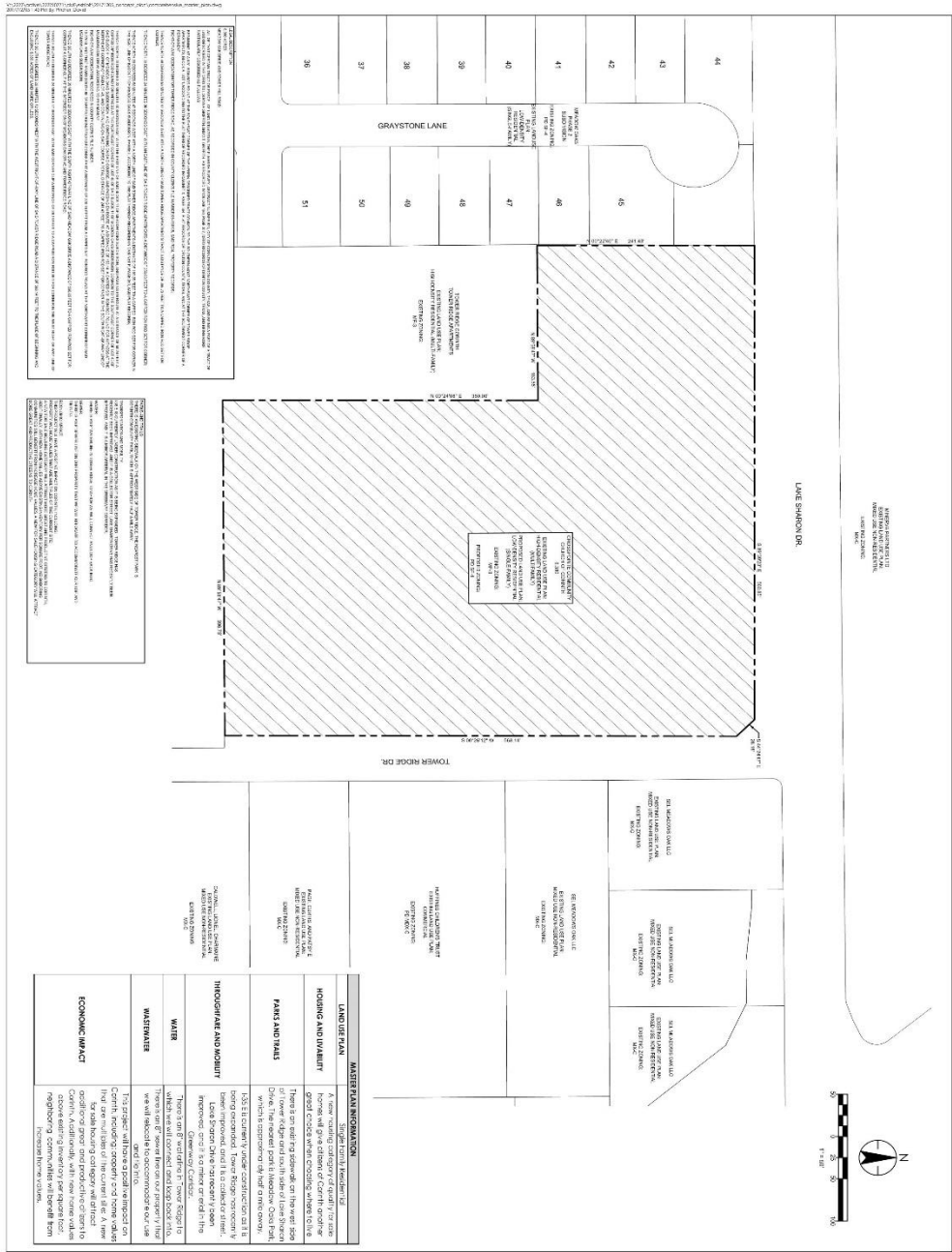
**APPROVED AS TO FORM:**

\_\_\_\_\_  
City Attorney

**EXHIBIT "A"**  
**FUTURE LAND USE PLAN AMENDED**



## EXHIBIT B BOUNDARY SURVEY



LAND USE PLAN	MATERIALS AND CONSTRUCTION
<b>HOUSING AND LIVABILITY</b>	A new building category of quality of materials and construction is required for this use.
<b>PAVE AND TRAILS</b>	There is a new building category of quality of materials and construction is required for this use.
<b>INTEGRATE AND MOBILITY</b>	There is a new building category of quality of materials and construction is required for this use.
<b>WATER</b>	There is a new building category of quality of materials and construction is required for this use.
<b>WATERWIRE</b>	There is a new building category of quality of materials and construction is required for this use.
<b>ECONOMIC IMPACT</b>	There is a new building category of quality of materials and construction is required for this use.

Client/Project: SKORBURG COMPANY  
 SINGLE FAMILY DEVELOPMENT  
 COBLENTH, TEXAS  
 Site: COMPREHENSIVE MASTER PLAN EXHIBIT

Revision	BY	DATE
1	JK	11/15/18
2	JK	11/15/18
3	JK	11/15/18
4	JK	11/15/18
5	JK	11/15/18
6	JK	11/15/18
7	JK	11/15/18
8	JK	11/15/18
9	JK	11/15/18
10	JK	11/15/18

**Stantec**  
 TYPE A 1024  
 11/15/18

**EXHIBIT "C"**  
**METES AND BOUNDS**  
**LEGAL DESCRIPTION**  
**6.380 ACRES**

All of that certain tract or parcel of land situated in the E. Marsh Survey, Abstract Number 833, City of Corinth, Denton County, Texas, and being a part of a tract of land described in the Deed to Louanna Griffith and V.T. Griffith, as recorded in Volume 190, Page 357, Deed Records of Denton County, Texas, and being more particularly described as follows:

Beginning at a 5/8" iron rod found at the Southeast corner of the herein described tract common to the Southern-Most Northeast corner of Tower Ridge Apartments, Block A, Lot 1, according to the plat thereof recorded in Cabinet X, Page 564, Plat Records of Denton County, Texas, and the Southwest corner of a permanent right-of-way dedication for Tower Ridge Road, as recorded in County Clerk's File Number 05-150105, said Real Property Records;

Thence North 89 degrees 58 minutes 47 seconds West with a North line of said Tower Ridge Apartments tract a distance of 396.73 feet to a capped iron rod set for corner;

Thence North 00 degrees 24 minutes 08 seconds East with an East line of said Tower Ridge Apartments a distance of 350.00 feet to a capped iron rod set for corner;

Thence North 89 degrees 58 minutes 47 seconds West with a North line of said Tower Ridge Apartments a distance of 183.55 feet to a capped iron rod set for corner in the East lien of Block 11 of Meadows Oaks subdivision, Phase II, according to the plat thereof recorded in Cabinet P, Page 260, said Plat Records;

Thence North 00 degrees 22 minutes 40 seconds East with the East line of said Block 11 of Meadow Oaks Subdivision, and passing en route at a distance of 58.24 feet a capped 5/8" iron rod found for witness at the Northeast corner of Lot 46 of said Block 11 of Meadow Oaks Subdivision common to the Southeast corner of Lot 45 of said Block 11 of Meadow Oaks Subdivision, and continuing on said course, and passing en route at a distance of 153.14 a capped 5/8" iron rod found for witness at the Northeast corner of said Lot 45, and continuing on said course a total distance of 241.43 feet to a capped iron rod set for corner in the South right-of-way line of Meadows Oaks Drive according to permanent right-of-way dedication, recorded in County Clerk's File Number 10-27633, and that bears South 89 degrees 39 minutes 23 seconds East a distance of 320.76 feet from a capped 5/8" iron rod found at the Northwest corner of said Meadow Oaks Subdivision;

Thence South 89 degrees 39 minutes 23 seconds East with the South right-of-way line of said Meadow Oak Drive a distance of 560.85 feet to a capped iron rod set for corner at a corner clip at the intersection of Meadow Oak Drive and Tower Ridge Road;

Thence South 44 degrees 24 minutes 47 seconds East with said corner clip a distance of 28.18 feet to a capped iron rod set for corner in the West right of way line of Tower Ridge Road;

Thence South 00 degrees 26 minutes 12 seconds West with the West right-of-way line of said Tower Ridge Road a distance of 568.14 feet to the Place of Beginning and Enclosing 6.380 acres of land more or less.

**City Council Regular and Workshop Session**

**Meeting Date:** 01/18/2018

**Title:** Crosspointe Subdivision Planned Development

**Submitted For:** Fred Gibbs, Director

**Submitted By:** Lori Levy, Senior Planner

**City Manager Review: Approval:** Bob Hart, City Manager

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**AGENDA ITEM**

**PUBLIC HEARING:** TO HEAR PUBLIC OPINION REGARDING A REQUEST FROM THE APPLICANT TREY WALLETTE, AUTHORIZED REPRESENTATIVE FOR THE PROPERTY OWNER, CROSSPOINTE COMMUNITY CHURCH OF CORINTH FOR A ZONING CHANGE FROM MF-3, MULTI-FAMILY RESIDENTIAL TO PLANNED DEVELOPMENT (PD) SF-4, SINGLE-FAMILY RESIDENTIAL (DETACHED) ON APPROXIMATELY 6.38 ACRES OF LAND SITUATED IN THE E. MARSH SURVEY, ABSTRACT NO. 833, IN THE CITY OF CORINTH, DENTON COUNTY, TEXAS.

**BUSINESS:** Consider and act on an ordinance for a zoning change from MF-3, Multi-Family Residential to Planned Development (PD) SF-4, Single-Family Residential (Detached) on approximately 6.38 acres of land situated in the E. Marsh Survey, Abstract No. 833, in the City of Corinth, Denton County, Texas. (This property is located on the southwest corner of Lake Sharon Drive and Tower Ridge Road.)

**AGENDA ITEM SUMMARY/BACKGROUND**

**APPROVAL PROCESS**

A public hearing was held for the rezoning request at the December 18, 2017 Planning and Zoning Commission meeting. The rezoning request is **not** in conformance with the Comprehensive Plan. Therefore, an amendment to the Comprehensive Plan is required in order for the City Council to consider this request.

The Comprehensive Plan Amendment request is a companion item on this agenda.

The recommendation of the Planning and Zoning Commission for this rezoning request is included in this agenda item.

The applicant is proposing a rezoning from MF-3, Multi-Family Residential to Planned Development (PD) SF-4, Single-Family Residential (detached) with modified development standards on 6.38 acres in order to develop thirty-seven (37) single-family, custom homes with energy efficient standards and varying floor plans. The custom homes will range from 1,500 square feet to 3,000 square feet on 4,000 square foot lots.

The proposed thirty-seven (37) single-family lots and five (5) open space, common area lots for the subdivision includes a minimum 6' wide concrete trail within the subdivision and connecting to the existing 5' sidewalk along Lake Sharon Drive and Tower Ridge Road. The trail connection to Lake Sharon Drive will provide access to Meadows Oak Park that is approximately ½ mile to the west. The applicant is also proposing to improve the existing 5' sidewalk along Tower Ridge Road to install two (2) benches with enhanced landscaping to be maintained by a Homeowner's Association. Amenities for the subdivision include two (2) picnic tables and BBQ grills within the open space, common area lots for the residents that will also be maintained by the Homeowner's Association.

Although, the current MF-3, Multi-Family zoning allows single-family residential uses, the applicant is proposing modified standards to the single-family development standards; and is requesting a rezoning for a planned development.

The applicant is proposing the following in lieu of the residential dimensional regulations per Section 2.08.04 of the UDC as shown in the chart below:

SF-4	REQUIRED	PROVIDED
<b>Minimum Side Yard Setback:</b>		
<b>Interior Lot</b>	7.5 feet	5 feet
<b>Corner Lot</b>	15 feet/ 25 feet from side entry garage	5 feet (all front entry garages)
<b>Minimum Rear Yard Setback</b>	30% of the depth, up to 30 feet	10 feet
<b>Minimum Lot Area</b>	7,500 square feet	4,000 square feet
<b>Minimum Lot Width:</b>		
<b>Interior Lot</b>	70 feet at building line / 60 at front property line	
<b>Corner Lot</b>	70 feet at building line / 60 at front property line	40 feet at building line
<b>Maximum Building Area / Coverage</b>	30% percent	55% percent

1. The applicant is meeting or exceeding all other requirements of the UDC, except the following:
  - a. UDC Section 2.09.04 **Building Façade Material Standards** shall apply, except:
    - i. The exterior facades of a main residential building or structure shall be constructed of eighty-five (85) percent Class 1 Masonry Construction.
    - ii. Individual exterior walls shall contain no less than eighty-five (85) percent Class 1 Masonry Construction.
    - iii. Fiber cement siding may constitute fifteen (15) percent of stories other than the first story, where located over the roofline.
    - iv. Housing types (styles) and mix of materials must be varied so that no one (1) housing type or style or with the same material mix is adjacent to another.
2. Required two-car garages shall not be converted to livable square footage/area.

**NOTIFICATION TO PUBLIC**

Prior to the Planning and Zoning Commission meeting, public hearing notifications were sent to the twenty-two (22) property owners located within 200’ of the subject property. A notice of public hearing was posted on the subject property along Lake Sharon Drive and Tower Ridge Road. Public notice was posted in the Denton Record-Chronicle as required by ordinance and State law.

**SURROUNDING PROPERTIES ZONING**

- Subject Property                      MF-3, Multi-Family Residential
- North                                      MX-C, Mixed Use Non-Residential

- South MF-3, Multi-Family Residential
- East MX-C, Mixed Use Non-Residential/(PD) MX-C, Mixed Use Non-Residential
- West (PD) SF-4, Single-Family, Residential (Detached)

**SURROUNDING PROPERTIES EXISTING LAND USE**

- Subject Property Undeveloped
- North Undeveloped
- South Multi-Family, Residential
- East Single-Family, Residential (Detached)/Undeveloped/Commercial (Under Construction)
- West Single-Family, Residential (Detached)

**SURROUNDING PROPERTIES FUTURE LAND USE**

- Subject Property High Density, Residential (Multi-Family)
- North Mixed Use Non-Residential
- South High Density, Residential (Multi-Family)
- East Single-Family, Residential (Detached)/Undeveloped/Commercial (Under Construction)
- West Low Density, Residential (Single-Family)

**PROPOSED LAND USE**

The applicant is proposing thirty-seven (37) single-family, residential lots and five (5) common area lots to be maintained by a Homeowner’s Association.

**CONFORMANCE TO THE COMPREHENSIVE PLAN**

The Unified Development Code requires consistency between a Zoning Map Amendment (Rezoning) and the Comprehensive Plan. The proposed zoning is **not** in conformance with the Comprehensive Plan. Therefore, a Comprehensive Plan Amendment is required and is a companion item on this agenda.

**FINANCIAL SUMMARY**

**Source of Funding:** No funding is required.

**RECOMMENDATION**

**STAFF RECOMMENDATION**

Staff recommends **Approval** of the rezoning request.

The rezoning from multi-family to single-family will be compatible with the existing adjacent single-family development immediately to the west. The rezoning to a planned development for single-family with modified dimensional regulations will also provide a transition from the slightly lower density to the west, the existing higher density residential (multi-family) to the south, and the future mixed use non-residential and commercial to the north and east. The modified development standards will allow development of a single-family product that provides a different housing type for Corinth by allowing flexibility in creating larger, for-sale homes with varying floor plans, and low maintenance yards for professionals and empty nesters who are seeking those options.

The proposed open spaces within the common areas, and trail connections will help to provide recreational opportunities for both this development, as well as the single-family, residential developments in this area. The applicant's proposed concrete trail will provide the desired connectivity for the City's trail system and public parks within the City. Also, the proposed improvements to the existing 5’ wide sidewalk along Tower Ridge Road to



accommodate the installation of proposed benches along Tower Ridge Road, by the developer to be maintained by the Homeowner's Association, will require minimal maintenance for the City, while providing recreational opportunities for families and residents in this area.

**PLANNING AND ZONING COMMISSION RECOMMENDATION**

The Planning and Zoning Commission recommended unanimous **Approval** of the rezoning request at the December 18, 2017 meeting by a vote of 6-0. No one from the public spoke regarding the request.

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**Attachments**

Aerial Zoning Location Map  
Zoning Location Map  
Proposed Ordinance

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## Zoning Change Proposed: MF-3 to PD SF-4





# CITY OF CORINTH

## Zoning Change Proposed: MF-3 to PD SF-4



### Legend

 Zoning Change Area

### Zoning

-  MF-3 Multi-Family Residential
-  MX-C Mixed Use Commercial
-  PD Planned Development
-  SF-2 Single Family Residential
-  SF-3 Single Family Residential
-  SF-4 Single Family Residential



**ORDINANCE NO. 18-01-18-**

**CROSSPOINTE SUBDIVISION PLANNED DEVELOPMENT DISTRICT**

**AN ORDINANCE AMENDING THE COMPREHENSIVE ZONING ORDINANCE BEING A PART OF THE UNIFIED DEVELOPMENT CODE, BY AMENDING THE ZONING CLASSIFICATION FROM MF-3 MULTI-FAMILY RESIDENTIAL TO PLANNED DEVELOPMENT SINGLE FAMILY-4 (PD SF-4) ON 6.38 ACRES OF LAND LEGALLY DESCRIBED AS THAT TRACT OF LAND SITUATED IN THE E. MARSH SURVEY, ABSTRACT NO. 833, IN THE CITY OF CORINTH, DENTON COUNTY, TEXAS, PROVIDING FOR A DESIGN STATEMENT; PROVIDING A LEGAL PROPERTY DESCRIPTION; APPROVING A PLANNED DEVELOPMENT CONCEPT PLAN; PROVIDING FOR A PENALTY NOT TO EXCEED \$2,000; PROVIDING FOR PUBLICATION AND A SEVERABILITY CLAUSE; AND PROVIDING FOR AN EFFECTIVE DATE.**

**WHEREAS**, the City of Corinth, Texas has adopted Ordinance 13-05-02-08, which adopts a Unified Development Code, which includes the Comprehensive Zoning Ordinance and which, in accordance with the City's Comprehensive Plan, establishes zoning districts and adopts a Zoning Map; and

**WHEREAS**, the hereinafter described property is zoned as MF-3 Multi-Family Residential Classification under the City's Unified Development Code and an authorized person having a proprietary interest in the property has requested a change in the zoning classification of said property; and

**WHEREAS**, the Planning and Zoning Commission of the City of Corinth and the City Council of the City of Corinth, having given the requisite notices by publication and otherwise, and after holding due hearings and affording a full and fair hearing to all the property owners generally, and to the persons interested and situated in the affected area and in the vicinity thereof, the City of Corinth City Council is of the opinion that said change in zoning should be made; and

**WHEREAS**, the City Council considered the following factors in making a determination as to whether the requested change should be granted or denied: safety of the motoring public and the pedestrians using the facilities in the area immediately surrounding the sites; safety from fire hazards and damages; noise producing elements and glare of the vehicular and stationary lights and effect of such lights on established character of the neighborhood; location, lighting and types of signs and relation of signs to traffic control and adjacent property; street size and adequacy of width for traffic reasonably expected to be generated by the proposed use around the site and in the immediate neighborhood; adequacy of parking as determined by requirements of this ordinance for off-street parking facilities; location of ingress and egress points for parking and off-street loading spaces, and protection of public health by surfacing on all parking areas to control dust; effect on the promotion of health and the general welfare; effect on light and air; effect on the over-crowding of the land; effect on the concentration of population, and effect on transportation, water, sewerage, schools, parks and other public facilities; and

**WHEREAS**, the City Council further considered among other things the character of the districts and their peculiar suitability for particular uses and the view to conserve the value of the buildings, and encourage the most appropriate use of the land throughout this City; and

**WHEREAS**, the City Council finds that the change in zoning promotes the health and the general welfare, provides adequate light and air, prevents the over-crowding of land, avoids undue concentration of population, and facilitates the adequate provision of transportation, water, sewerage, schools, parks and other public requirements; and the general health, safety and welfare of the community;

**NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF CORINTH, TEXAS:**

**SECTION I - LEGAL PROPERTY DESCRIPTION; AMENDMENT**

That in accordance with the Unified Development Code, the Zoning Map of the City of Corinth is hereby amended by amending the zoning map of the City of Corinth, Texas on 6.38 acres of land described in "Exhibit A" attached, from MF-3 Multi-Family Residential District to Planned Development Single Family-4 (PD SF-4) District.

**SECTION II – PLANNED DEVELOPMENT MASTER PLAN**

The Concept Plan Exhibit and Concept Design Map Statement documents approved and described as "Exhibit B" attached hereto and made a part hereof are approved.

**SECTION III – LAND USE REGULATIONS**

- A. The Zoning and Land Use Regulations set forth in "Exhibit C" attached hereto and made a part hereof for all purposes shall be adhered to in their entirety for the purposes of this Planned Development Single Family District. In the event of conflict between the provisions of "Exhibit C" and provisions of any other exhibit, the provisions of "Exhibit C" control.
- B. That the zoning regulations and districts as herein established have been made in accordance with the Comprehensive Plan for the purpose of promoting the health, safety, morals and the general welfare of the community. They have been designed, with respect to both present conditions and the conditions reasonably anticipated to exist in the foreseeable future; to lessen congestion in the streets; to provide adequate light and air; to prevent over-crowding of land; to avoid undue concentration of population; and to facilitate the adequate provision of transportation, water, sewerage, drainage and surface water, parks and other commercial needs and development of the community. They have been made after a full and complete hearing with reasonable consideration among other things of the character of the district and its peculiar suitability for the particular uses and with a view of conserving the value of buildings and encouraging the most appropriate use of land throughout the community
- C. If, after two years from the date of approval of the Planned Development Master Plan, no substantial development progress has been made within the PD, then the Planned Development Master Plan shall expire. If the Planned Development Master Plan expires, a new Planned Development Master Plan must be submitted and approved according to the procedures within the Unified Development Code, Planned Development Application and Review. An extension of the two year expiration shall be granted if a development Application for the PD has been submitted and is undergoing the development review process or if the Director of Planning determines development progress is occurring.
- D. The Planned Development Master Plan shall control the use and development of the property, and all building permits and development requests shall be in accordance with the plan until it is amended by the City Council. The property owner shall furnish a reproducible copy of the approved PD Concept Design Map for signature by the mayor and acknowledgement by the City Secretary. The Planned Development Master Plan, including the signed map shall be made a part of the permanent file and maintained by the City Secretary.

- E. If a change to the Concept Plan, if any, is requested, the request shall be processed in accordance with the development standards in effect at the time the change is requested for the proposed development.

**SECTION IV – PENALTY FOR VIOLATIONS**

Any person, firm, or corporation violating any of the provisions of this ordinance shall upon conviction be fined a sum not to exceed two thousand dollars (\$2,000.00); and each and every day that these provisions are violated shall constitute a separate and distinct offense.

**SECTION V – SEVERABILITY CLAUSE**

If any section, paragraph, clause, phrase or provision of this ordinance shall be adjudged invalid or held unconstitutional, the same shall not affect the validity of this ordinance as a whole, or any part or provision thereof, other than the part so decided to be invalid or unconstitutional.

**SECTION VI – EFFECTIVE DATE**

This ordinance shall become effective after approval and publication as provided by law.

**PASSED AND APPROVED THIS 18<sup>th</sup> DAY OF JANUARY, 2018.**

APPROVED:

\_\_\_\_\_  
Bill Heidemann, Mayor

ATTEST:

\_\_\_\_\_  
Kimberly Pence, City Secretary

APPROVED AS TO FORM:

\_\_\_\_\_  
City Attorney

EXHIBIT "A"  
LEGAL DESCRIPTION  
6.380 ACRE RESIDENTIAL TRACT

All of that certain tract or parcel of land situated in the E. Marsh Survey, Abstract Number 833, City of Corinth, Denton County, Texas, and being a part of a tract of land described in the Deed to Louanna Griffith and V.T. Griffith, as recorded in Volume 190, Page 357, Deed Records of Denton County, Texas, and being more particularly described as follows:

Beginning at a 5/8" iron rod found at the Southeast corner of the herein described tract common to the Southern-Most Northeast corner of Tower Ridge Apartments, Block A, Lot 1, according to the plat thereof recorded in Cabinet X, Page 564, Plat Records of Denton County, Texas, and the Southwest corner of a permanent right-of-way dedication for Tower Ridge Road, as recorded in County Clerk's File Number 05-150105, said Real Property Records;

Thence North 89 degrees 58 minutes 47 seconds West with a North line of said Tower Ridge Apartments tract a distance of 396.73 feet to a capped iron rod set for corner;

Thence North 00 degrees 24 minutes 08 seconds East with an East line of said Tower Ridge Apartments a distance of 350.00 feet to a capped iron rod set for corner;

Thence North 89 degrees 58 minutes 47 seconds West with a North line of said Tower Ridge Apartments a distance of 183.55 feet to a capped iron rod set for corner in the East lien of Block 11 of Meadows Oaks subdivision, Phase II, according to the plat thereof recorded in Cabinet P, Page 260, said Plat Records;

Thence North 00 degrees 22 minutes 40 seconds East with the East line of said Block 11 of Meadow Oaks Subdivision, and passing en route at a distance of 58.24 feet a capped 5/8" iron rod found for witness at the Northeast corner of Lot 46 of said Block 11 of Meadow Oaks Subdivision common to the Southeast corner of Lot 45 of said Block 11 of Meadow Oaks Subdivision, and continuing on said course, and passing en route at a distance of 153.14 a capped 5/8" iron rod found for witness at the Northeast corner of said Lot 45, and continuing on said course a total distance of 241.43 feet to a capped iron rod set for corner in the South right-of-way line of Meadows Oaks Drive according to permanent right-of-way dedication, recorded in County Clerk's File Number 10-27633, and that bears South 89 degrees 39 minutes 23 seconds East a distance of 320.76 feet from a capped 5/8" iron rod found at the Northwest corner of said Meadow Oaks Subdivision;

Thence South 89 degrees 39 minutes 23 seconds East with the South right-of-way line of said Meadow Oak Drive a distance of 560.85 feet to a capped iron rod set for corner at a corner clip at the intersection of Meadow Oak Drive and Tower Ridge Road;

Thence South 44 degrees 24 minutes 47 seconds East with said corner clip a distance of 28.18 feet to a capped iron rod set for corner in the West right of way line of Tower Ridge Road;

Thence South 00 degrees 26 minutes 12 seconds West with the West right-of-way line of said Tower Ridge Road a distance of 568.14 feet to the Place of Beginning and Enclosing 6.380 acres of land more or less.



**EXHIBIT “B”  
CROSSPOINTE SUBDIVISION PD  
CONCEPT PLAN CONSISTING OF  
PD DESIGN STATEMENT AND  
PD CONCEPT DESIGN MAP**

The Crosspointe Subdivision is located at the southwest corner of Lake Sharon Drive and Tower Ridge Road. The property encompasses approximately 6.38 acres with a large rolling hill sloping up towards the south. Outside of a 30-foot-wide drainage channel, all 6.38 acres of the property is developable land that is being proposed as the Crosspointe Subdivision as outlined in this Planned Development.

The land use designation is High Density Residential which is the same land use as the Tower Ridge Apartment complex located directly to the south. The current High Density Residential land use, MF-3, designation allows for up to sixteen units per acre. To the west is the Meadow Oak neighborhood, consisting of traditional single family detached homes, zoned PD-13 which provides for a combination of 6,000 to 7,500 square foot lots.

The proposed residential community will include 37 new single-family residential homes that will provide a great opportunity to organically transition between the three surrounding zonings – multifamily, traditional single family, and future mixed use. Incorporating a minimum lot square footage of 4,000 square feet will bring a new quality housing category to the city of Corinth. This type of design provides homes that have the feel of a traditional neighborhood, but put less of a maintenance burden on the consumer. The Crosspointe Subdivision will provide a convenient neighborhood for young professionals and empty nesters looking for a great location and easy access to the Dallas Fort Worth Metroplex. Below is a land use summary table showing the breakdown of the land use and the residential density:

Gross Area	6.38 Acres
Total Residential Lots	37
Density (based on gross area)	5.8 du/ac

The Crosspointe Subdivision will use the standard residential street section to provide access to the proposed lots. The lots are front-entry; therefore, driveways will tie into the proposed streets. The two entrances into the development connect to Tower Ridge Road. This will allow for ample circulation and prevent any use of the neighborhood as a potential cut through.

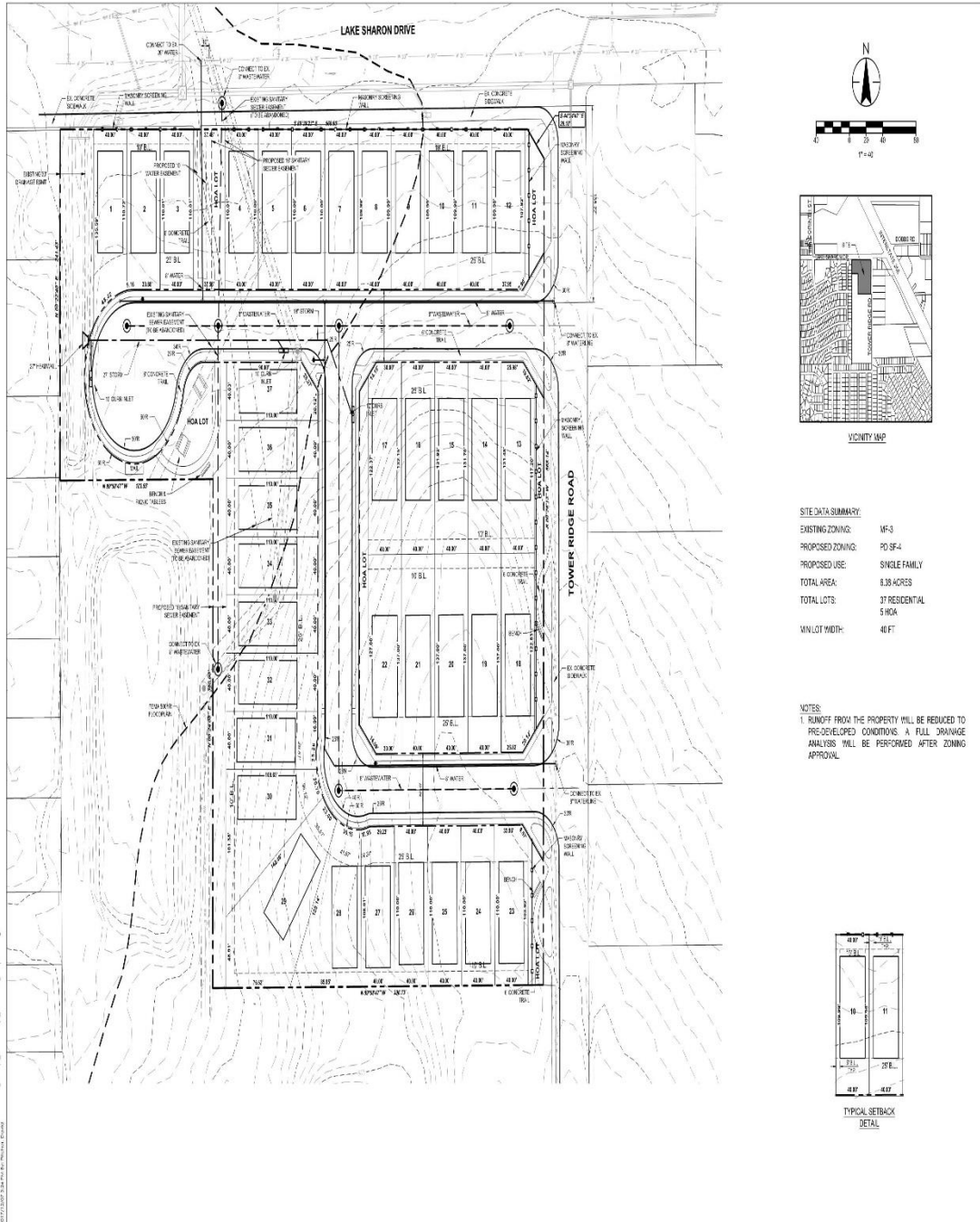
The water, sanitary sewer, and storm sewer lines will be public, in rights-of-way or in easements dedicated to the City. The water line will connect to the existing waterline along Tower Ridge Road and loop through the proposed development before connecting back to the line on Tower Ridge Road. The sanitary sewer line running through the property will be realigned to the proposed plan and will run throughout the proposed development. The storm sewer lines will collect the runoff and convey it into the existing infrastructure on the westside of the property, where it will continue north, downstream, through the culvert on Lake Sharon Drive. The property has existing 500-year flood plain that will not be affected by the development of the property.

The required parkland dedication is 1 acre of park land for each 50 units. Therefore, the UDC does not require park land to be dedicated with this development. A 10-foot wide trail easement will be dedicated connecting Lake Sharon Drive and Tower Ridge Drive's sidewalks and follow the City's master trail plan. Additional sidewalk upgrades will be added to Tower Ridge Road to improve its usability. We will improve a section along the trail within the subdivision to include public picnic tables and barbeques to be maintained in perpetuity by the Crosspointe Subdivision HOA.

This will be developed in one phase by the Skorburg Company. The owner, CrossPointe Community Church of Corinth, has selected the Skorburg Company to rezone and develop the property due to their extensive background in land acquisition and development. The Skorburg Company has fostered a reputation for building high quality, long lasting communities, with over 35 years of experience of developing 90+ properties in 25 municipalities around the Dallas Fort Worth Metroplex.

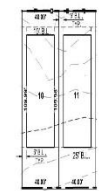


### PD CONCEPT PLAN



**SITE DATA SUMMARY:**  
 EXISTING ZONING: MF-3  
 PROPOSED ZONING: PD SF-4  
 PROPOSED USE: SINGLE FAMILY  
 TOTAL AREA: 8.18 ACRES  
 TOTAL LOTS: 37 RESIDENTIAL  
 5 HCA  
 MIN LOT WIDTH: 40 FT

**NOTES:**  
 1. RUNOFF FROM THE PROPERTY WILL BE REDUCED TO PRE-DEVELOPED CONDITIONS. A FULL DRAINAGE ANALYSIS WILL BE PERFORMED AFTER ZONING APPROVAL.



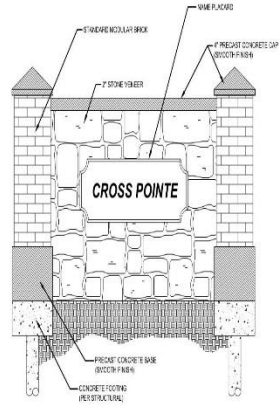
**Stantec**  
 12222 Amber Ln., Suite 400  
 Dallas, TX 75244  
 (972) 991-8800  
 www.stantec.com

Client/Project: SKORBIUGS COMPANY  
 CROSS POINTE SUBDIVISION  
 DALLAS, TEXAS  
 SHEET: PD CONCEPT PLAN

Scale: 2022/07/17  
 Date: 2022/07/17  
 Drawn by: [Name]  
 Checked by: [Name]  
 Rechecked by: [Name]

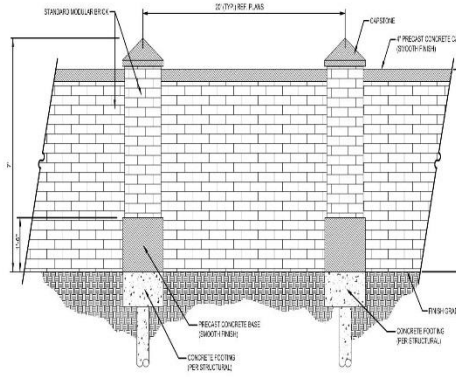
1 of 1

### SCREENING WALL DETAIL



**ENTRY FEATURE**  
 SECTION - ELEVATION SHOWING FINISH

SCALE: NOT TO SCALE



**MASONRY SCREENING WALL**  
 ELEVATION

SCALE: NOT TO SCALE



REVISION	NO.	DATE	BY	CHKD.	APP'D.

Client/Project  
**SKORBURG COMPANY**  
**CROSS POINTE SUBDIVISION**  
**CORNING, TEXAS**  
**THE SCREENING WALL DETAIL**

Permit/Local

Project Number	222212791
File Name	
Date	17/03/20
Drawn No.	1
Revision	Sheet

**EXHIBIT “C”**  
**LAND USE REGULATIONS**

**SECTION 1: REGULATIONS**

**A. Purpose**

The regulations set forth in this Exhibit provide development standards for single family residential designations within this Crosspointe Subdivision Planned Development District. The Planned Development (PD) District is identified by metes and bounds on Exhibit A and is depicted on Exhibit B. Every use not authorized herein is expressly prohibited in this Planned Development (PD) District.

**B. Base District**

In this Planned Development (PD) District, the “SF-4” Single Family Residential District (detached) regulations of the Corinth Unified Development Code, Ordinance No. 13-05-02-08 shall apply except as modified herein. If a change to the Concept Plan is requested, the request shall be processed in accordance with the development standards in effect at the time the change is requested for the proposed development.

**SECTION 2: USES AND AREA REGULATIONS**

**A. Purpose**

This district is intended to provide for a quality development of a residential community taking advantage of the location and infill qualities.

**B. Permitted Uses and Use Regulations**

In the Planned Development (PD) District, no building or land shall be used and no building shall be hereafter erected, reconstructed, enlarged or converted, unless permitted by the SF-4 Single Family Residential District (detached) regulations of the Unified Development Code except as otherwise included in this PD ordinance.

The Permitted Uses in the SF-4 Single Family Residential District (detached) as listed in Subsection 2.07.03 of the Unified Development Code shall be permitted uses.

**C. Dimensional Regulations**

The Dimensional Regulations described in Section 2.08.04 of the Unified Development Code, Ordinance No. 13-05-02-08, for the SF-4 Single Family Residential (detached) shall apply, except as follows:

<b>SF-4</b>	<b>Required</b>	<b>Proposed</b>
<b>Minimum Side Yard Setback:</b>		
<b>Interior Lot</b>	7.5' feet	5' feet
<b>Corner Lot</b>	15 feet/ 25 feet from side entry garage	5 feet (all front entry garages)
<b>Minimum Rear Yard Setback</b>	30% of depth or 30'	10' feet
<b>Minimum Lot Area</b>	7,500 square feet	4,000 square feet
<b>Minimum Lot Width:</b>		
<b>Interior Lot</b>	70' at building line / 60' at front property line	40' at building line
<b>Corner Lot</b>	70 feet at building line / 60 at front property line	
<b>Maximum Building Coverage</b>	30%	55%

**D. Development Standards**

The Development Standards described in Section 2.04.04 of the Unified Development Code, Ordinance No. 13-05-02-08, for the SF-4 Single Family (detached) District, as amended shall apply except as follows:

1. See the following sections for development standards:
  - a. UDC Section 2.07.07 **Accessory Buildings and Uses** shall apply.
  - b. UDC Section 2.09.01 **Landscape Regulations** shall apply.
  - c. UDC Section 2.09.02 **Tree Preservation Regulations** shall apply.
  - d. UDC Section 2.09.03 **Vehicle Parking Regulations** shall apply.
  - e. UDC Section 2.09.04 **Building Façade Material Standards** shall apply, except as follows:
    - i. The exterior facades of a main residential building or structure shall be constructed of eighty-five (85) percent Class 1 Masonry Construction.

- ii. Individual exterior walls shall contain no less than eighty-five (85) percent Class 1 Masonry Construction.
  - iii. Fiber cement siding may constitute fifteen (15) percent of stories other than the first story, where located over the roofline.
  - iv. Housing types (styles) and mix of materials must be varied so that no one (1) housing type or style or with the same material mix is adjacent to another.
- f. UDC Section 2.09.05 **Residential Adjacency Standards** shall apply.
  - g. UDC Section 2.09.06 **Nonresidential Architectural Standards** shall apply.
  - h. UDC Section 2.09.07 **Lighting and Glare Regulations** shall apply.
  - i. UDC Section 4.01 **Sign Regulations** shall apply.
  - j. UDC Section 4.02 **Fence and Screening Regulations** shall apply.
2. Garages
- a. Each home shall have at least a two car enclosed garage, 20' x 20' minimum.
  - b. Access to the garage shall be by means of a driveway located in the front connecting with an adjacent public street, alley, public access easement, approved private street, or approved private access easements.
  - c. Required two-car garages shall not be converted to livable square footage/area.
3. Driveways
- a. Residential lots shall have concrete driveways.
  - b. Residential lots shall have all-weather surfaced driveways.
    - i. Driveways shall be designed and maintained to prevent all-weather surface materials from being deposited on public streets and rights-of-way by storm water runoff.

**E. Amenities**

- 1. The following amenities shall be required in the common open space areas:
  - a. A minimum 6-foot-wide concrete trail within the subdivision.
  - b. A minimum of two (2) benches located along the trail adjacent to Tower Ridge Road.



- c. A minimum of two (2) picnic tables and two (2) barbeque grills or other similar street furniture located along the trail within the subdivision.
2. A Homeowner's Association (HOA) shall be established that will be responsible for the maintenance of all common areas, and any open space, trails, fire lanes, access easements, and any amenities/street furniture and landscaping within the common areas.

**City Council Regular and Workshop Session**

**Meeting Date:** 01/18/2018

**Title:**

**Submitted For:** Lee Ann Bunselmeyer, Director

**Submitted By:** Shea Rodgers, Technology Services Manager

**Finance Review:** Yes

**Legal Review:** N/A

**City Manager Review:**

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**AGENDA ITEM**

Consider and Act on a proposal from JCI Controls, Inc. to install and program a new Heating/Ventilation/Air-Conditioning system in City Hall, replacing worn and inefficient units.

**AGENDA ITEM SUMMARY/BACKGROUND**

The current Heating/Ventilation/Air-Conditioning (HVAC) system was put in place at the time of the City Hall's construction in 2004. At their current age, the units are beginning to fail. In FY2016-17, the City spent \$6,866 in unscheduled service and repairs on malfunctioning units. This is in addition to \$7,800 for routine maintenance. Furthering the cost to the City are configuration inefficiencies: the workspace in the City Hall building has been changed several times, requiring that the system be reconfigured and the thermostats be placed in areas to best determine the heating/cooling needs of each area. This misplacement of thermostats results in some areas on the same unit being uncomfortably hot or cold.

In 2017, the City reached out to Johnson Controls, Inc. (JCI) to discuss a replacement option that would address both of these issues. The vendor has returned the attached proposal (JCI-PROPOSAL), offering a turn-key solution for the City, replacing all 11 rooftop units, installing a new control unit, programming those units, training staff, providing a 5-year warranty for new equipment, and a one-year service agreement. Also attached is the vendor's detailed submittal (JCI-SUBMITTAL), with specifications for all new HVAC units.

The proposal (JCI Reference number: 20171115) is \$327,321. The need for the replacement was identified in 2016 and included in the CO issue at that time. Funds in the amount of \$500,000 were included in the current budget with the source of funds the 2016 CO issue. The parts and labor have already been competitively bid on The Interlocal Purchasing System (TIPS), contract number 01-032615, thus no additional bid by the City was necessary.

**RECOMMENDATION**

It is the recommendation of Staff that the City Council approve the proposal from Johnson Controls, Inc. in the amount of \$327,321 to install and program a new HVAC system in City Hall.

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**Attachments**

JCI-PROPOSAL

JCI-SUBMITTAL

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North Texas Market Team  
 3021 West Bend Drive  
 Irving, TX 75063  
 (806) 224-6262  
 Account Executive: Jennifer Edwards

# Proposal

**TO:** City of Corinth  
 3300 Corinth Pkwy  
 Corinth, TX 76208  
 Bob Hart

**Date:** November 15, 2017  
**Project:** City Hall Project  
**Proposal Ref:** 20171115

We propose to furnish the materials and/or perform the work described below for the net price of:  
 \$ 327,321.00

**THREE HUNDRED TWENTY SEVEN THREE HUNDRED TWENTY ONE DOLLARS**

**For the above price this proposal includes:**

To provide, install and program an HVAC control system in order to gain efficiency and accuracy in maintaining the air conditioned environment. HVAC control system shall control eleven (11) each new rooftop units (RTU), one (1) each existing split system HVAC unit, ten (10) each fan powered boxes, and ten (10) each variable air volume boxes, including supervisory controller, replacement of field controls, associated wiring, programming and training

HVAC mechanical upgrades to include replacing eleven (11) each existing RTU's with like for like replacements. Additionally, JCI shall provide test and balance services for the new units installed. New RTU's shall have a five (5) year parts and labor warranty

Project management for a turn-key solution.

TIPS (The Interlocal Purchasing System) Administration – Contract #01-032615

One year service agreement will begin 90 days after HVAC installation is completed. Service agreement will include, but is not limited to, quarterly preventative maintenance including filter replacements and annual coil cleaning.

**EXCLUSIONS:**

Network Drop (to be provided by the Customer)  
 Asbestos removal or encapsulation

	Price	
Controls and Service Agreements	\$	60,000
HVAC	\$	267,321
<b>Total Cost</b>	<b>\$</b>	<b>327,321</b>

## TERMS AND CONDITIONS

By accepting this proposal, Purchaser agrees to be bound by the following terms and conditions:

1. **SCOPE OF WORK.** This proposal is based upon the use of straight time labor only. Plastering, patching and painting are excluded. "In-line" duct and piping devices, including, but not limited to, valves, dampers, humidifiers, wells, taps, flow meters, orifices, etc., if required hereunder to be furnished by Johnson Controls, Inc. (hereinafter referred to as JCI), shall be distributed and installed by others under JCI's supervision but at no additional cost to JCI. Purchaser agrees to provide JCI with required field utilities (electricity, toilets, drinking water, project hoist, elevator service, etc.) without charge. JCI agrees to keep the job site clean of debris arising out of its own operations. Purchaser shall not back charge JCI for any costs or expenses without JCI's written consent unless specifically noted in the statement of the scope of work or services undertaken by JCI under this agreement, JCI's obligations under this agreement expressly exclude any work or service of any nature associated or connected with the identification, abatement, clean up, control, removal, or disposal of environment Hazards or dangerous substances, to include but not be limited to asbestos or PCSs, discovered in or on the premises. Any language or provision of the agreement elsewhere contained which may authorize or empower the Purchaser to change, modify, or alter the scope of work or services to be performed by JCI shall not operate to compel JCI to perform any work relating to Hazards without JCI's express written consent.
2. **INVOICING & PAYMENTS.** JCI may invoice Purchaser monthly for all materials delivered to the job site or to an off-site storage facility and for all work performed on-site and off-site. Twenty five percent (25%) of the contract price is for engineering, drafting and other mobilization costs incurred prior to installation. This 25% shall be included in JCI's initial invoice. Purchaser agrees to pay JCI the amount invoiced upon receipt of the invoice. Waivers of lien will be furnished upon request as the work progresses to the extent payments are received. If JCI's invoice is not paid within 30 days of its issuance, it is delinquent.
3. **MATERIALS.** If the materials or equipment included in this proposal become temporarily or permanently unavailable for reasons beyond the control and without the fault of JCI, then in the case of such temporary unavailability, the time for performance of the work shall be extended to the extent thereof, and in the case of permanent unavailability, JCI shall (a) be excused from furnishing said materials or equipment, and (b) be reimbursed for the difference between the cost of the materials or equipment permanently unavailable and the cost of a reasonably available substitute therefore.
4. **WARRANTY.** JCI warrants that the equipment manufactured by it shall be free from defects in material and workmanship arising from normal usage for a period of ninety (90) days from delivery of said equipment, or if installed by JCI, for a period of ninety (90) days from installation. JCI warrants that for equipment furnished and/or installed but not manufactured by JCI, JCI will extend the same warranty terms and conditions which JCI receives from the manufacturer of said equipment. For equipment installed by JCI, if Purchaser provides written notice to JCI of any such defect within thirty (30) days after the appearance or discovery of such defect, JCI shall, at its option, repair or replace the defective equipment. For equipment not installed by JCI, if Purchaser returns the defective equipment to JCI within thirty (30) days after appearance or discovery of such defect, JCI shall, at its option, repair or replace the defective equipment and return said equipment to Purchaser. All transportation charges incurred in connection with the warranty for equipment not installed by JCI shall be borne by Purchaser. These warranties do not extend to any equipment which has been repaired by others, abused, altered or misused, or which has not been properly and reasonably maintained. THESE WARRANTIES ARE IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THOSE OF MERCHANTABILITY AND FITNESS FOR A SPECIFIC PURPOSE
5. **LIABILITY.** JCI shall not be liable for any special, indirect or consequential damages arising in any manner from the equipment or material furnished or the work performed pursuant to this agreement. JCI's damages under this agreement shall be limited to \$327,321.
6. **TAXES.** The price of this proposal does not include duties, sales, use, excise, or other similar taxes, unless required by federal, state or local law. In addition to the stated price, purchaser shall pay all taxes not legally required to be paid by JCI or, alternatively, shall provide JCI with acceptable tax exemption certificates. JCI shall provide Purchaser with any tax payment certificate upon request and after completion and acceptance of the work.
7. **DELAYS.** JCI shall not be liable for any delay in the performance of the work resulting from or attributed to acts or circumstances beyond JCI's control, including, but not limited to, acts of God, fire, riots, labor disputes, conditions of the premises, acts or omissions of the Purchaser, Owner or other Contractors or delays caused by suppliers or subcontractors of JCI, etc.
8. **COMPLIANCE WITH LAWS.** JCI shall comply with all applicable federal, state and local laws and regulations and shall obtain all temporary licenses and permits required for the prosecution of the work. Licenses and permits of a permanent nature shall be procured and paid for by the Purchaser.
9. **DISPUTES.** All disputes involving more than \$15,000 shall be resolved by arbitration in accordance with the rules of the American Arbitration Association. The prevailing party shall recover all legal costs and attorney's fees incurred as a result. Nothing here shall limit any rights under construction lien laws.
10. **INSURANCE.** Insurance coverage in excess of JCI's standard limits will be furnished when requested and required. No credit will be given or premium paid by JCI for insurance afforded by others.
11. **INDEMNITY.**

JCI AGREES TO INDEMNIFY AND HOLD HARMLESS PURCHASER, ITS AGENT(S), OFFICERS AND EMPLOYEES FROM AND AGAINST ALL CLAIMS AND SUITS FOR DAMAGES, INJURIES TO PERSONS (INCLUDING DEATH), PROPERTY DAMAGES, LOSSES, AND EXPENSES INCLUDING COURT COSTS AND REASONABLE ATTORNEY'S FEES, TO THE EXTENT SUCH INJURY OR DAMAGE IS CAUSED BY THE NEGLIGENCE OR WILLFUL MISCONDUCT OF JCI, ITS OFFICERS, EMPLOYEES, AGENTS, OR SUBCONTRACTORS.

12. OCCUPATIONAL SAFETY AND HEALTH. The Parties hereto agree to notify each other immediately upon becoming aware of an inspection under, or any alleged violation of, the Occupational Safety and Health Act relating in any way to the project or project site.

13. LEGAL FEES. Purchaser agrees to pay and reimburse JCI for any and all reasonable legal fees which are incurred by JCI in the collection of amounts due and payable under this Agreement.

14. ENTIRE AGREEMENT. This proposal, upon acceptance, shall constitute the entire agreement between the parties and supersedes any prior representations or understandings.

15. CHANGES. No change or modification of any of the terms and conditions stated herein shall be binding upon Johnson unless accepted by Johnson in writing.

**This proposal is hereby accepted and Johnson Controls is authorized to proceed with work; subject, however, to credit approval by Johnson Controls, Inc., Milwaukee, Wisconsin.**

**This proposal is valid until: January 31, 2017**

City of Corinth

Johnson Controls, Inc.

Name: \_\_\_\_\_

Name: \_\_\_\_\_

Title: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

Date: \_\_\_\_\_



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# SUBMITTAL DATA

For: Approval

**Order #:** **Date:** 08/31/2017  
**Project:** City of Corinth 8-31-2017  
**Project #:**  
**Location:**

**Date**

08/31/2017

**Project Name**

City of Corinth 8-31-2017

**Project Number****Client / Purchaser**

## Submittal Summary Page

Qty	Tag #	Model #	Description
3	RTU-7, 8, 10	ZXE08A4B3AB1C112A2	7.5 Ton, Two Stage Cooling, Johnson Controls Series 12R Single Packaged R-410A Air Conditioner, 11.2 EER / 11.7 IEER (CV) / 13.5 IEER (IntelliSpeed), 460-3-60 <ul style="list-style-type: none"> <li>• VFD IntelliSpeed</li> <li>• Enthalpy Economizer (Downflow only) (with Barometric Relief) with Economizer Fault Detection &amp; Diagnostic (Meets ASHRAE 90.1-2013, IECC 2015, California Title 24, AMCA 511)</li> <li>• Medium Static Belt Drive Blower</li> <li>• Simplicity® SE Controller including Discharge Air, Return Air, and Outdoor Air Temperature Sensors. BACNet MS/TP, Modbus and N2 communication card</li> <li>• Microchannel All Aluminum Condenser Coil, Copper tube/Aluminum fin Evaporator Coil</li> <li>• Louvered Hail Guards</li> </ul>
3		2EK04512846	27.8 KW 460-3-60 Electric Heat
2	RTU-6, 9	ZQE06A4B1AB1C112A2	5 Ton, Johnson Controls Series 12R Single Packaged R-410A Air Conditioner, Single Stage Cooling, 14.1 SEER / 12.1 EER, 460-3-60 <ul style="list-style-type: none"> <li>• Enthalpy Economizer (Downflow only) (with Barometric Relief) with Economizer Fault Detection &amp; Diagnostic (Meets ASHRAE 90.1-2013, IECC 2015, California Title 24, AMCA 511)</li> <li>• Medium Static Belt Drive Blower</li> <li>• Simplicity® SE Controller including Discharge Air, Return Air, and Outdoor Air Temperature Sensors. BACNet MS/TP, Modbus and N2 communication card</li> <li>• Microchannel All Aluminum Condenser Coil, Copper tube/Aluminum fin Evaporator Coil</li> <li>• Louvered Hail Guards</li> </ul>
2		2EK04511446	14 kW 460-3 Electric Heat

Qty	Tag #	Model #	Description
1	RTU-4	ZXE14A4C3AB1C112A2	12.5 Ton, Two Stage Cooling, Johnson Controls Series 12R Single Packaged R-410A Air Conditioner, 11.0 EER / 11.2 IEER (CV) / 12.7 IEER (IntelliSpeed), 460-3-60 <ul style="list-style-type: none"> <li>• VFD IntelliSpeed</li> <li>• Enthalpy Economizer (Downflow only) (with Barometric Relief) with Economizer Fault Detection &amp; Diagnostic (Meets ASHRAE 90.1-2013, IECC 2015, California Title 24, AMCA 511)</li> <li>• High Static Belt Drive Blower</li> <li>• Simplicity® SE Controller including Discharge Air, Return Air, and Outdoor Air Temperature Sensors. BACNet MS/TP, Modbus and N2 communication card</li> <li>• Microchannel All Aluminum Condenser Coil, Copper tube/Aluminum fin Evaporator Coil</li> <li>• Louvered Hail Guards</li> </ul>
1		2EK04513346	33 KW 460-3-60 Electric Heat
2	RTU-1, 2	J20ZJC00G4D1BCD1A1	20 Ton, Four Stage Cooling, Johnson Controls Series 20 Single Packaged R-410A Air Conditioner, 11.0 EER, 11.0 EER / 12.0 IEER (CV) / 12.7 IEER (IntelliSpeed) / 12.0 IEER (VAV), 460-3-60, Single Wall Construction <ul style="list-style-type: none"> <li>• VAV Controller with VFD</li> <li>• Dry Bulb Low Leak Economizer w/Barometric Relief and Power Exhaust and Hoods (Bottom Return Only) with Economizer Fault Detection &amp; Diagnostic (Meets ASHRAE 90.1-2013, IECC 2015, California Title 24, AMCA 511)</li> <li>• 7.5 HP High Static Belt Drive Blower</li> <li>• 2" Throwaway Filters</li> <li>• Simplicity® SE Controller including Discharge Air, Return Air, and Outdoor Air Temperature Sensors. BACNet MS/TP, Modbus and N2 communication card</li> <li>• Phase Monitor</li> <li>• Standard Evaporator Coil</li> <li>• Standard Condenser Coil</li> <li>• Standard Access Doors</li> <li>• Hot Gas Bypass</li> <li>• Galvanized Steel Drain Pan</li> </ul>
2		1HG0412	Hail Guard Kit
2		2EC0401	Kit, Single Enthalpy Field Installed



Qty	Tag #	Model #	Description
1	RTU-5	ZXE09A4B3AB1C112A2	8.5 Ton, Two Stage Cooling, Johnson Controls Series 12R Single Packaged R-410A Air Conditioner, 11.2 EER / 11.9 IEER (CV) / 13.3 IEER (IntelliSpeed), 460-3-60 <ul style="list-style-type: none"> <li>• VFD IntelliSpeed</li> <li>• Enthalpy Economizer (Downflow only) (with Barometric Relief) with Economizer Fault Detection &amp; Diagnostic (Meets ASHRAE 90.1-2013, IECC 2015, California Title 24, AMCA 511)</li> <li>• Medium Static Belt Drive Blower</li> <li>• Simplicity® SE Controller including Discharge Air, Return Air, and Outdoor Air Temperature Sensors. BACNet MS/TP, Modbus and N2 communication card</li> <li>• Microchannel All Aluminum Condenser Coil, Copper tube/Aluminum fin Evaporator Coil</li> <li>• Louvered Hail Guards</li> </ul>
1		2EK04512846	27.8 KW 460-3-60 Electric Heat
1	RTU-3	J20ZJC00R4D1BCA1A1	20 Ton, Four Stage Cooling, Johnson Controls Series 20 Single Packaged R-410A Air Conditioner, 11.0 EER, 11.0 EER / 12.0 IEER (CV) / 12.7 IEER (IntelliSpeed) / 12.0 IEER (VAV), 460-3-60, Single Wall Construction <ul style="list-style-type: none"> <li>• IntelliSpeed control of the VFD based on stages of cooling. Provides Single Zone VAV Fan Operation as defined by ASHRAE 90.1 section 6.4.3.10.</li> <li>• Dry Bulb Low Leak Economizer w/Barometric Relief and Power Exhaust and Hoods (Bottom Return Only) with Economizer Fault Detection &amp; Diagnostic (Meets ASHRAE 90.1-2013, IECC 2015, California Title 24, AMCA 511)</li> <li>• 7.5 HP High Static Belt Drive Blower</li> <li>• 2" Throwaway Filters</li> <li>• Simplicity® SE Controller including Discharge Air, Return Air, and Outdoor Air Temperature Sensors. BACNet MS/TP, Modbus and N2 communication card</li> <li>• Phase Monitor</li> <li>• Standard Condenser Coil</li> <li>• Standard Evaporator Coil</li> <li>• Standard Access Doors</li> <li>• Galvanized Steel Drain Pan</li> </ul>
1		1HG0412	Hail Guard Kit
1		2EC0401	Kit, Single Enthalpy Field Installed
1	RTU-11	ZQE04A4B1AB1C112A2	3 Ton, Johnson Controls Series 12R Single Packaged R-410A Air Conditioner, Single Stage Cooling, 14.0 SEER / 12.1 EER, 460-3-60 <ul style="list-style-type: none"> <li>• Enthalpy Economizer (Downflow only) (with Barometric Relief) with Economizer Fault Detection &amp; Diagnostic (Meets ASHRAE 90.1-2013, IECC 2015, California Title 24, AMCA 511)</li> <li>• Medium Static Belt Drive Blower</li> <li>• Simplicity® SE Controller including Discharge Air, Return Air, and Outdoor Air Temperature Sensors. BACNet MS/TP, Modbus and N2 communication card</li> <li>• Microchannel All Aluminum Condenser Coil, Copper tube/Aluminum fin Evaporator Coil</li> <li>• Louvered Hail Guards</li> </ul>

Qty	Tag #	Model #	Description
1		PARTS AND LABOR	5 Year Parts and Labor Warranty all Units

Equipment start-up and commissioning by a factory trained technician is recommended.  
Contact your supplying distributor or sales representative for additional information & guidance.

## Single Package R-410A Air Conditioner

 Project Name: **City of Corinth 8-31-2017**

 Unit Model #: **ZXE08A4B3AB1C112A2**

 Quantity: **3** Tag #: **RTU-7, 8, 10**

 System: **ZXE08A4B3AB1C112A2 (3)**

### Cooling Performance

Total gross capacity	89.0 MBH
Sensible gross capacity	64.2 MBH
Efficiency (at ARI)	11.20 EER
Integrated eff. (at ARI)	13.50 IEER
Ambient DB temp.	105.0 °F
Entering DB temp.	80.0 °F
Entering WB temp.	67.0 °F
Leaving DB temp.	60.2 °F
Leaving WB temp.	57.6 °F
Power input (w/o blower)	7.55 kW
Sound power	84 dB(A)

### Refrigerant

Refrigerant type	R-410A
Sys1	4 lbs 8 oz
Sys2	4 lbs 12 oz

### Heating Performance

Entering DB temp.	60 °F
Heating output capacity (Max)	94.9 MBH
Nominal electric heat	27.8 kW
Applied electric heat	27.8 kW
Installed	Field
Supply air	3000 CFM
Leaving DB temp.	89.3 °F
Air temp. rise	29.3 °F
Stages	1

### Supply Air Blower Performance

Supply air	3000 CFM
Ext. static pressure	0.6 IWG
Addl. Unit Losses (Options/Accessories)	0.07 IWG
Blower speed	787 RPM
Max BHP of Motor (including service factor)	2.90 HP
Duct location	Bottom
Motor rating	2.90 HP
Actual required BHP	1.47 HP
Power input	1.36 kW
Elevation	597 ft.
Drive type	BELT

### Electrical Data

Power supply	460-3-60
Unit min circuit ampacity	46.9 Amps
Unit min over-current protection	50 Amps
Unit max over-current protection	50 Amps

### Dimensions & Weight

Hgt	41 in.	Len	87 in.	Wth	62 in.
Weight with factory installed options					897 lbs.

### Clearances

Right	18 in.	Front	48 in.	Back	36 in.
Top	72 in.	Bottom	1 in.	Left	12 in.

Note: Please refer to the tech guide for listed maximum static pressures



### 7.5 Ton

- All units are manufactured at an ISO 9001 registered facility and each rooftop is completely computer-run tested prior to shipment.

### Unit Features

- Two Stage Cooling
- Full perimeter base rails with built in rigging capabilities
- Either supply and/or return can be field converted from vertical to horizontal configuration without cutting panels.
- Unit Cabinet Constructed of Powder Painted Steel, Certified At 1000 Hours Salt Spray Test (ASTM B-117 Standards)
- Scroll Compressors
- Enthalpy Economizer (Downflow only) (with Barometric Relief) with Economizer Fault Detection & Diagnostic (Meets ASHRAE 90.1-2013, IECC 2015, California Title 24, AMCA 511)
- Medium Static Belt Drive Blower
- Solid Core Liquid Line Filter Driers
- Unit Ships with 2" Throwaway Filters
- Replacement Filters: 4 - (16" x 20"). Unit accepts 2" or 4" wide filters.
- Single Point Power Connection
- Short Circuit Current: 5kA RMS Symmetrical
- Microchannel All Aluminum Condenser Coil, Copper tube/Aluminum fin Evaporator Coil

### BAS Controller

- Simplicity SE Controller including Discharge Air, Return Air, and Outdoor Air Temperature Sensors. BACNet MS/TP, Modbus and N2 communication card

### Standard Unit Controller: Simplicity SE Control Board

- Safety Monitoring - Monitors the high and low-pressure switches, the freezestats, the gas valve, if applicable, and the temperature limit switch on gas and electric heat units. The unit control board will alarm on ignition failures, safety lockouts and repeated limit switch trips.
- An Integrated Low-Ambient Control, Anti-Short Cycle Protection, Lead-Lag, Fan On and Fan off Delays, Low Voltage Protection, On-Board Diagnostic and Fault Code Display. Allows all units to operate in the cooling mode down to 0 °F outdoor ambient without additional components or intervention.

### Warranty

- One (1) Year Limited Warranty on the Complete Unit
- Five (5) Year Warranty - Electric Heat Element
- Five (5) Year Warranty - Compressors



# Series 12R (3-12.5 Ton Package) L526

Single Package R-410A Air Conditioner

Project Name: **City of Corinth 8-31-2017**

Unit Model #: **ZXE08A4B3AB1C112A2**

Quantity: **3** Tag #: **RTU-7, 8, 10**

System: **ZXE08A4B3AB1C112A2 (3)**

## Factory Installed Options

### ZXE08A4B3AB1C112A2

<b>Product Category:</b>	<b>ZX</b>	Johnson Controls Series 12R Single Packaged R-410A Air Conditioner
<b>Heat Type:</b>	<b>E</b>	
<b>Nominal Cooling Capacity:</b>	<b>08</b>	7.5 Ton Two Stage Cooling 11.2 EER / 11.7 IEER (CV) / 13.5 IEER (IntelliSpeed)
<b>Heat Size:</b>	<b>A</b>	
<b>Voltage:</b>	<b>4</b>	460-3-60
<b>Airflow:</b>	<b>B</b>	Medium Static Belt Drive Blower
<b>Airflow Options:</b>	<b>3</b>	VFD IntelliSpeed
<b>Coil Options:</b>	<b>A</b>	Microchannel All Aluminum Condenser Coil, Copper tube/Aluminum fin Evaporator Coil
<b>Controls:</b>	<b>B</b>	Simplicity® SE Controller including Discharge Air, Return Air, and Outdoor Air Temperature Sensors. BACNet MS/TP, Modbus and N2 communication card
<b>Sensor Options:</b>	<b>1</b>	
<b>Economizer / Damper:</b>	<b>C</b>	Enthalpy Economizer (Downflow only) (with Barometric Relief) with Economizer Fault Detection & Diagnostic (Meets ASHRAE 90.1-2013, IECC 2015, California Title 24, AMCA 511)
<b>Convenience Outlet:</b>	<b>1</b>	
<b>Electrical Options:</b>	<b>1</b>	
<b>Cabinet Options:</b>	<b>2</b>	Louvered Hail Guards
<b>Special Options:</b>	<b>A</b>	
<b>Product Generation:</b>	<b>2</b>	

## Field Installed Accessories

Project Name: **City of Corinth 8-31-2017**

Unit Model #: **ZXE08A4B3AB1C112A2**

Quantity: **3** Tag #: **RTU-7, 8, 10**

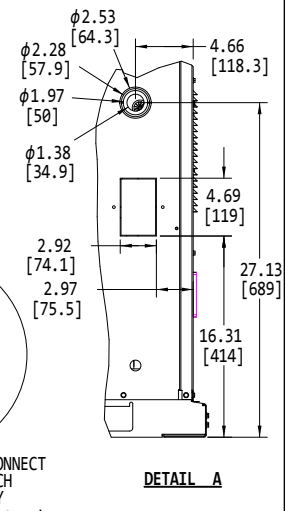
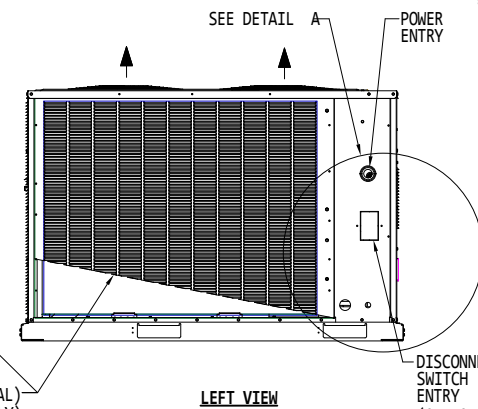
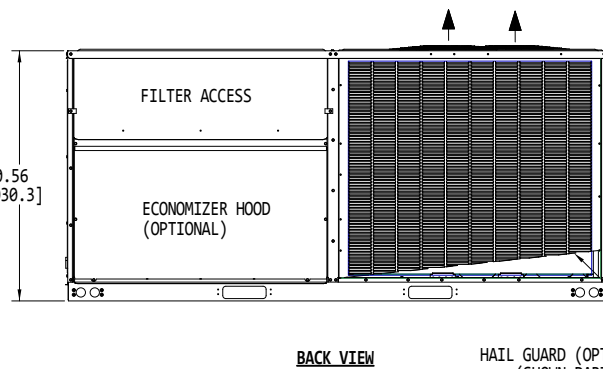
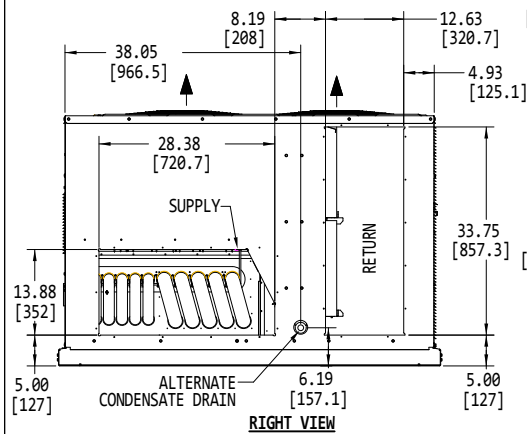
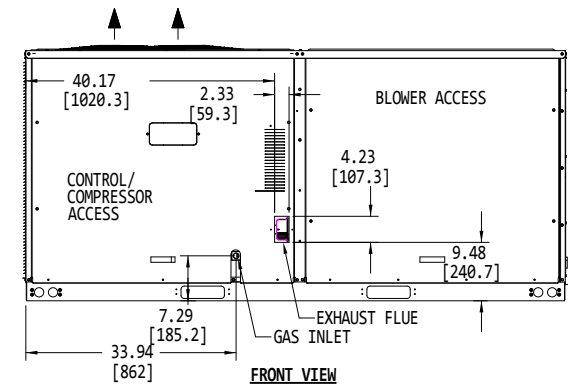
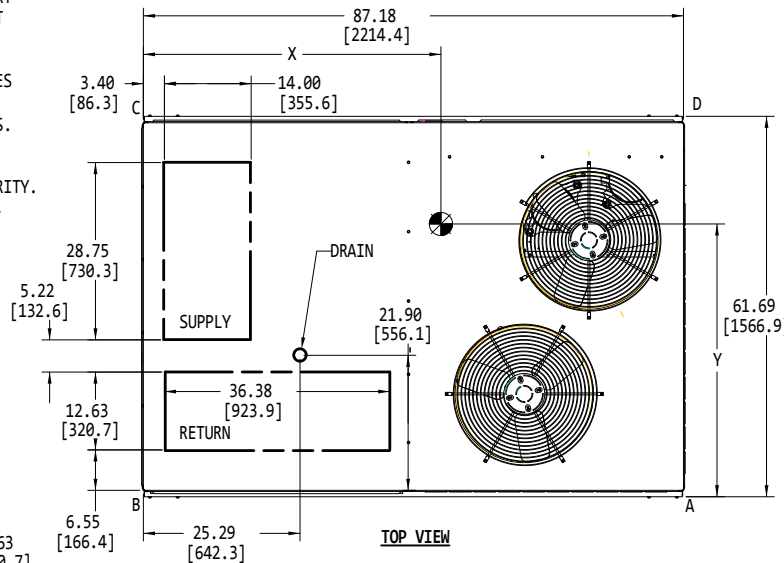
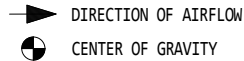
System: **ZXE08A4B3AB1C112A2 (3)**

### Consolidated Drawing

**NOTES:**

1. FOR OUTDOOR USE ONLY.
2. WEIGHTS SHOWN ARE FOR COOLING ONLY UNITS.
3. RECOMMENDED MIN. CLEARANCES:  
 RIGHT SIDE: 18 [450] W/SIDE CONDENSATE DRAIN: 24 [600]  
 LEFT SIDE: 12 [300] W/PIGTAIL: 18 [450]  
 FRONT: 48 [1200]  
 BACK: 18 [450]  
 TOP: 72 [1800]  
 BOTTOM: 0 [0]
4. FOR SMALLER SERVICE AND OPERATIONAL CLEARANCES CONTACT YOUR APPLICATION ENGINEERING DEPARTMENT.
5. DOWNFLOW DUCTS DESIGNED TO BE ATTACHED TO ACCESSORY ROOF CURB ONLY. IF UNIT IS MOUNTED SIDE SUPPLY, IT IS RECOMMENDED THAT THE DUCTS ARE SUPPORTED BY CROSS BRACES, AS DONE ON ACCESSORY ROOF CURBS.
6. MINIMUM CONDENSATION TRAP HEIGHT SHALL BE 1.5 TIMES THE LOWEST NEGATIVE STATIC.
7. DIMENSIONS IN [ ] ARE IN MILLIMETERS OR KILOGRAMS.
8. OPTIONAL COIL GUARDS, GAS HEAT, DISCONNECT SWITCH SHOWN.
9. TOP PANEL EMBOSSEMENTS NOT SHOWN FOR DIMENSION CLARITY.
10. HEAT EXCHANGER IS TYPICAL OF HIGH GAS HEAT OPTION.

TONNAGE	UNIT	OPERATING WEIGHT (LBS) (BASE UNIT)	CENTER OF GRAVITY LOCATION (BASE UNIT)		4 POINT CORNER LOADS (LBS) (BASE UNIT)			
			X	Y	A	B	C	D
7.5	ZX	791 [358.8]	46 [1150]	36 [900]	218 [98.9]	244 [110.7]	174 [78.9]	155 [70.3]
6	ZY	734 [333.8]	44 [1100]	36 [900]	208 [94.3]	213 [96.6]	158 [71.7]	154 [69.9]



Project Name: **City of Corinth 8-31-2017**

Unit Model #: **ZXE08A4B3AB1C112A2**

Quantity: **3** Tag #: **RTU-7, 8, 10**

System: **ZXE08A4B3AB1C112A2 (3)**

### Field Installed Accessory Weights

#### Unit Accessory Weights

Unit Accessory	Weights (lbs.)
Vertical Flow Dry Bulb Economizer Small Footprint	63
Horizontal Flow Dry Bulb Economizer Small Footprint Short	96
Horizontal Flow Dry Bulb Economizer Small Footprint Short	75
Horizontal Flow Dry Bulb Economizer Small Footprint Tall	81
Horizontal Flow Dry Bulb Economizer Large Footprint Short	105
Horizontal Flow Dry Bulb Economizer Large Footprint Tall	102
Power Exhaust Vert Flow Small Footprint	38
Power Exhaust Vert Flow Large Footprint	38
Power Exhaust Horiz Flow Small Footprint	38
Power Exhaust Horiz Flow Large Footprint	38
Hail Guard Kit Small Short Factory Installed	19
Hail Guard Kit Small Tall Factory Installed	24
Hail Guard Kit Large Short Factory Installed	50
Hail Guard Kit Large Tall Factory Installed	50
Curb Rigid 14" Small Footprint	145
Curb Rigid 24" Small Footprint	135
Curb Rigid 14" Large Footprint	135
Curb Rigid 24" Large Footprint	135

## Single Package R-410A Air Conditioner

Project Name: **City of Corinth 8-31-2017**

Unit Model #: **ZQE06A4B1AB1C112A2**

Quantity: **2** Tag #: **RTU-6, 9**

System: **ZQE06A4B1AB1C112A2 (2)**

### Cooling Performance

Total gross capacity	59.9 MBH
Sensible gross capacity	43.1 MBH
Ambient DB temp.	105.0 °F
Entering DB temp.	80.0 °F
Entering WB temp.	67.0 °F
Leaving DB temp.	60.0 °F
Leaving WB temp.	57.6 °F
Power input (w/o blower)	4.78 kW

### Refrigerant

Refrigerant type	R-410A
------------------	--------

### Heating Performance

Entering DB temp.	60 °F
Heating output capacity (Max)	47.8 MBH
Nominal electric heat	14 kW
Applied electric heat	14.0 kW
Installed	Field
Supply air	2000 CFM
Leaving DB temp.	82.1 °F
Air temp. rise	22.1 °F
Stages	1

### Supply Air Blower Performance

Supply air	2000 CFM
Ext. static pressure	0.6 IWG
Addl. Unit Losses (Options/Accessories)	-0.15 IWG
Blower speed	1043 RPM
Max BHP of Motor (including service factor)	2.40 HP
Duct location	Bottom
Motor rating	2.40 HP
Actual required BHP	0.94 HP
Power input	0.89 kW
Elevation	597 ft.
Drive type	BELT

### Electrical Data

Power supply	460-3-60
Unit min circuit ampacity	24.3 Amps
Unit min over-current protection	25 Amps
Unit max over-current protection	25 Amps

### Dimensions & Weight

Hgt	41 in.	Len	74 in.	Wth	49 in.
Weight with factory installed options	654 lbs.				

### Clearances

Right	18 in.	Front	36 in.	Back	36 in.
Top	72 in.	Bottom	1 in.	Left	12 in.

Note: Please refer to the tech guide for listed maximum static pressures



### 5 Ton

- All units are manufactured at an ISO 9001 registered facility and each rooftop is completely computer-run tested prior to shipment.

### Unit Features

- Single Stage Cooling
- Full perimeter base rails with built in rigging capabilities
- Either supply and/or return can be field converted from vertical to horizontal configuration without cutting panels.
- Unit Cabinet Constructed of Powder Painted Steel, Certified At 1000 Hours Salt Spray Test (ASTM B-117 Standards)
- Scroll Compressors
- Enthalpy Economizer (Downflow only) (with Barometric Relief) with Economizer Fault Detection & Diagnostic (Meets ASHRAE 90.1-2013, IECC 2015, California Title 24, AMCA 511)
- Medium Static Belt Drive Blower
- Solid Core Liquid Line Filter Driers
- Unit Ships with 2" Throwaway Filters
- Short Circuit Current: 5kA RMS Symmetrical
- Single Point Power Connection
- Microchannel All Aluminum Condenser Coil, Copper tube/Aluminum fin Evaporator Coil

### BAS Controller

- Simplicity SE Controller including Discharge Air, Return Air, and Outdoor Air Temperature Sensors. BACNet MS/TP, Modbus and N2 communication card

### Standard Unit Controller: Simplicity SE Control Board

- Safety Monitoring - Monitors the high and low-pressure switches, the freezestats, the gas valve, if applicable, and the temperature limit switch on gas and electric heat units. The unit control board will alarm on ignition failures, safety lockouts and repeated limit switch trips.
- An Integrated Low-Ambient Control, Anti-Short Cycle Protection, Lead-Lag, Fan On and Fan off Delays, Low Voltage Protection, On-Board Diagnostic and Fault Code Display. Allows all units to operate in the cooling mode down to 0 °F outdoor ambient without additional components or intervention.

### Warranty

- One (1) Year Limited Warranty on the Complete Unit
- Five (5) Year Warranty - Electric Heat Element
- Five (5) Year Warranty - Compressors



# Series 12R (3-12.5 Ton Package) L526

Single Package R-410A Air Conditioner

Project Name: **City of Corinth 8-31-2017**

Unit Model #: **ZQE06A4B1AB1C112A2**

Quantity: **2** Tag #: **RTU-6, 9**

System: **ZQE06A4B1AB1C112A2 (2)**

## Factory Installed Options

### ZQE06A4B1AB1C112A2

<b>Product Category:</b>	<b>ZQ</b>	Johnson Controls Series 12R Single Packaged R-410A Air Conditioner
<b>Heat Type:</b>	<b>E</b>	
<b>Nominal Cooling Capacity:</b>	<b>06</b>	5 Ton Single Stage Cooling 14.1 SEER / 12.1 EER
<b>Heat Size:</b>	<b>A</b>	
<b>Voltage:</b>	<b>4</b>	460-3-60
<b>Airflow:</b>	<b>B</b>	Medium Static Belt Drive Blower
<b>Airflow Options:</b>	<b>1</b>	
<b>Coil Options:</b>	<b>A</b>	Microchannel All Aluminum Condenser Coil, Copper tube/Aluminum fin Evaporator Coil
<b>Controls:</b>	<b>B</b>	Simplicity® SE Controller including Discharge Air, Return Air, and Outdoor Air Temperature Sensors. BACNet MS/TP, Modbus and N2 communication card
<b>Sensor Options:</b>	<b>1</b>	
<b>Economizer / Damper:</b>	<b>C</b>	Enthalpy Economizer (Downflow only) (with Barometric Relief) with Economizer Fault Detection & Diagnostic (Meets ASHRAE 90.1-2013, IECC 2015, California Title 24, AMCA 511)
<b>Convenience Outlet:</b>	<b>1</b>	
<b>Electrical Options:</b>	<b>1</b>	
<b>Cabinet Options:</b>	<b>2</b>	Louvered Hail Guards
<b>Special Options:</b>	<b>A</b>	
<b>Product Generation:</b>	<b>2</b>	

## Field Installed Accessories



Project Name: **City of Corinth 8-31-2017**

 Unit Model #: **ZQE06A4B1AB1C112A2**

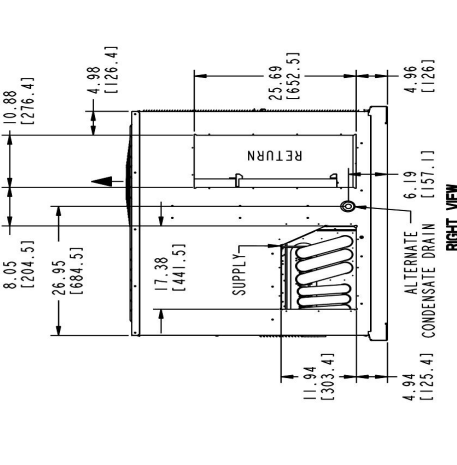
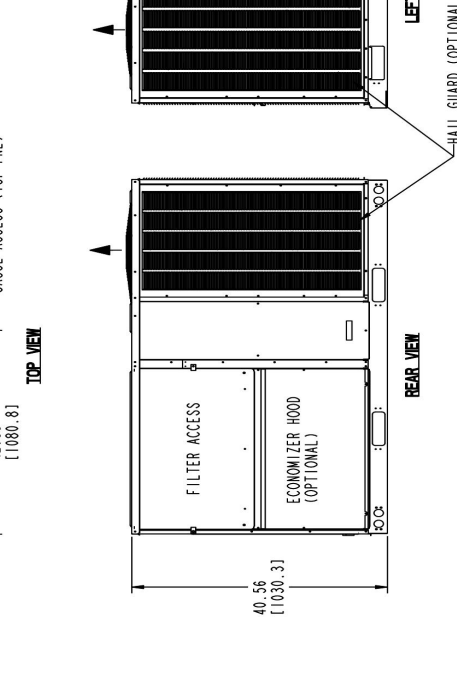
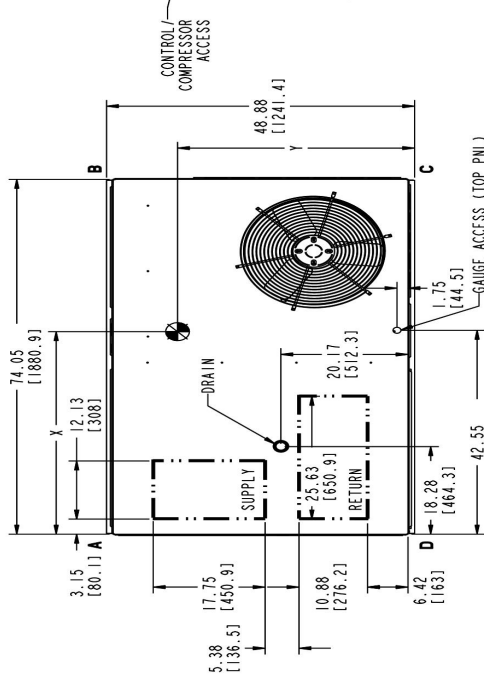
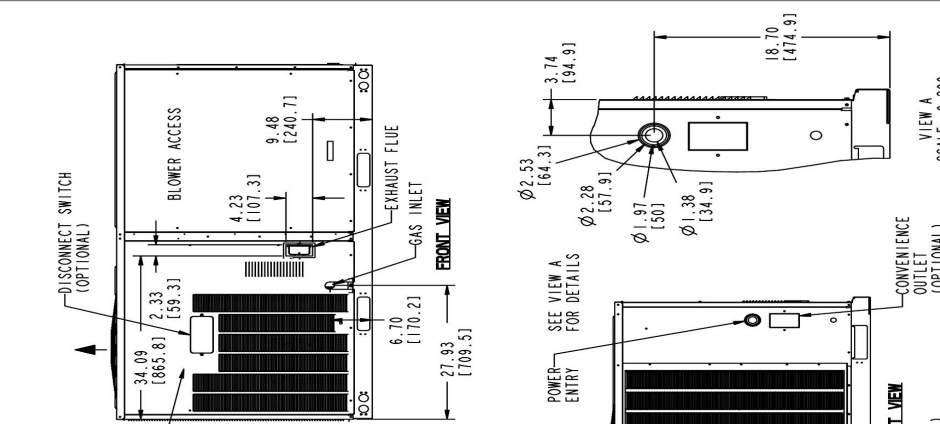
 Quantity: **2** Tag #: **RTU-6, 9**

 System: **ZQE06A4B1AB1C112A2 (2)**

### ZQ 06 Unit Dimensions

**ZQ06**

TONNAGE	OPERATING WEIGHT (LBS) (BASE UNIT)		CENTER OF GRAVITY LOCATION (BASE UNIT)				4 POINT CORNER LOADS (LBS) (BASE UNIT)			
	U	V	X	Y	A	B	C	D		
6	ZK	592 [268.5]	33.7 [1696]	24.9 [1322]	162.6 [73.8]	136.3 [61.8]	133.6 [60.6]	159.3 [72.3]		
4	ZT	564 [255.8]	36.3 [1922]	24.9 [1322]	144.9 [65.7]	139.9 [63.5]	137.1 [62.2]	142 [64.4]		
5	ZT	562 [254]	36.2 [1919]	25.1 [1338]	151.1 [68.6]	145.1 [65.8]	139.9 [63.5]	145.7 [66.1]		
5	ZD	566.2 [256.8]	37.5 [1953]	25.1 [1338]	141.9 [64.4]	146.2 [66.4]	141 [64]	136.8 [62.1]		



- NOTES:**
- FOR OUTDOOR USE ONLY.
  - WEIGHTS SHOWN ARE FOR COOLING ONLY UNITS.
  - RECOMMENDED MIN. CLEARANCES:  
 RIGHT SIDE: 18 [450] W/SIDE CONDENSATE DRAIN: 24 [600]  
 LEFT SIDE: 12 [300] W/PITTAIL: 18 [450]  
 FRONT: 36 [900]  
 REAR: 18 [450] W/ECONOMIZER/POWER EXHAUST: 36 [900]  
 TOP: 72 [1800]  
 BOTTOM: 1 [25]
  - REMOVED.
  - FOR SMALLER SERVICE AND OPERATIONAL CLEARANCES CONTACT YOUR APPLICATION ENGINEERING DEPARTMENT.
  - DOWNFLOW DUCTS DESIGNED TO BE ATTACHED TO ACCESSORY ROOF CURB ONLY. IF UNIT IS MOUNTED SIDE SUPPLY, IT IS RECOMMENDED THAT THE DUCTS ARE SUPPORTED BY CROSS-BRACES, AS DONE ON ACCESSORY ROOF CURBS.
  - REMOVED.
  - MINIMUM CONDENSATION TRAP HEIGHT SHALL BE 1.5 TIMES THE LOWEST NEGATIVE STATIC.
  - DIMENSIONS IN I, J ARE IN MILLIMETERS OR KILOGRAMS.
  - OPTIONAL COIL GUARDS, GAS HEAT, DISCONNECT SWITCH SHOWN.
  - TOP PANEL ENGROSSMENTS NOT SHOWN FOR DIMENSION CLARITY.
  - HEAT EXCHANGER IS TYPICAL OF HIGH GAS HEAT OPTION.



REV	DATE	REVISION RECORD	EC	NO	DR	CK	ENG	THIRD ANGLE PROJECTION	ALL PROPRIETARY RIGHTS IN THE SUBJECT MATTER HEREOF ARE RESERVED AND NO PERMISSION IS GRANTED TO REPRODUCE THIS PRINT IN WHOLE OR IN PART OR TO DISCLOSE ANY OF THE INFORMATION HEREON TO ANY OTHER PARTY WITHOUT WRITTEN RELEASE BY JOHNSON CONTROLS	SAFETY AND KEY CHARACTERISTICS PER BE-200-520-01
A	09-13-13	NEW DRAWING	27375	R66	JC	DW				
B	12-03-14	REVISE CLEARANCES (NOTE 3). REMOVE EXTRA DIMS FROM VIEW A	37128	R66	TCS	AJR				
C	05-10-16	ADDED ADDITIONAL ROW TO TABLE FOR 20 UNIT 5 TON	44829	HG	RG	AJR				
D	10-25-16	CORRECTED 4 POINT CORNER LOAD TABLE, CORRECTED CORNER CALL OUTS ON PRINT		ZAW	TR	TR				
DRAWING PER ASME Y14.2-2003 DIMENSIONS UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES DO NOT SCALE PRINT			NAME: [ ] TITLE: [ ] DATE: [ ] JOB NO.: [ ] ENG. & WORKNO.: [ ] SCALE: 1:100		SUBMITTAL DWG. COR., 1 00P, 40.5" CAB		TYPE: NOT APPLICABLE ENG SPEC: NOT APPLICABLE SIZE:		ONE NO. PART NO.: JOHNSON CONTROLS UNITARY PRODUCTS GROUP NORMAN, OK 73069	

Project Name: **City of Corinth 8-31-2017**

Unit Model #: **ZQE06A4B1AB1C112A2**

Quantity: **2** Tag #: **RTU-6, 9**

System: **ZQE06A4B1AB1C112A2 (2)**

### Field Installed Accessory Weights

#### Unit Accessory Weights

Unit Accessory	Weights (lbs.)
Vertical Flow Dry Bulb Economizer Small Footprint	63
Horizontal Flow Dry Bulb Economizer Small Footprint Short	96
Horizontal Flow Dry Bulb Economizer Small Footprint Short	75
Horizontal Flow Dry Bulb Economizer Small Footprint Tall	81
Horizontal Flow Dry Bulb Economizer Large Footprint Short	105
Horizontal Flow Dry Bulb Economizer Large Footprint Tall	102
Power Exhaust Vert Flow Small Footprint	38
Power Exhaust Vert Flow Large Footprint	38
Power Exhaust Horiz Flow Small Footprint	38
Power Exhaust Horiz Flow Large Footprint	38
Hail Guard Kit Small Short Factory Installed	19
Hail Guard Kit Small Tall Factory Installed	24
Hail Guard Kit Large Short Factory Installed	50
Hail Guard Kit Large Tall Factory Installed	50
Curb Rigid 14" Small Footprint	145
Curb Rigid 24" Small Footprint	135
Curb Rigid 14" Large Footprint	135
Curb Rigid 24" Large Footprint	135

## Single Package R-410A Air Conditioner

Project Name: **City of Corinth 8-31-2017**

Unit Model #: **ZXE14A4C3AB1C112A2**

Quantity: **1** Tag #: **RTU-4**

System: **ZXE14A4C3AB1C112A2**

### Cooling Performance

Total gross capacity	143.9 MBH
Sensible gross capacity	107.3 MBH
Efficiency (at ARI)	11.00 EER
Integrated eff. (at ARI)	12.70 IEER
Ambient DB temp.	105.0 °F
Entering DB temp.	80.0 °F
Entering WB temp.	67.0 °F
Leaving DB temp.	60.1 °F
Leaving WB temp.	57.9 °F
Power input (w/o blower)	12.28 kW
Sound power	90 dB(A)

### Refrigerant

Refrigerant type	R-410A
Sys1	6 lbs 8 oz
Sys2	6 lbs 12 oz

### Heating Performance

Entering DB temp.	60 °F
Heating output capacity (Max)	112.7 MBH
Nominal electric heat	33 kW
Applied electric heat	33.0 kW
Installed	Field
Supply air	5000 CFM
Leaving DB temp.	80.9 °F
Air temp. rise	20.9 °F
Stages	1

### Supply Air Blower Performance

Supply air	5000 CFM
Ext. static pressure	0.6 IWG
Addl. Unit Losses (Options/Accessories)	0.19 IWG
Blower speed	986 RPM
Max BHP of Motor (including service factor)	5.25 HP
Duct location	Bottom
Motor rating	5.25 HP
Actual required BHP	3.72 HP
Power input	3.09 kW
Elevation	597 ft.
Drive type	BELT

### Electrical Data

Power supply	460-3-60
Unit min circuit ampacity	58 Amps
Unit min over-current protection	60 Amps
Unit max over-current protection	60 Amps

### Dimensions & Weight

Hgt	55 in.	Len	87 in.	Wth	62 in.
Weight with factory installed options					1055 lbs.

### Clearances

Right	18 in.	Front	48 in.	Back	36 in.
Top	72 in.	Bottom	1 in.	Left	12 in.

Note: Please refer to the tech guide for listed maximum static pressures



### 12.5 Ton

- All units are manufactured at an ISO 9001 registered facility and each rooftop is completely computer-run tested prior to shipment.

### Unit Features

- Two Stage Cooling
- Full perimeter base rails with built in rigging capabilities
- Either supply and/or return can be field converted from vertical to horizontal configuration without cutting panels.
- Unit Cabinet Constructed of Powder Painted Steel, Certified At 1000 Hours Salt Spray Test (ASTM B-117 Standards)
- Scroll Compressors
- Enthalpy Economizer (Downflow only) (with Barometric Relief) with Economizer Fault Detection & Diagnostic (Meets ASHRAE 90.1-2013, IECC 2015, California Title 24, AMCA 511)
- High Static Belt Drive Blower
- Solid Core Liquid Line Filter Driers
- Unit Ships with 2" Throwaway Filters
- Replacement Filters: 4 - (20" x 20"). Unit accepts 2" or 4" wide filters.
- Single Point Power Connection
- Short Circuit Current: 5kA RMS Symmetrical
- Microchannel All Aluminum Condenser Coil, Copper tube/Aluminum fin Evaporator Coil

### BAS Controller

- Simplicity SE Controller including Discharge Air, Return Air, and Outdoor Air Temperature Sensors. BACNet MS/TP, Modbus and N2 communication card

### Standard Unit Controller: Simplicity SE Control Board

- Safety Monitoring - Monitors the high and low-pressure switches, the freezestats, the gas valve, if applicable, and the temperature limit switch on gas and electric heat units. The unit control board will alarm on ignition failures, safety lockouts and repeated limit switch trips.
- An Integrated Low-Ambient Control, Anti-Short Cycle Protection, Lead-Lag, Fan On and Fan off Delays, Low Voltage Protection, On-Board Diagnostic and Fault Code Display. Allows all units to operate in the cooling mode down to 0 °F outdoor ambient without additional components or intervention.

### Warranty

- One (1) Year Limited Warranty on the Complete Unit
- Five (5) Year Warranty - Electric Heat Element
- Five (5) Year Warranty - Compressors



# Series 12R (3-12.5 Ton Package) L526

Single Package R-410A Air Conditioner

Project Name: City of Corinth 8-31-2017

Unit Model #: ZXE14A4C3AB1C112A2

Quantity: 1 Tag #: RTU-4

System: ZXE14A4C3AB1C112A2

## Factory Installed Options

### ZXE14A4C3AB1C112A2

Product Category:	<b>ZX</b>	Johnson Controls Series 12R Single Packaged R-410A Air Conditioner
Heat Type:	<b>E</b>	
Nominal Cooling Capacity:	<b>14</b>	12.5 Ton Two Stage Cooling 11.0 EER / 11.2 IEER (CV) / 12.7 IEER (IntelliSpeed)
Heat Size:	<b>A</b>	
Voltage:	<b>4</b>	460-3-60
Airflow:	<b>C</b>	High Static Belt Drive Blower
Airflow Options:	<b>3</b>	VFD IntelliSpeed
Coil Options:	<b>A</b>	Microchannel All Aluminum Condenser Coil, Copper tube/Aluminum fin Evaporator Coil
Controls:	<b>B</b>	Simplicity® SE Controller including Discharge Air, Return Air, and Outdoor Air Temperature Sensors. BACNet MS/TP, Modbus and N2 communication card
Sensor Options:	<b>1</b>	
Economizer / Damper:	<b>C</b>	Enthalpy Economizer (Downflow only) (with Barometric Relief) with Economizer Fault Detection & Diagnostic (Meets ASHRAE 90.1-2013, IECC 2015, California Title 24, AMCA 511)
Convenience Outlet:	<b>1</b>	
Electrical Options:	<b>1</b>	
Cabinet Options:	<b>2</b>	Louvered Hail Guards
Special Options:	<b>A</b>	
Product Generation:	<b>2</b>	

## Field Installed Accessories

- 2EK04513346 - 33 KW 460-3-60 Electric Heat (9.6 lbs)

Project Name: **City of Corinth 8-31-2017**

 Unit Model #: **ZXE14A4C3AB1C112A2**

 Quantity: **1** Tag #: **RTU-4**

 System: **ZXE14A4C3AB1C112A2**

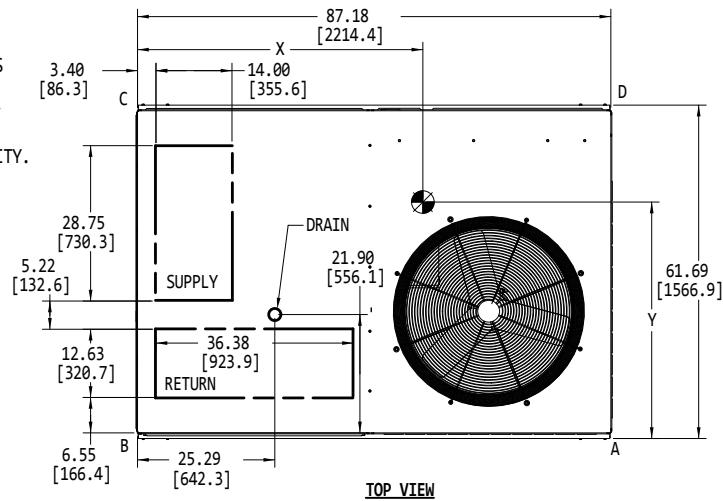
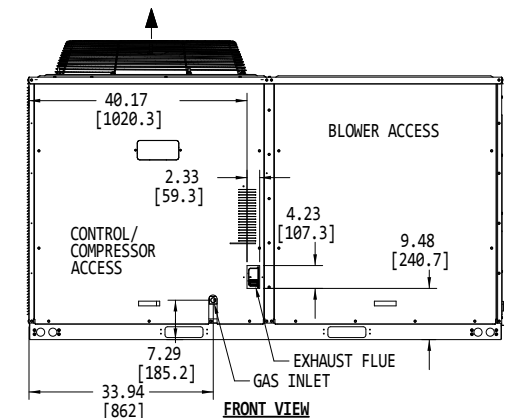
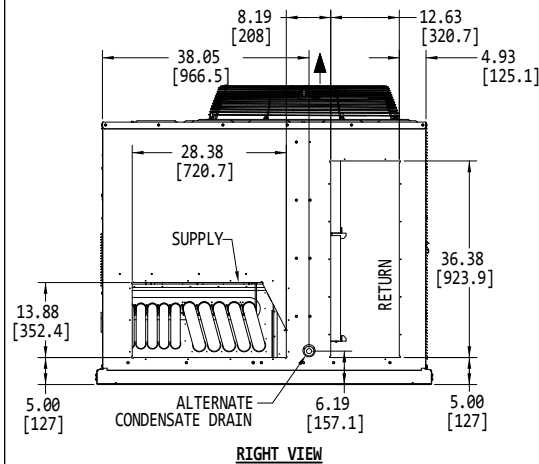
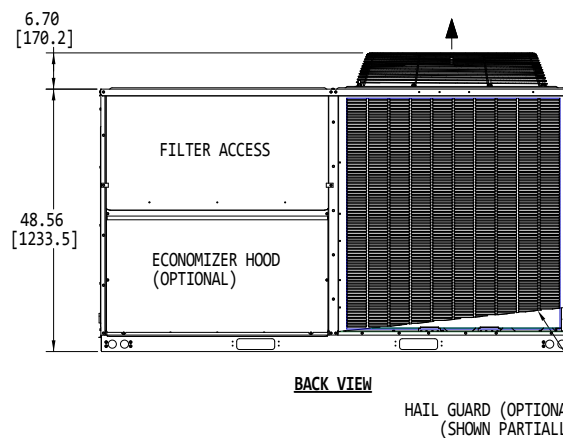
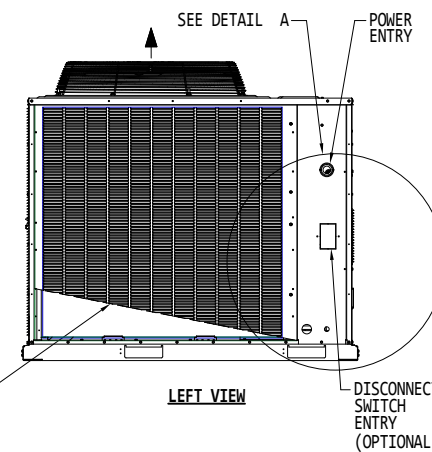
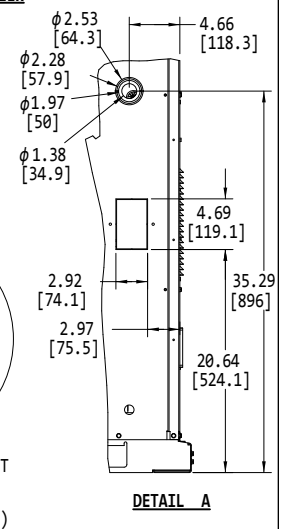
### Consolidated Drawing

**NOTES:**

1. FOR OUTDOOR USE ONLY.
2. WEIGHTS SHOWN ARE FOR COOLING ONLY UNITS.
3. RECOMMENDED MIN. CLEARANCES:  
 RIGHT SIDE: 18 [450] W/SIDE CONDENSATE DRAIN: 24 [600]  
 LEFT SIDE: 12 [300] W/PIGTAIL: 18 [450]  
 FRONT: 48 [1200]  
 BACK: 18 [450]  
 TOP: 72 [1800]  
 BOTTOM: 0 [0]
4. REMOVED.
5. FOR SMALLER SERVICE AND OPERATIONAL CLEARANCES CONTACT YOUR APPLICATION ENGINEERING DEPARTMENT.
6. DOWNFLOW DUCTS DESIGNED TO BE ATTACHED TO ACCESSORY ROOF CURB ONLY. IF UNIT IS MOUNTED SIDE SUPPLY, IT IS RECOMMENDED THAT THE DUCTS ARE SUPPORTED BY CROSS BRACES, AS DONE ON ACCESSORY ROOF CURBS.
7. REMOVED.
8. MINIMUM CONDENSATION TRAP HEIGHT SHALL BE 1.5 TIMES THE LOWEST NEGATIVE STATIC.
9. DIMENSIONS IN [ ] ARE IN MILLIMETERS OR KILOGRAMS.
10. OPTIONAL COIL GUARDS, GAS HEAT, DISCONNECT SWITCH SHOWN.
11. TOP PANEL EMBOSSEMENTS NOT SHOWN FOR DIMENSION CLARITY.
12. HEAT EXCHANGER IS TYPICAL OF HIGH GAS HEAT OPTION.

TONNAGE	UNIT	OPERATING WEIGHT (LBS) (BASE UNIT)	CENTER OF GRAVITY LOCATION (BASE UNIT)		4 POINT CORNER LOADS (LBS) (BASE UNIT)			
			X	Y	A	B	C	D
12.5	ZX	941 [426.8]	45 [1125]	36 [900]	265 [120.2]	284 [128.8]	203 [92.1]	189 [85.7]
10	ZY	902 [409.1]	45 [1125]	36 [900]	249 [113.0]	267 [121.1]	199 [90.3]	186 [84.4]

DIRECTION OF AIRFLOW  
 CENTER OF GRAVITY


**TOP VIEW**

**FRONT VIEW**

**RIGHT VIEW**

**BACK VIEW**

**LEFT VIEW**

**DETAIL A**

Project Name: **City of Corinth 8-31-2017**

Unit Model #: **ZXE14A4C3AB1C112A2**

Quantity: **1** Tag #: **RTU-4**

System: **ZXE14A4C3AB1C112A2**

### Field Installed Accessory Weights

#### Unit Accessory Weights

Unit Accessory	Weights (lbs.)
Vertical Flow Dry Bulb Economizer Small Footprint	63
Horizontal Flow Dry Bulb Economizer Small Footprint Short	96
Horizontal Flow Dry Bulb Economizer Small Footprint Short	75
Horizontal Flow Dry Bulb Economizer Small Footprint Tall	81
Horizontal Flow Dry Bulb Economizer Large Footprint Short	105
Horizontal Flow Dry Bulb Economizer Large Footprint Tall	102
Power Exhaust Vert Flow Small Footprint	38
Power Exhaust Vert Flow Large Footprint	38
Power Exhaust Horiz Flow Small Footprint	38
Power Exhaust Horiz Flow Large Footprint	38
Hail Guard Kit Small Short Factory Installed	19
Hail Guard Kit Small Tall Factory Installed	24
Hail Guard Kit Large Short Factory Installed	50
Hail Guard Kit Large Tall Factory Installed	50
Curb Rigid 14" Small Footprint	145
Curb Rigid 24" Small Footprint	135
Curb Rigid 14" Large Footprint	135
Curb Rigid 24" Large Footprint	135

## Single Package R-410A Air Conditioner

Project Name: **City of Corinth 8-31-2017**

Unit Model #: **J20ZJC00G4D1BCD1A1**

Quantity: **2** Tag #: **RTU-1, 2**

System: **J20ZJC00G4D1BCD1A1 (2)**

### Cooling Performance

Total gross capacity	238.7 MBH
Sensible gross capacity	179.6 MBH
Efficiency (at ARI)	11.00 EER
Integrated eff. (at ARI)	12.00 IEER
Ambient DB temp.	105.0 °F
Entering DB temp.	80.0 °F
Entering WB temp.	67.0 °F
Leaving DB temp.	59.2 °F
Leaving WB temp.	57.6 °F
Power input (w/o blower)	20.75 kW
Sound power	92 dB(A)

### Refrigerant

Refrigerant type	R-410A
Sys1	12 lbs
Sys2	13 lbs
Sys3	12 lbs
Sys4	12 lbs

### Supply Air Blower Performance

Supply air	8000 CFM
Ext. static pressure	1.0 IWG
Blower speed	969 RPM
Max BHP of Motor (including service factor)	8.63 HP
Duct location	Bottom
Motor rating	7.50 HP
Actual required BHP	6.31 HP
Power input	5.29 kW
Elevation	597 ft.
Drive type	BELT

### Electrical Data

Power supply	460-3-60
Unit min circuit ampacity	47.7 Amps
Unit max over-current protection	50 Amps

### Dimensions & Weight

Hgt	53 in.	Len	181 in.	Wth	92 in.
Weight with factory installed options					2977 lbs.

Note: Please refer to the tech guide for listed maximum static pressures



### 20 Ton

- Johnson Controls Series 20 Units are Manufactured at an ISO 9001 Registered Facility and each Rooftop is Completely Computer-Run Tested Prior to Shipment.

### Unit Features

- Four Stage Cooling
- Full Perimeter Base Rails with Built in Rigging Capabilities
- Either Supply and/or Return can be Field Converted from Vertical to Horizontal Configuration without Cutting Panels
- Unit Cabinet Constructed of Powder Painted Steel, Certified At 1000 Hours Salt Spray Test (ASTM B-117 Standards).
- Four Independent Refrigerant Circuits for Efficient Part Load Operation with Scroll Compressors
- Dry Bulb Low Leak Economizer w/Barometric Relief and Power Exhaust and Hoods (Bottom Return Only) with Economizer Fault Detection & Diagnostic (Meets ASHRAE 90.1-2013, IECC 2015, California Title 24, AMCA 511)
- 7.5 HP High Static Belt Drive Blower
- Unit Ships with 2" Throwaway Filters
- Solid Core Liquid Line Filter Driers
- Replacement Filters: For 2" filters 12 - (12" x 24" x 2") OR For 4" filters 2 - (20" X 24" x 4") AND 4 - (24" X 24" x 4")
- Single Point Power Connection
- Through-the-Curb and Through-The-Base Utility Connections
- Short Circuit Current: 5kA RMS Symmetrical
- Phase Monitor
- Standard Condenser Coil
- Standard Evaporator Coil
- Crane Required to Unload Unit
- Galvanized Steel Drain Pan
- Standard Access Doors
- Hot Gas Bypass

### BAS Controller

- VAV Controller with VFD
- Simplicity SE Controller including Discharge Air, Return Air, and Outdoor Air Temperature Sensors. BACNet MS/TP, Modbus and N2 communication card

### Standard Unit Controller: Simplicity Control Board

- An Integrated Low-Ambient Control, Anti-Short Cycle Protection, Lead-Lag, Fan On and Fan off Delays, Low Voltage Protection, On-Board Diagnostic and Fault Code Display. Allows all units to operate in the cooling mode down to 0 °F outdoor ambient without additional components or intervention.
- Safety Monitoring - Monitors the High and Low-Pressure Switches, the Freezestats, the Gas Valve, if Applicable, and the Temperature Limit Switch on Gas and Electric Heat Units. The Unit Control Board will Alarm on Ignition Failures, Safety Lockouts and Repeated Limit Switch Trips.

### Warranty

- One (1) Year Limited Warranty on the Complete Unit
- Five (5) Year Warranty - Compressors and Electric Heater Elements



# Series 20 (15-25 Ton Package) N540

## Single Package R-410A Air Conditioner

Project Name: **City of Corinth 8-31-2017**

Unit Model #: **J20ZJC00G4D1BCD1A1**

Quantity: **2** Tag #: **RTU-1, 2**

System: **J20ZJC00G4D1BCD1A1 (2)**

### Factory Installed Options

#### J20ZJC00G4D1BCD1A1

<b>Product Category:</b>	<b>J2</b>	Johnson Controls Series 20 Single Packaged R-410A Air Conditioner 11.0 EER 11.0 EER / 12.0 IEER (CV) / 12.7 IEER (IntelliSpeed) / 12.0 IEER (VAV)
<b>Nominal Cooling Capacity:</b>	<b>0ZJ</b>	20 Ton Four Stage Cooling
<b>Heat Type and Nominal Heat Capacity:</b>	<b>C00</b>	
<b>Blower Option:</b>	<b>G</b>	VAV Controller with VFD 7.5 HP High Static Belt Drive Blower
<b>Voltage:</b>	<b>4</b>	460-3-60
<b>Economizer / Damper:</b>	<b>D</b>	Dry Bulb Low Leak Economizer w/Barometric Relief and Power Exhaust and Hoods (Bottom Return Only) with Economizer Fault Detection & Diagnostic (Meets ASHRAE 90.1-2013, IECC 2015, California Title 24, AMCA 511)
<b>Service Options:</b>	<b>1</b>	
<b>Sensor Options:</b>	<b>B</b>	Phase Monitor
<b>Refrigeration:</b>	<b>D</b>	Standard Condenser Coil Standard Evaporator Coil Hot Gas Bypass
<b>Additional Options:</b>	<b>1</b>	2" Throwaway Filters Simplicity® SE Controller including Discharge Air, Return Air, and Outdoor Air Temperature Sensors. BACNet MS/TP, Modbus and N2 communication card
<b>Cabinet Options:</b>	<b>A</b>	Single Wall Construction Standard Access Doors Galvanized Steel Drain Pan
<b>Product Generation:</b>	<b>1</b>	

### Field Installed Accessories



Project Name: **City of Corinth 8-31-2017**

 Unit Model #: **J20ZJC00G4D1BCD1A1**

 Quantity: **2** Tag #: **RTU-1, 2**

 System: **J20ZJC00G4D1BCD1A1 (2)**

### Consolidated Drawing

**NOTES:**

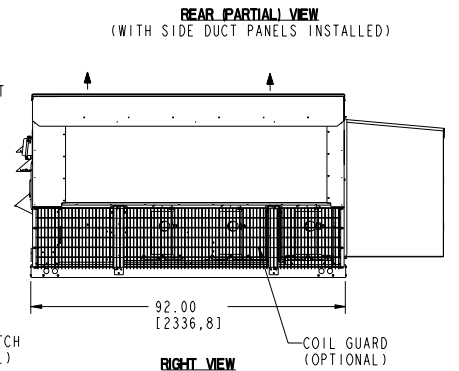
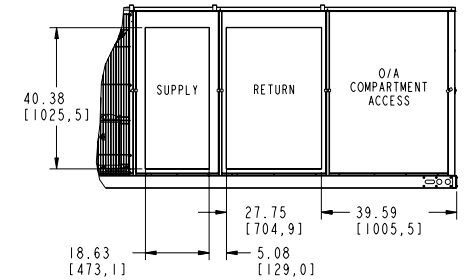
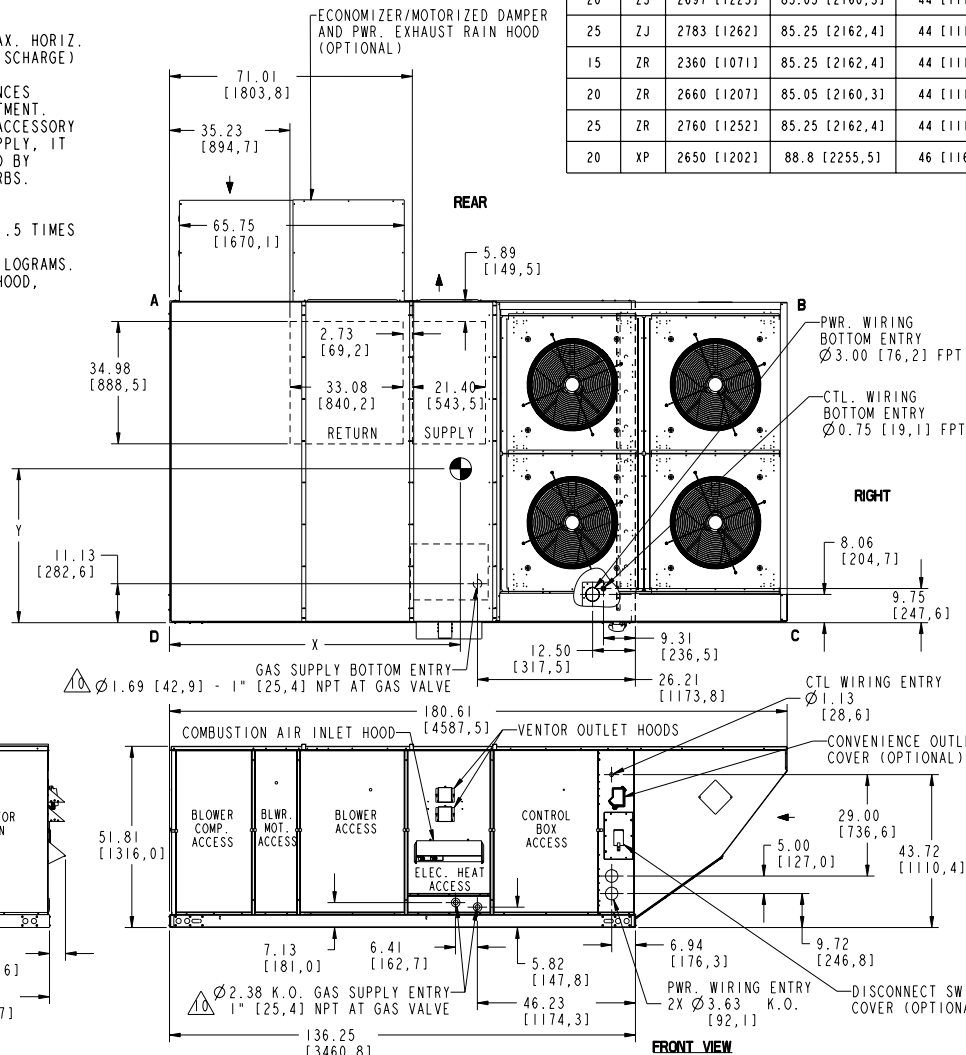
1. FOR OUTDOOR USE ONLY.
2. WEIGHTS SHOWN ARE FOR COOLING ONLY UNITS.
3. MIN. CLEARANCES TO BE:
  - RIGHT SIDE: 36 [914,4]
  - LEFT SIDE: 24 [609,6] (LESS ECONOMIZER)
  - 36 [914,4] (WITH ECONOMIZER)
  - FRONT: 36 [914,4]
  - REAR: 24 [609,6] (LESS ECONOMIZER)
  - 49 [1244,6] (WITH ECONOMIZER)
  - TOP: 72 [1828,8] WITH 36 [914,4] MAX. HORIZ. OVERHANG (FOR CONDENSER AIR DISCHARGE)
  - BOTTOM: 0 [0]
4. FOR SMALLER SERVICE AND OPERATIONAL CLEARANCES CONTACT YOUR APPLICATION ENGINEERING DEPARTMENT.
5. DOWNFLOW DUCTS DESIGNED TO BE ATTACHED TO ACCESSORY ROOF CURB ONLY. IF UNIT IS MOUNTED SIDE SUPPLY, IT IS RECOMMENDED THAT THE DUCTS ARE SUPPORTED BY CROSS BRACES, AS DONE ON ACCESSORY ROOF CURBS.
6. SIDE DUCT FLANGES ARE 0.875" [22,2] HIGH. BOTTOM DUCTS DO NOT HAVE FLANGES.
7. MINIMUM CONDENSATION TRAP HEIGHT SHALL BE 1.5 TIMES THE LOWEST NEGATIVE STATIC.
8. DIMENSIONS IN [ ] ARE IN MILLIMETERS OR KILOGRAMS.
9. OPTIONAL COIL GUARD, GAS HEAT, ECONOMIZER HOOD, DISCONNECT SWITCH, CONVENIENCE OUTLET, AND OUTLET/INLET HOOD SHOWN.

EXCEPT XP (HEAT PUMP) UNITS

DIRECTION OF AIRFLOW

CENTER OF GRAVITY

TONNAGE	UNIT	OPERATING WEIGHT (LBS) (BASE UNIT)	CENTER OF GRAVITY LOCATION (BASE UNIT)		4 POINT CORNER LOADS (LBS) (BASE UNIT)			
			X	Y	A	B	C	D
15	ZJ	2609 [1183]	85.25 [2162,4]	44 [1117,6]	467 [212]	781 [354]	852 [387]	510 [231]
17.5	ZJ	2665 [1209]	85.25 [2162,4]	44 [1117,6]	477 [216]	797 [362]	870 [395]	520 [236]
20	ZJ	2697 [1223]	85.05 [2160,3]	44 [1117,6]	485 [220]	805 [365]	878 [398]	529 [240]
25	ZJ	2783 [1262]	85.25 [2162,4]	44 [1117,6]	498 [226]	833 [378]	908 [412]	544 [247]
15	ZR	2360 [1071]	85.25 [2162,4]	44 [1117,6]	422 [191]	706 [320]	770 [349]	461 [209]
20	ZR	2660 [1207]	85.05 [2160,3]	44 [1117,6]	478 [217]	794 [360]	866 [393]	522 [237]
25	ZR	2760 [1252]	85.25 [2162,4]	44 [1117,6]	494 [224]	826 [375]	901 [409]	539 [245]
20	XP	2650 [1202]	88.8 [2255,5]	46 [1168,4]	462 [210]	863 [392]	863 [392]	462 [210]



## Single Package R-410A Air Conditioner

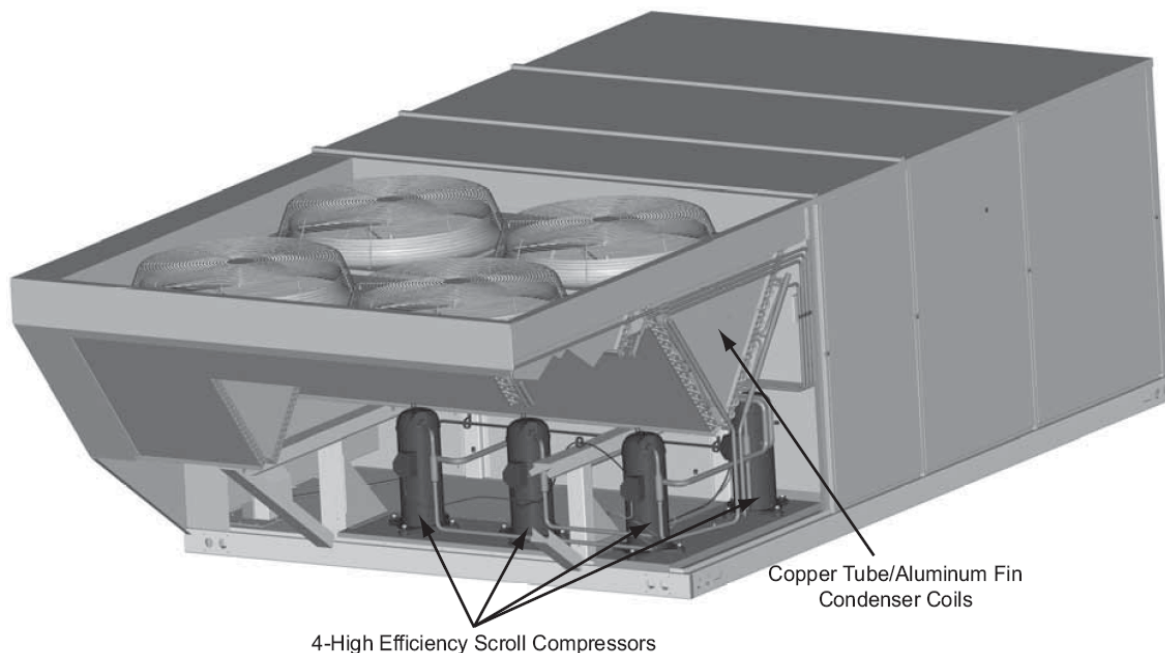
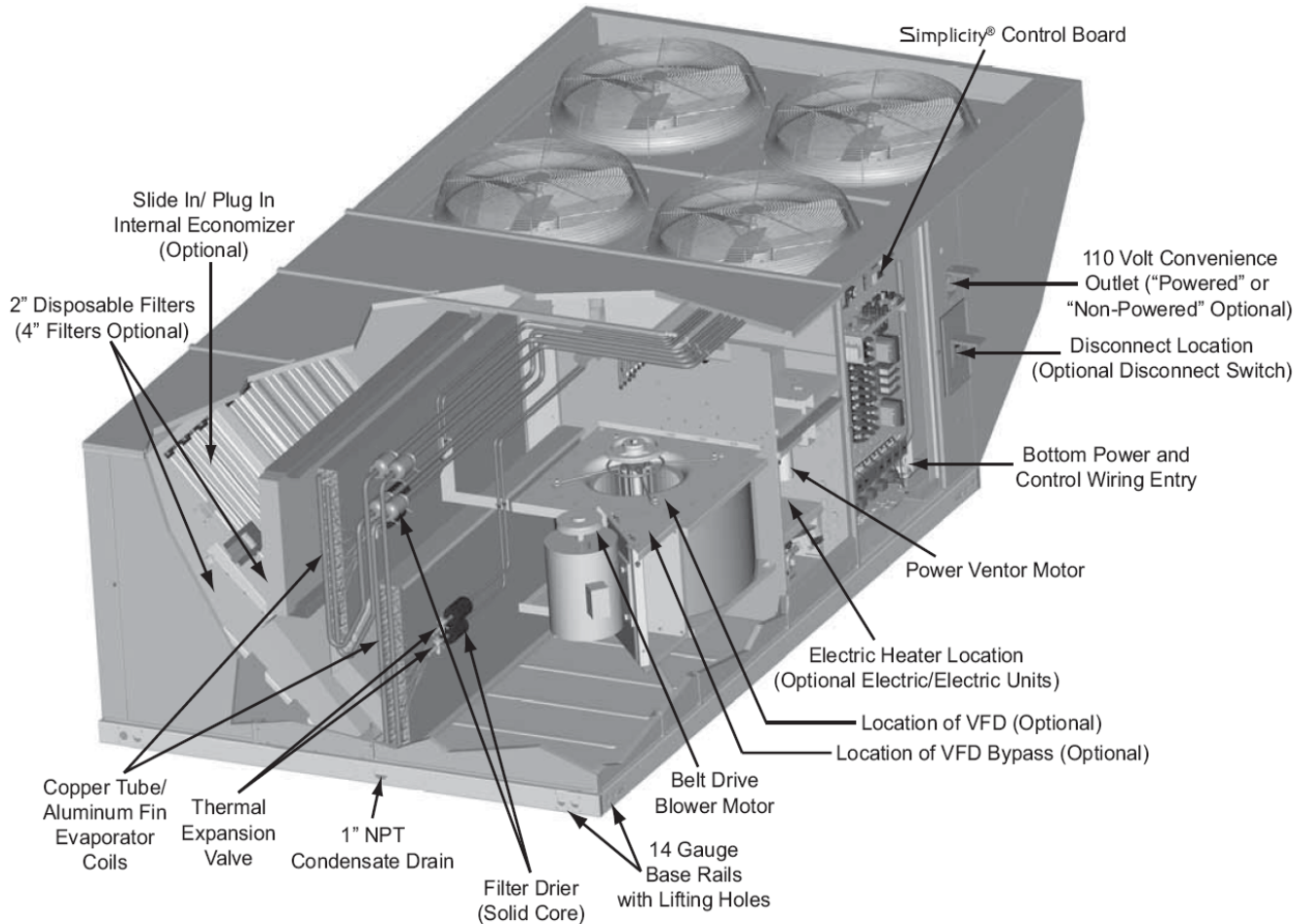
Project Name: **City of Corinth 8-31-2017**

Unit Model #: **J20ZJC00G4D1BCD1A1**

Quantity: **2** Tag #: **RTU-1, 2**

System: **J20ZJC00G4D1BCD1A1 (2)**

### Component Locations



## Single Package R-410A Air Conditioner

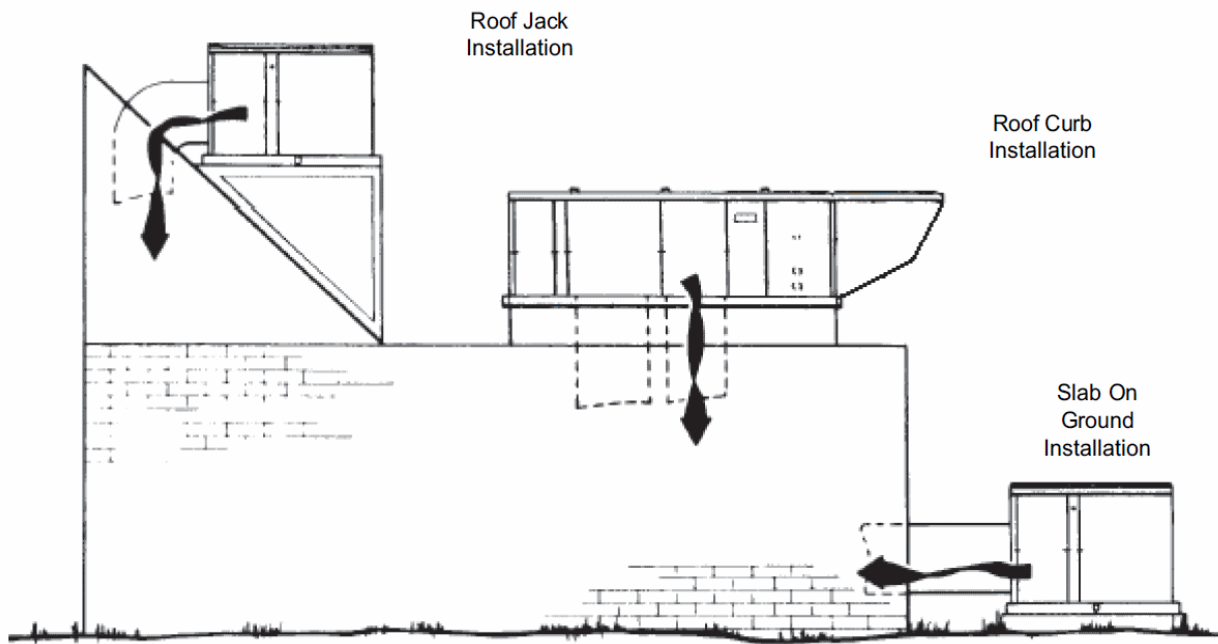
Project Name: City of Corinth 8-31-2017

Unit Model #: J20ZJC00G4D1BCD1A1

Quantity: 2 Tag #: RTU-1, 2

System: J20ZJC00G4D1BCD1A1 (2)

### Typical Application



## Single Package R-410A Air Conditioner

Project Name: **City of Corinth 8-31-2017**

Unit Model #: **ZXE09A4B3AB1C112A2**

Quantity: **1** Tag #: **RTU-5**

System: **ZXE09A4B3AB1C112A2**

### Cooling Performance

Total gross capacity	100.4 MBH
Sensible gross capacity	74.9 MBH
Efficiency (at ARI)	11.20 EER
Integrated eff. (at ARI)	13.30 IEER
Ambient DB temp.	105.0 °F
Entering DB temp.	80.0 °F
Entering WB temp.	67.0 °F
Leaving DB temp.	59.6 °F
Leaving WB temp.	57.7 °F
Power input (w/o blower)	8.74 kW
Sound power	83 dB(A)

### Refrigerant

Refrigerant type	R-410A
Sys1	5 lbs 4 oz
Sys2	5 lbs 4 oz

### Heating Performance

Entering DB temp.	60 °F
Heating output capacity (Max)	94.9 MBH
Nominal electric heat	27.8 kW
Applied electric heat	27.8 kW
Installed	Field
Supply air	3400 CFM
Leaving DB temp.	85.8 °F
Air temp. rise	25.8 °F
Stages	1

### Supply Air Blower Performance

Supply air	3400 CFM
Ext. static pressure	0.6 IWG
Addl. Unit Losses (Options/Accessories)	0.07 IWG
Blower speed	766 RPM
Max BHP of Motor (including service factor)	2.40 HP
Duct location	Bottom
Motor rating	2.40 HP
Actual required BHP	1.69 HP
Power input	1.57 kW
Elevation	597 ft.
Drive type	BELT

### Electrical Data

Power supply	460-3-60
Unit min circuit ampacity	46.3 Amps
Unit min over-current protection	50 Amps
Unit max over-current protection	50 Amps

### Dimensions & Weight

Hgt	49 in.	Len	87 in.	Wth	62 in.
Weight with factory installed options	966 lbs.				

### Clearances

Right	18 in.	Front	48 in.	Back	36 in.
Top	72 in.	Bottom	1 in.	Left	12 in.

Note: Please refer to the tech guide for listed maximum static pressures



### 8.5 Ton

- All units are manufactured at an ISO 9001 registered facility and each rooftop is completely computer-run tested prior to shipment.

### Unit Features

- Two Stage Cooling
- Full perimeter base rails with built in rigging capabilities
- Either supply and/or return can be field converted from vertical to horizontal configuration without cutting panels.
- Unit Cabinet Constructed of Powder Painted Steel, Certified At 1000 Hours Salt Spray Test (ASTM B-117 Standards)
- Scroll Compressors
- Enthalpy Economizer (Downflow only) (with Barometric Relief) with Economizer Fault Detection & Diagnostic (Meets ASHRAE 90.1-2013, IECC 2015, California Title 24, AMCA 511)
- Medium Static Belt Drive Blower
- Solid Core Liquid Line Filter Driers
- Unit Ships with 2" Throwaway Filters
- Replacement Filters: 4 - (20" x 20"). Unit accepts 2" or 4" wide filters.
- Single Point Power Connection
- Short Circuit Current: 5kA RMS Symmetrical
- Microchannel All Aluminum Condenser Coil, Copper tube/Aluminum fin Evaporator Coil

### BAS Controller

- Simplicity SE Controller including Discharge Air, Return Air, and Outdoor Air Temperature Sensors. BACNet MS/TP, Modbus and N2 communication card

### Standard Unit Controller: Simplicity SE Control Board

- Safety Monitoring - Monitors the high and low-pressure switches, the freezestats, the gas valve, if applicable, and the temperature limit switch on gas and electric heat units. The unit control board will alarm on ignition failures, safety lockouts and repeated limit switch trips.
- An Integrated Low-Ambient Control, Anti-Short Cycle Protection, Lead-Lag, Fan On and Fan off Delays, Low Voltage Protection, On-Board Diagnostic and Fault Code Display. Allows all units to operate in the cooling mode down to 0 °F outdoor ambient without additional components or intervention.

### Warranty

- One (1) Year Limited Warranty on the Complete Unit
- Five (5) Year Warranty - Electric Heat Element
- Five (5) Year Warranty - Compressors



# Series 12R (3-12.5 Ton Package) L526

Single Package R-410A Air Conditioner

Project Name: City of Corinth 8-31-2017

Unit Model #: ZXE09A4B3AB1C112A2

Quantity: 1 Tag #: RTU-5

System: ZXE09A4B3AB1C112A2

## Factory Installed Options

### ZXE09A4B3AB1C112A2

Product Category:	<b>ZX</b>	Johnson Controls Series 12R Single Packaged R-410A Air Conditioner
Heat Type:	<b>E</b>	
Nominal Cooling Capacity:	<b>09</b>	8.5 Ton Two Stage Cooling 11.2 EER / 11.9 IEER (CV) / 13.3 IEER (IntelliSpeed)
Heat Size:	<b>A</b>	
Voltage:	<b>4</b>	460-3-60
Airflow:	<b>B</b>	Medium Static Belt Drive Blower
Airflow Options:	<b>3</b>	VFD IntelliSpeed
Coil Options:	<b>A</b>	Microchannel All Aluminum Condenser Coil, Copper tube/Aluminum fin Evaporator Coil
Controls:	<b>B</b>	Simplicity® SE Controller including Discharge Air, Return Air, and Outdoor Air Temperature Sensors. BACNet MS/TP, Modbus and N2 communication card
Sensor Options:	<b>1</b>	
Economizer / Damper:	<b>C</b>	Enthalpy Economizer (Downflow only) (with Barometric Relief) with Economizer Fault Detection & Diagnostic (Meets ASHRAE 90.1-2013, IECC 2015, California Title 24, AMCA 511)
Convenience Outlet:	<b>1</b>	
Electrical Options:	<b>1</b>	
Cabinet Options:	<b>2</b>	Louvered Hail Guards
Special Options:	<b>A</b>	
Product Generation:	<b>2</b>	

## Field Installed Accessories

- 2EK04512846 - 27.8 KW 460-3-60 Electric Heat (9.6 lbs)

Project Name: **City of Corinth 8-31-2017**

Unit Model #: **ZXE09A4B3AB1C112A2**

Quantity: **1** Tag #: **RTU-5**

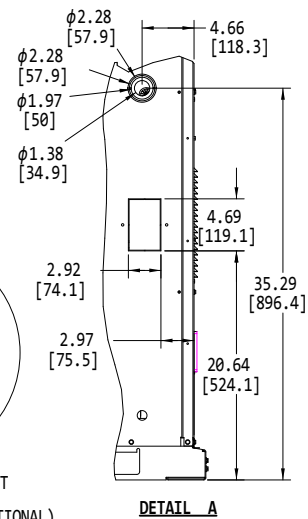
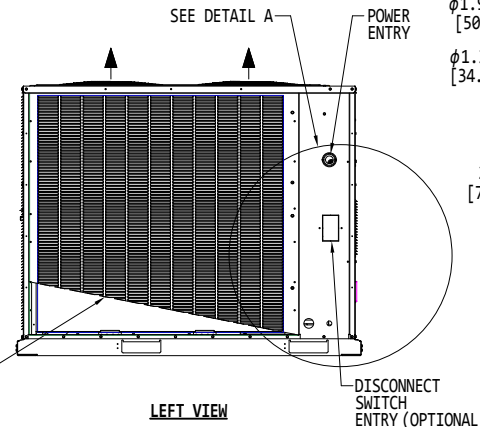
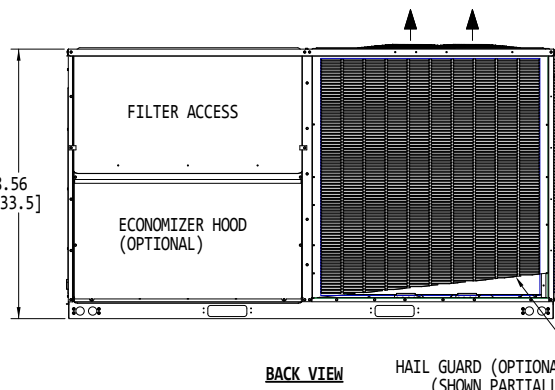
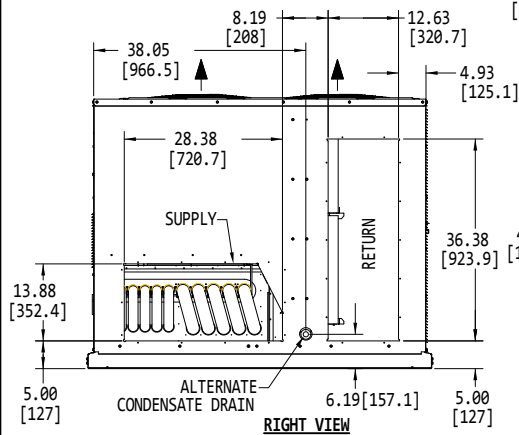
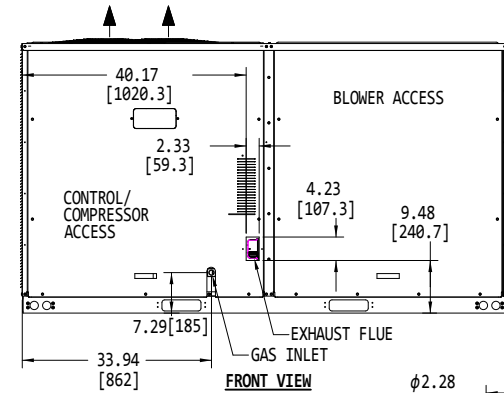
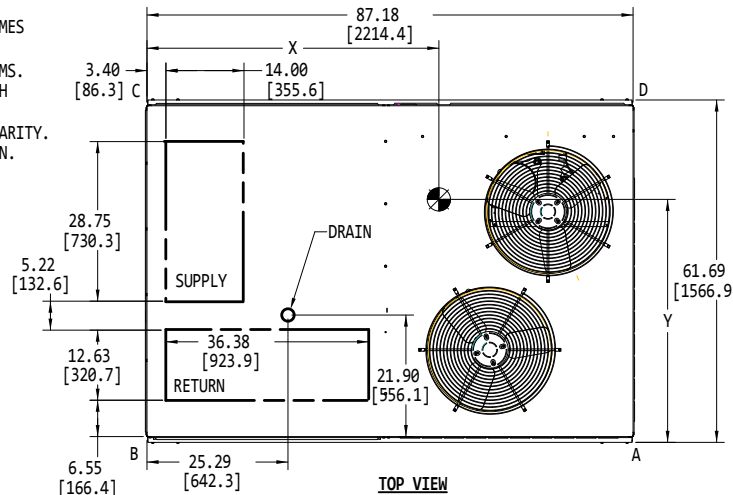
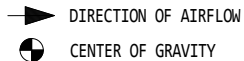
System: **ZXE09A4B3AB1C112A2**

### Consolidated Drawing

**NOTES:**

1. FOR OUTDOOR USE ONLY.
2. WEIGHTS SHOWN ARE FOR COOLING ONLY UNITS.
3. RECOMMENDED MIN. CLEARANCES:  
 RIGHT SIDE: 18 [450] W/SIDE CONDENSATE DRAIN: 24 [600]  
 LEFT SIDE: 12 [300] W/PIGTAIL: 18 [450]  
 FRONT: 48 [1200]  
 BACK: 18 [450]  
 TOP: 72 [1800]  
 BOTTOM: 0 [0]
4. FOR SMALLER SERVICE AND OPERATIONAL CLEARANCES CONTACT YOUR APPLICATION ENGINEERING DEPARTMENT.
5. DOWNFLOW DUCTS DESIGNED TO BE ATTACHED TO ACCESSORY ROOF CURB ONLY. IF UNIT IS MOUNTED SIDE SUPPLY, IT IS RECOMMENDED THAT THE DUCTS ARE SUPPORTED BY CROSS BRACES, AS DONE ON ACCESSORY ROOF CURBS.
6. MINIMUM CONDENSATION TRAP HEIGHT SHALL BE 1.5 TIMES THE LOWEST NEGATIVE STATIC.
7. DIMENSIONS IN [ ] ARE IN MILLIMETERS OR KILOGRAMS.
8. OPTIONAL COIL GUARDS, GAS HEAT, DISCONNECT SWITCH SHOWN.
9. TOP PANEL EMBOSSEMENTS NOT SHOWN FOR DIMENSION CLARITY.
10. HEAT EXCHANGER IS TYPICAL OF HIGH GAS HEAT OPTION.

TONNAGE	UNIT	OPERATING WEIGHT (LBS) (BASE UNIT)	CENTER OF GRAVITY LOCATION (BASE UNIT)		4 POINT CORNER LOADS (LBS) (BASE UNIT)			
			X	Y	A	B	C	D
8.5	ZX	852 [386.5]	46 [1150]	36 [900]	230 [104.3]	262 [118.8]	192 [87.1]	168 [76.2]
10	ZX	879 [398.7]	46 [1150]	36 [900]	242 [109.8]	271 [122.9]	193 [87.5]	172 [78.0]
7.5	ZY	878 [398.3]	46 [1150]	36 [900]	239 [108.4]	271 [122.9]	196 [88.9]	173 [78.5]
8.5	ZY	878 [398.3]	46 [1150]	36 [900]	241 [109.3]	265 [120.2]	195 [88.4]	177 [80.3]



Project Name: **City of Corinth 8-31-2017**

Unit Model #: **ZXE09A4B3AB1C112A2**

Quantity: **1** Tag #: **RTU-5**

System: **ZXE09A4B3AB1C112A2**

### Field Installed Accessory Weights

#### Unit Accessory Weights

Unit Accessory	Weights (lbs.)
Vertical Flow Dry Bulb Economizer Small Footprint	63
Horizontal Flow Dry Bulb Economizer Small Footprint Short	96
Horizontal Flow Dry Bulb Economizer Small Footprint Short	75
Horizontal Flow Dry Bulb Economizer Small Footprint Tall	81
Horizontal Flow Dry Bulb Economizer Large Footprint Short	105
Horizontal Flow Dry Bulb Economizer Large Footprint Tall	102
Power Exhaust Vert Flow Small Footprint	38
Power Exhaust Vert Flow Large Footprint	38
Power Exhaust Horiz Flow Small Footprint	38
Power Exhaust Horiz Flow Large Footprint	38
Hail Guard Kit Small Short Factory Installed	19
Hail Guard Kit Small Tall Factory Installed	24
Hail Guard Kit Large Short Factory Installed	50
Hail Guard Kit Large Tall Factory Installed	50
Curb Rigid 14" Small Footprint	145
Curb Rigid 24" Small Footprint	135
Curb Rigid 14" Large Footprint	135
Curb Rigid 24" Large Footprint	135

## Single Package R-410A Air Conditioner

Project Name: **City of Corinth 8-31-2017**

Unit Model #: **J20ZJC00R4D1BCA1A1**

Quantity: **1** Tag #: **RTU-3**

System: **J20ZJC00R4D1BCA1A1**

### Cooling Performance

Total gross capacity	238.7 MBH
Sensible gross capacity	179.6 MBH
Efficiency (at ARI)	11.00 EER
Integrated eff. (at ARI)	12.70 IEER
Ambient DB temp.	105.0 °F
Entering DB temp.	80.0 °F
Entering WB temp.	67.0 °F
Leaving DB temp.	59.2 °F
Leaving WB temp.	57.6 °F
Power input (w/o blower)	20.75 kW
Sound power	92 dB(A)

### Refrigerant

Refrigerant type	R-410A
Sys1	12 lbs
Sys2	13 lbs
Sys3	12 lbs
Sys4	12 lbs

### Supply Air Blower Performance

Supply air	8000 CFM
Ext. static pressure	1.0 IWG
Blower speed	969 RPM
Max BHP of Motor (including service factor)	8.63 HP
Duct location	Bottom
Motor rating	7.50 HP
Actual required BHP	6.31 HP
Power input	5.29 kW
Elevation	597 ft.
Drive type	BELT

### Electrical Data

Power supply	460-3-60
Unit min circuit ampacity	47.7 Amps
Unit max over-current protection	50 Amps

### Dimensions & Weight

Hgt	53 in.	Len	181 in.	Wth	92 in.
Weight with factory installed options					2977 lbs.

Note: Please refer to the tech guide for listed maximum static pressures



### 20 Ton

- Johnson Controls Series 20 Units are Manufactured at an ISO 9001 Registered Facility and each Rooftop is Completely Computer-Run Tested Prior to Shipment.

### Unit Features

- Four Stage Cooling
- Unit Cabinet Constructed of Powder Painted Steel, Certified At 1000 Hours Salt Spray Test (ASTM B-117 Standards).
- Full Perimeter Base Rails with Built in Rigging Capabilities
- Either Supply and/or Return can be Field Converted from Vertical to Horizontal Configuration without Cutting Panels
- Four Independent Refrigerant Circuits for Efficient Part Load Operation with Scroll Compressors
- Dry Bulb Low Leak Economizer w/Barometric Relief and Power Exhaust and Hoods (Bottom Return Only) with Economizer Fault Detection & Diagnostic (Meets ASHRAE 90.1-2013, IECC 2015, California Title 24, AMCA 511)
- 7.5 HP High Static Belt Drive Blower
- Unit Ships with 2" Throwaway Filters
- Solid Core Liquid Line Filter Driers
- Replacement Filters: For 2" filters 12 - (12" x 24" x 2") OR For 4" filters 2 - (20" X 24" x 4") AND 4 - (24" X 24" x 4")
- Single Point Power Connection
- Short Circuit Current: 5kA RMS Symmetrical
- Through-the-Curb and Through-The-Base Utility Connections
- Phase Monitor
- Standard Condenser Coil
- Standard Evaporator Coil
- Crane Required to Unload Unit
- Galvanized Steel Drain Pan
- Standard Access Doors

### BAS Controller

- IntelliSpeed control of the VFD based on stages of cooling. Provides Single Zone VAV Fan Operation as defined by ASHRAE 90.1 section 6.4.3.10.
- Simplicity SE Controller including Discharge Air, Return Air, and Outdoor Air Temperature Sensors. BACNet MS/TP, Modbus and N2 communication card

### Standard Unit Controller: Simplicity Control Board

- An Integrated Low-Ambient Control, Anti-Short Cycle Protection, Lead-Lag, Fan On and Fan off Delays, Low Voltage Protection, On-Board Diagnostic and Fault Code Display. Allows all units to operate in the cooling mode down to 0 °F outdoor ambient without additional components or intervention.
- Safety Monitoring - Monitors the High and Low-Pressure Switches, the Freezestats, the Gas Valve, if Applicable, and the Temperature Limit Switch on Gas and Electric Heat Units. The Unit Control Board will Alarm on Ignition Failures, Safety Lockouts and Repeated Limit Switch Trips.

### Warranty

- One (1) Year Limited Warranty on the Complete Unit
- Five (5) Year Warranty - Compressors and Electric Heater Elements





# Series 20 (15-25 Ton Package) N540

## Single Package R-410A Air Conditioner

Project Name: **City of Corinth 8-31-2017**

Unit Model #: **J20ZJC00R4D1BCA1A1**

Quantity: **1** Tag #: **RTU-3**

System: **J20ZJC00R4D1BCA1A1**

### Factory Installed Options

#### J20ZJC00R4D1BCA1A1

<b>Product Category:</b>	<b>J2</b>	Johnson Controls Series 20 Single Packaged R-410A Air Conditioner 11.0 EER 11.0 EER / 12.0 IEER (CV) / 12.7 IEER (IntelliSpeed) / 12.0 IEER (VAV)
<b>Nominal Cooling Capacity:</b>	<b>0ZJ</b>	20 Ton Four Stage Cooling
<b>Heat Type and Nominal Heat Capacity:</b>	<b>C00</b>	
<b>Blower Option:</b>	<b>R</b>	IntelliSpeed control of the VFD based on stages of cooling. Provides Single Zone VAV Fan Operation as defined by ASHRAE 90.1 section 6.4.3.10. 7.5 HP High Static Belt Drive Blower
<b>Voltage:</b>	<b>4</b>	460-3-60
<b>Economizer / Damper:</b>	<b>D</b>	Dry Bulb Low Leak Economizer w/Barometric Relief and Power Exhaust and Hoods (Bottom Return Only) with Economizer Fault Detection & Diagnostic (Meets ASHRAE 90.1-2013, IECC 2015, California Title 24, AMCA 511)
<b>Service Options:</b>	<b>1</b>	
<b>Sensor Options:</b>	<b>B</b>	Phase Monitor
<b>Refrigeration:</b>	<b>A</b>	Standard Condenser Coil Standard Evaporator Coil
<b>Additional Options:</b>	<b>1</b>	2" Throwaway Filters Simplicity® SE Controller including Discharge Air, Return Air, and Outdoor Air Temperature Sensors. BACNet MS/TP, Modbus and N2 communication card
<b>Cabinet Options:</b>	<b>A</b>	Single Wall Construction Standard Access Doors Galvanized Steel Drain Pan
<b>Product Generation:</b>	<b>1</b>	

### Field Installed Accessories

- 1HG0412 - Hail Guard Kit (48.0 lbs)
- 2EC0401 - Kit, Single Enthalpy Field Installed (1.0 lbs)

Project Name: **City of Corinth 8-31-2017**

Unit Model #: **J20ZJC00R4D1BCA1A1**

Quantity: **1** Tag #: **RTU-3**

System: **J20ZJC00R4D1BCA1A1**

### Consolidated Drawing

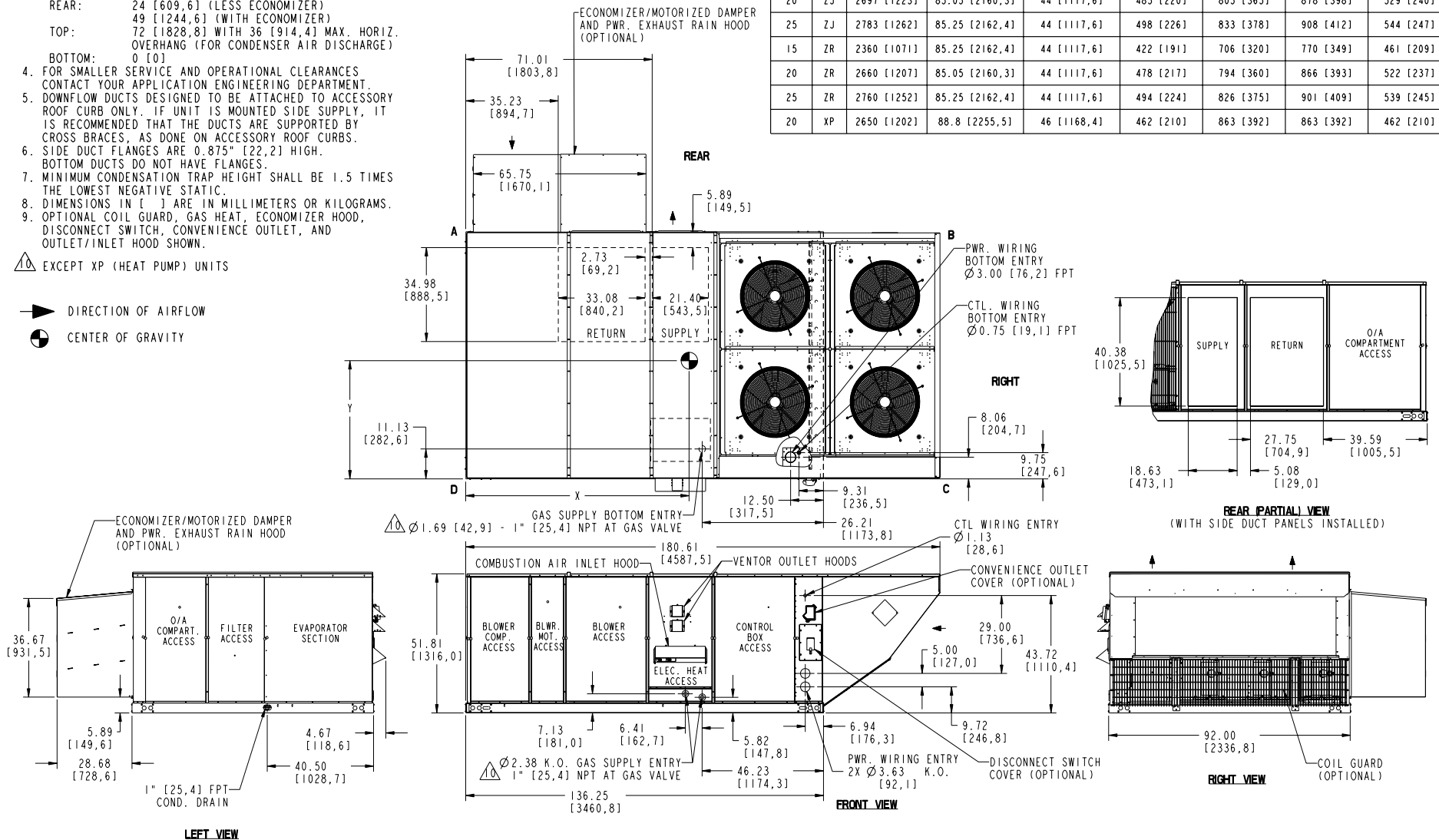
**NOTES:**

1. FOR OUTDOOR USE ONLY.
2. WEIGHTS SHOWN ARE FOR COOLING ONLY UNITS.
3. MIN. CLEARANCES TO BE:
  - RIGHT SIDE: 36 [914,4]
  - LEFT SIDE: 24 [609,6] (LESS ECONOMIZER)
  - 36 [914,4] (WITH ECONOMIZER)
  - FRONT: 36 [914,4]
  - REAR: 24 [609,6] (LESS ECONOMIZER)
  - 49 [1244,6] (WITH ECONOMIZER)
  - TOP: 72 [1828,8] WITH 36 [914,4] MAX. HORIZ. OVERHANG (FOR CONDENSER AIR DISCHARGE)
  - BOTTOM: 0 [0]
4. FOR SMALLER SERVICE AND OPERATIONAL CLEARANCES CONTACT YOUR APPLICATION ENGINEERING DEPARTMENT.
5. DOWNFLOW DUCTS DESIGNED TO BE ATTACHED TO ACCESSORY ROOF CURB ONLY. IF UNIT IS MOUNTED SIDE SUPPLY, IT IS RECOMMENDED THAT THE DUCTS ARE SUPPORTED BY CROSS BRACES, AS DONE ON ACCESSORY ROOF CURBS.
6. SIDE DUCT FLANGES ARE 0.875" [22,2] HIGH. BOTTOM DUCTS DO NOT HAVE FLANGES.
7. MINIMUM CONDENSATION TRAP HEIGHT SHALL BE 1.5 TIMES THE LOWEST NEGATIVE STATIC.
8. DIMENSIONS IN [ ] ARE IN MILLIMETERS OR KILOGRAMS.
9. OPTIONAL COIL GUARD, GAS HEAT, ECONOMIZER HOOD, DISCONNECT SWITCH, CONVENIENCE OUTLET, AND OUTLET/INLET HOOD SHOWN.

EXCEPT XP (HEAT PUMP) UNITS

DIRECTION OF AIRFLOW

CENTER OF GRAVITY



TONNAGE	UNIT	OPERATING WEIGHT (LBS) (BASE UNIT)	CENTER OF GRAVITY LOCATION (BASE UNIT)		4 POINT CORNER LOADS (LBS) (BASE UNIT)			
			X	Y	A	B	C	D
15	ZJ	2609 [1183]	85.25 [2162,4]	44 [1117,6]	467 [212]	781 [354]	852 [387]	510 [231]
17.5	ZJ	2665 [1209]	85.25 [2162,4]	44 [1117,6]	477 [216]	797 [362]	870 [395]	520 [236]
20	ZJ	2697 [1223]	85.05 [2160,3]	44 [1117,6]	485 [220]	805 [365]	878 [398]	529 [240]
25	ZJ	2783 [1262]	85.25 [2162,4]	44 [1117,6]	498 [226]	833 [378]	908 [412]	544 [247]
15	ZR	2360 [1071]	85.25 [2162,4]	44 [1117,6]	422 [191]	706 [320]	770 [349]	461 [209]
20	ZR	2660 [1207]	85.05 [2160,3]	44 [1117,6]	478 [217]	794 [360]	866 [393]	522 [237]
25	ZR	2760 [1252]	85.25 [2162,4]	44 [1117,6]	494 [224]	826 [375]	901 [409]	539 [245]
20	XP	2650 [1202]	88.8 [2255,5]	46 [1168,4]	462 [210]	863 [392]	863 [392]	462 [210]

## Single Package R-410A Air Conditioner

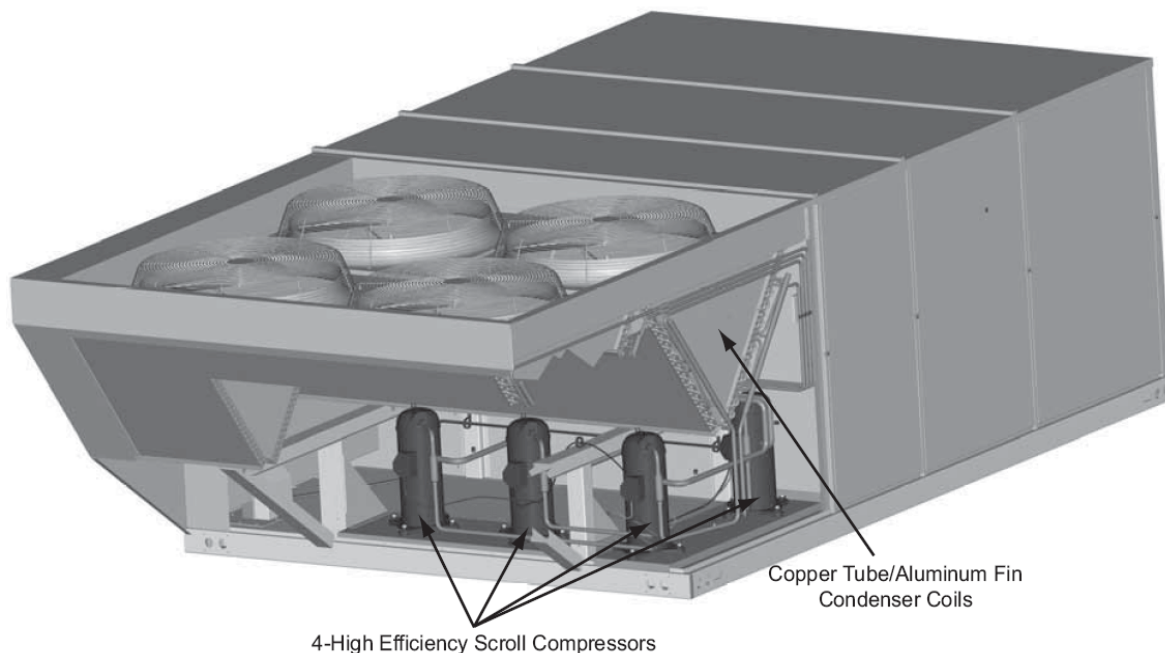
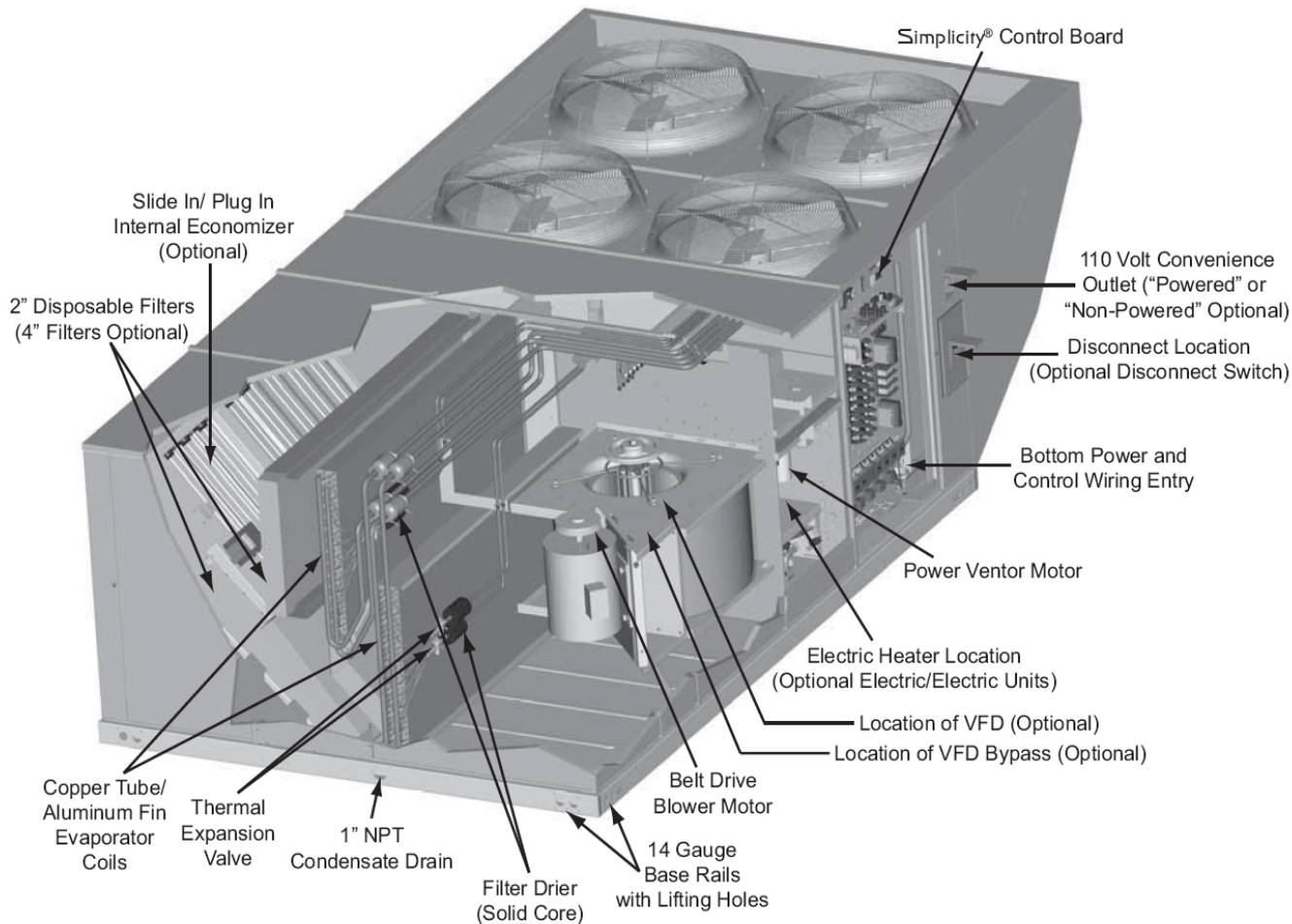
Project Name: **City of Corinth 8-31-2017**

Unit Model #: **J20ZJC00R4D1BCA1A1**

Quantity: **1** Tag #: **RTU-3**

System: **J20ZJC00R4D1BCA1A1**

### Component Locations



## Single Package R-410A Air Conditioner

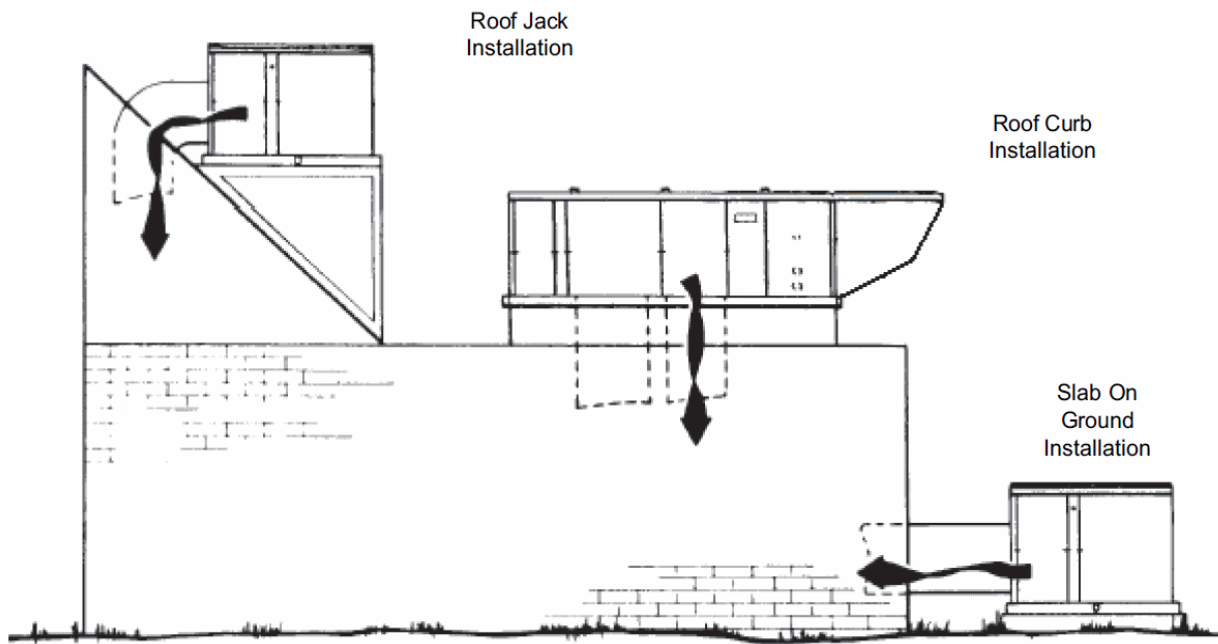
Project Name: City of Corinth 8-31-2017

Unit Model #: J20ZJC00R4D1BCA1A1

Quantity: 1 Tag #: RTU-3

System: J20ZJC00R4D1BCA1A1

### Typical Application



## Single Package R-410A Air Conditioner

 Project Name: **City of Corinth 8-31-2017**

 Unit Model #: **ZQE04A4B1AB1C112A2**

 Quantity: **1** Tag #: **RTU-11**

 System: **ZQE04A4B1AB1C112A2**

### Cooling Performance

Total gross capacity	34.2 MBH
Sensible gross capacity	25.2 MBH
Seasonal Efficiency (at ARI)	14.00 SEER
Efficiency (at ARI)	12.20 EER
Ambient DB temp.	105.0 °F
Entering DB temp.	80.0 °F
Entering WB temp.	67.0 °F
Leaving DB temp.	60.6 °F
Leaving WB temp.	58.0 °F
Power input (w/o blower)	2.96 kW
Sound power	79 dB(A)

### Refrigerant

Refrigerant type	R-410A
Sys1	3 lbs 6 oz

### Supply Air Blower Performance

Supply air	1200 CFM
Ext. static pressure	0.6 IWG
Addl. Unit Losses (Options/Accessories)	-0.01 IWG
Blower speed	1010 RPM
Max BHP of Motor (including service factor)	2.40 HP
Duct location	Bottom
Motor rating	2.40 HP
Actual required BHP	0.51 HP
Power input	0.48 kW
Elevation	597 ft.
Drive type	BELT

### Electrical Data

Power supply	460-3-60
Unit min circuit ampacity	10.7 Amps
Unit min over-current protection	15 Amps
Unit max over-current protection	15 Amps

### Dimensions & Weight

Hgt	33 in.	Len	74 in.	Wth	49 in.
Weight with factory installed options					533 lbs.

### Clearances

Right	18 in.	Front	36 in.	Back	36 in.
Top	72 in.	Bottom	1 in.	Left	12 in.

Note: Please refer to the tech guide for listed maximum static pressures



### 3 Ton

- All units are manufactured at an ISO 9001 registered facility and each rooftop is completely computer-run tested prior to shipment.

### Unit Features

- Single Stage Cooling
- Full perimeter base rails with built in rigging capabilities
- Either supply and/or return can be field converted from vertical to horizontal configuration without cutting panels.
- Unit Cabinet Constructed of Powder Painted Steel, Certified At 1000 Hours Salt Spray Test (ASTM B-117 Standards)
- Scroll Compressors
- Enthalpy Economizer (Downflow only) (with Barometric Relief) with Economizer Fault Detection & Diagnostic (Meets ASHRAE 90.1-2013, IECC 2015, California Title 24, AMCA 511)
- Medium Static Belt Drive Blower
- Solid Core Liquid Line Filter Driers
- Unit Ships with 2" Throwaway Filters
- Replacement Filters: 2 - (16" x 25"). Unit accepts 2" or 4" wide filters.
- Single Point Power Connection
- Short Circuit Current: 5kA RMS Symmetrical
- Microchannel All Aluminum Condenser Coil, Copper tube/Aluminum fin Evaporator Coil

### BAS Controller

- Simplicity SE Controller including Discharge Air, Return Air, and Outdoor Air Temperature Sensors. BACNet MS/TP, Modbus and N2 communication card

### Standard Unit Controller: Simplicity SE Control Board

- Safety Monitoring - Monitors the high and low-pressure switches, the freezestats, the gas valve, if applicable, and the temperature limit switch on gas and electric heat units. The unit control board will alarm on ignition failures, safety lockouts and repeated limit switch trips.
- An Integrated Low-Ambient Control, Anti-Short Cycle Protection, Lead-Lag, Fan On and Fan off Delays, Low Voltage Protection, On-Board Diagnostic and Fault Code Display. Allows all units to operate in the cooling mode down to 0 °F outdoor ambient without additional components or intervention.

### Warranty

- One (1) Year Limited Warranty on the Complete Unit
- Five (5) Year Warranty - Electric Heat Element
- Five (5) Year Warranty - Compressors



# Series 12R (3-12.5 Ton Package) L526

Single Package R-410A Air Conditioner

Project Name: **City of Corinth 8-31-2017**

Unit Model #: **ZQE04A4B1AB1C112A2**

Quantity: **1** Tag #: **RTU-11**

System: **ZQE04A4B1AB1C112A2**

## Factory Installed Options

### ZQE04A4B1AB1C112A2

<b>Product Category:</b>	<b>ZQ</b>	Johnson Controls Series 12R Single Packaged R-410A Air Conditioner
<b>Heat Type:</b>	<b>E</b>	
<b>Nominal Cooling Capacity:</b>	<b>04</b>	3 Ton Single Stage Cooling 14.0 SEER / 12.1 EER
<b>Heat Size:</b>	<b>A</b>	
<b>Voltage:</b>	<b>4</b>	460-3-60
<b>Airflow:</b>	<b>B</b>	Medium Static Belt Drive Blower
<b>Airflow Options:</b>	<b>1</b>	
<b>Coil Options:</b>	<b>A</b>	Microchannel All Aluminum Condenser Coil, Copper tube/Aluminum fin Evaporator Coil
<b>Controls:</b>	<b>B</b>	Simplicity® SE Controller including Discharge Air, Return Air, and Outdoor Air Temperature Sensors. BACNet MS/TP, Modbus and N2 communication card
<b>Sensor Options:</b>	<b>1</b>	
<b>Economizer / Damper:</b>	<b>C</b>	Enthalpy Economizer (Downflow only) (with Barometric Relief) with Economizer Fault Detection & Diagnostic (Meets ASHRAE 90.1-2013, IECC 2015, California Title 24, AMCA 511)
<b>Convenience Outlet:</b>	<b>1</b>	
<b>Electrical Options:</b>	<b>1</b>	
<b>Cabinet Options:</b>	<b>2</b>	Louvered Hail Guards
<b>Special Options:</b>	<b>A</b>	
<b>Product Generation:</b>	<b>2</b>	

## Field Installed Accessories

Project Name: **City of Corinth 8-31-2017**

 Unit Model #: **ZQE04A4B1AB1C112A2**

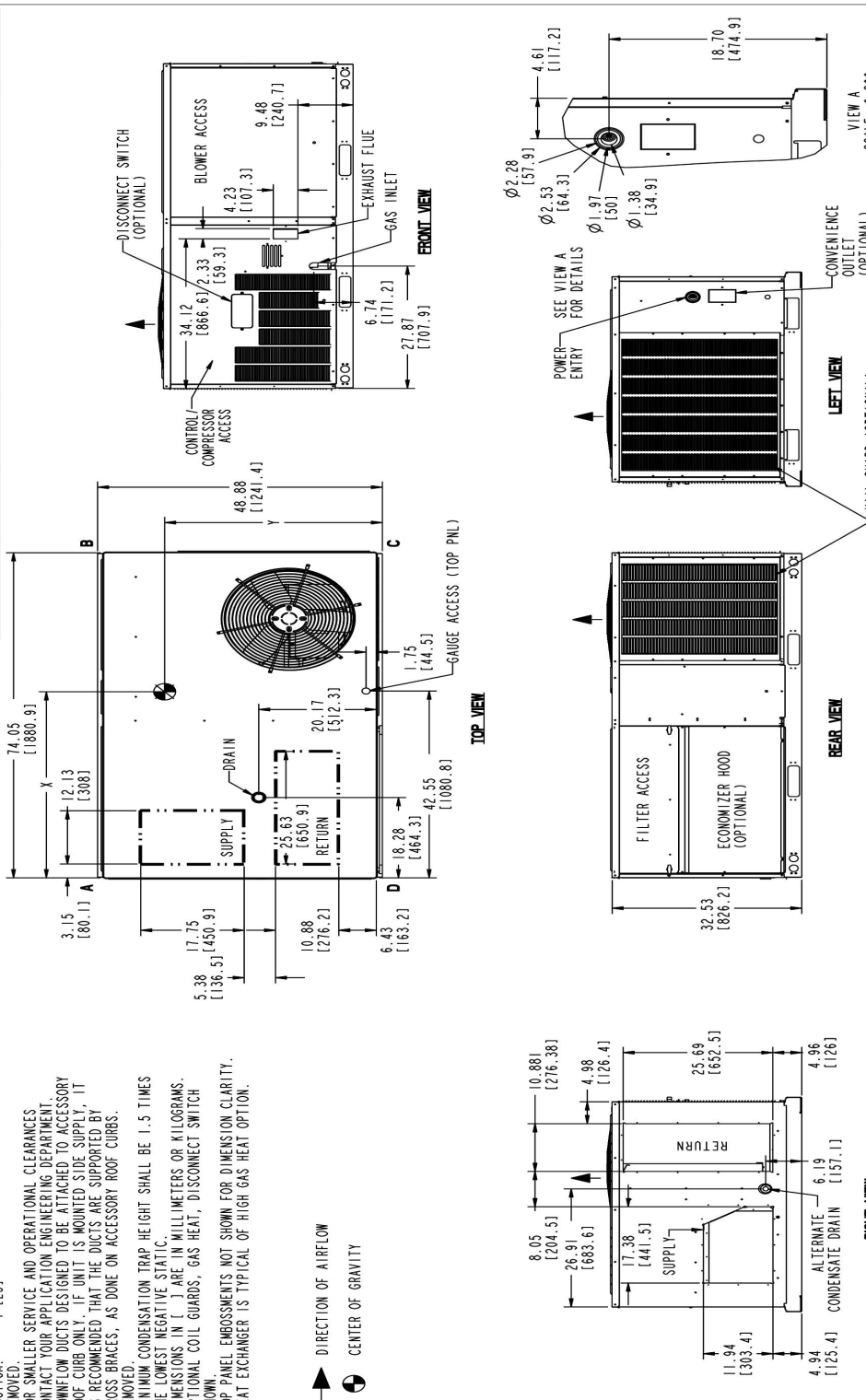
 Quantity: **1** Tag #: **RTU-11**

 System: **ZQE04A4B1AB1C112A2**

### ZQ 04-05 Unit Dimensions

**ZQ04-05**

TONNAGE	OPERATING WEIGHT (LBS) (BASE UNIT)		CENTER OF GRAVITY LOCATION (BASE UNIT)				4 POINT CORNER LOADS (LBS) (BASE UNIT)					
	U	N	X	Y	A	B	C	D				
3	ZX	469 [212.7]	36.5 [1648]	25.5 [1168]	122.7 [55.7]	119.8 [54.3]	111.8 [50.7]	114.5 [52]				
4	ZX	498 [225.9]	36.1 [1617]	25 [1135]	129.1 [58.6]	123.3 [56]	115.9 [54.4]	125.5 [57]				
5	ZX	530 [240.4]	36.1 [1617]	24.1 [1092]	132.5 [60.1]	126.5 [57.4]	132.5 [60]	138.5 [62.9]				
3	ZY	481 [218.2]	35.8 [1604]	25.2 [1140]	127.4 [57.8]	118.4 [53.7]	113.2 [51.4]	121.8 [55.3]				
3	Z0	450 [204.2]	36.3 [1663]	26.1 [1182]	121.2 [55]	117 [53.1]	104.4 [47.2]	107.7 [48.9]				
4	Z0	467.2 [211.0]	35.9 [1612]	25.8 [1165]	131.1 [59.5]	123.8 [56.2]	112.8 [51.2]	119.4 [54.2]				



REV	DATE	REVISION RECORD	EC	NO	DR	CK	ENG	DATE	SCALE
A	09-13-13	NEW DRAWING	27375	RRG	JC	DW			
B	12-03-14	REVISE CLEARANCES (NOTE 3). REMOVE EXTRA DIMS FROM VIEW A	37128	RRG	TPS	AJR			
C	05-09-16	ADDED ADDITIONAL ROWS TO TABLE FOR 30 UNITS 3 & 4 TON	44829	HG	RG	AJR			
D	10-24-16	CORRECTED 4 POINT CORNER LOAD TABLE. CORRECTED CORNER CALL OUTS ON PRINT		ZAW	TR	TR			

DATE	09-13-13	SCALE	1:100
DESIGNED BY	J. GILBERT	SCALE	1:100
CHECKED BY	J. GILBERT	SCALE	1:100
DATE	09-13-13	SCALE	1:100
DESIGNED BY	J. GILBERT	SCALE	1:100
CHECKED BY	J. GILBERT	SCALE	1:100

REV	DATE	REVISION RECORD	EC	NO	DR	CK	ENG	DATE	SCALE
A	09-13-13	NEW DRAWING	27375	RRG	JC	DW			
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C	05-09-16	ADDED ADDITIONAL ROWS TO TABLE FOR 30 UNITS 3 & 4 TON	44829	HG	RG	AJR			
D	10-24-16	CORRECTED 4 POINT CORNER LOAD TABLE. CORRECTED CORNER CALL OUTS ON PRINT		ZAW	TR	TR			

REV	DATE	REVISION RECORD	EC	NO	DR	CK	ENG	DATE	SCALE
A	09-13-13	NEW DRAWING	27375	RRG	JC	DW			
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C	05-09-16	ADDED ADDITIONAL ROWS TO TABLE FOR 30 UNITS 3 & 4 TON	44829	HG	RG	AJR			
D	10-24-16	CORRECTED 4 POINT CORNER LOAD TABLE. CORRECTED CORNER CALL OUTS ON PRINT		ZAW	TR	TR			

- NOTES:**
- FOR OUTDOOR USE ONLY.
  - WEIGHTS SHOWN ARE FOR COOLING ONLY UNITS.
  - RECOMMENDED MIN. CLEARANCES:  
RIGHT SIDE: 18 [450] W/SIDE CONDENSATE DRAIN: 24 [600]  
LEFT SIDE: 12 [300] W/F/TAIL: 18 [450]  
FRONT: 36 [900]  
REAR: 18 [450] W/ECONOMIZER/POWER EXHAUST: 36 [900]  
TOP: 72 [1800]  
BOTTOM: 1 [25]
  - REMOVED.
  - FOR SMALLER SERVICE AND OPERATIONAL CLEARANCES.  
CONTACT YOUR APPLICATION ENGINEERING DEPARTMENT.
  - DOWNFLOW DUCTS DESIGNED TO BE ATTACHED TO ACCESSORY ROOF CURB ONLY. IF UNIT IS MOUNTED SIDE SUPPLY, IT IS RECOMMENDED THAT THE DUCTS ARE SUPPORTED BY CROSS BRACES, AS DONE ON ACCESSORY ROOF CURBS.
  - REMOVED.
  - MINIMUM CONDENSATION TRAP HEIGHT SHALL BE 1.5 TIMES THE LOWEST NEGATIVE STATIC.
  - DIMENSIONS IN [ ] ARE IN MILLIMETERS OR KILOGRAMS.
  - OPTIONAL COIL GUARDS, GAS HEAT, DISCONNECT SWITCH SHOWN.
  - TOP PANEL EMBOSMENTS NOT SHOWN FOR DIMENSION CLARITY.
  - HEAT EXCHANGER IS TYPICAL OF HIGH GAS HEAT OPTION.



Project Name: **City of Corinth 8-31-2017**

Unit Model #: **ZQE04A4B1AB1C112A2**

Quantity: **1** Tag #: **RTU-11**

System: **ZQE04A4B1AB1C112A2**

### Field Installed Accessory Weights

#### Unit Accessory Weights

Unit Accessory	Weights (lbs.)
Vertical Flow Dry Bulb Economizer Small Footprint	63
Horizontal Flow Dry Bulb Economizer Small Footprint Short	96
Horizontal Flow Dry Bulb Economizer Small Footprint Short	75
Horizontal Flow Dry Bulb Economizer Small Footprint Tall	81
Horizontal Flow Dry Bulb Economizer Large Footprint Short	105
Horizontal Flow Dry Bulb Economizer Large Footprint Tall	102
Power Exhaust Vert Flow Small Footprint	38
Power Exhaust Vert Flow Large Footprint	38
Power Exhaust Horiz Flow Small Footprint	38
Power Exhaust Horiz Flow Large Footprint	38
Hail Guard Kit Small Short Factory Installed	19
Hail Guard Kit Small Tall Factory Installed	24
Hail Guard Kit Large Short Factory Installed	50
Hail Guard Kit Large Tall Factory Installed	50
Curb Rigid 14" Small Footprint	145
Curb Rigid 24" Small Footprint	135
Curb Rigid 14" Large Footprint	135
Curb Rigid 24" Large Footprint	135



**Date**

08/31/2017

**Project Name**

City of Corinth 8-31-2017

**Project Number**

**Client / Purchaser**



**Guide Specification Summary Page**

<b>Product Series</b>	<b>Models and Unit Tags</b>	
Series 12R (3-12.5 Ton Package) L526	ZXE08A4B3AB1C112A2	RTU-7, 8, 10
	ZQE06A4B1AB1C112A2	RTU-6, 9
	ZXE14A4C3AB1C112A2	RTU-4
	ZXE09A4B3AB1C112A2	RTU-5
	ZQE04A4B1AB1C112A2	RTU-11
Series 20 (15-25 Ton Package) N540	J20ZJC00G4D1BCD1A1	RTU-1, 2
	J20ZJC00R4D1BCA1A1	RTU-3

**DIVISION 23 – HEATING, VENTILATING, AND AIR-CONDITIONING(HVAC)**

**Number Title**

**23 00 00 HEATING VENTILATING, AND AIR-CONDITIONING(HVAC)**

**23 06 00 Schedules for HVAC**

**23 06 80 Schedules for Decentralized HVAC Equipment**

- 23 06 80. 13 Decentralized Unitary HVAC Equipment Schedule
- 23 06 80. 13.A Rooftop unit schedule

**23 07 00 HVAC Insulation**

**23 07 16 HVAC Equipment Insulation**

- 23 07 16. 13 Decentralized, Rooftop Units
- 23 07 16. 13.A Evaporator fan compartment
  - 1. Interior cabinet surfaces shall be insulated with a minimum 1/2- in. thick, minimum 1 1/2 lb density, flexible fiberglass insulation bonded with a phenolic binder, neoprene coated on the air side.
  - 2. Insulation and adhesive shall meet NFPA 90A requirements for flame spread and smoke generation.
- 23 07 16. 13.B Gas heat compartment
  - 1. Aluminum foil-faced fiberglass insulation shall be used.
  - 2. Insulation and adhesive shall meet NFPA 90A requirements for flame spread and smoke generation.

**23 09 00 Instrumentation and Control for HVAC**

- 23 09 13. 23 Sensors and Transmitters
- 23 09 13. 23.A Thermostats
  - 1. Thermostat must:
    - a. energize “G” when calling for fan only or continuous fan.
    - b. have capability to energize 2 different stages of cooling, and 2 different stages of heating.
    - c. include capability for occupancy scheduling.

**23 09 23 Direct-digital Control system for HVAC**

- 23 09 23. 13 Decentralized, Rooftop Units
- 23 09 23. 13.A Simplicity SE (Unit based microprocessor control)
  - 1. Shall be ASHRAE 62-2001 compliant.
  - 2. Shall include an integrated economizer controller to support an economizer with 4 to 20 mA actuator input.
  - 3. Controller shall accept the following inputs: space temperature, setpoint adjustment, outdoor air temperature, indoor air quality, outdoor air quality, indoor relative humidity, compressor lockout, fire shutdown, enthalpy, fan status, remote time clock/door switch.
  - 4. Shall accept a CO<sub>2</sub> sensor in the conditioned space, and be Demand Control Ventilation ready.
  - 5. Unit shall provide surge protection for the controller through a circuit breaker.
  - 6. Shall have an LED display independently showing the status of activity on the communication bus, and processor operation.
  - 7. Software upgrades will be accomplished by local download. Software upgrades through chip replacements are not allowed.

- A. Unit shall be complete with self-contained low-voltage control circuit protected by a resettable circuit breaker on the 24-volt transformer side.
- B. Unit shall incorporate a lockout circuit which provides reset capability at the space thermostat or base unit should any of the following standard safety devices trip and shut off compressor:
  - C. Loss-of-charge/Low-pressureswitch.
  - D. High-pressure switch.
  - E. Freeze-protection thermostat, evaporator coil. If any of the above safety devices trip, an LED (light-emitting diode) indicator shall flash a diagnostic code that indicates which safety switch has tripped.
- F. Unit shall incorporate "AUTO RESET" compressor over temperature, over current protection.
- G. Unit shall operate with conventional thermostat designs and have a low voltage terminal strip for easy hook-up.
- H. Unit control board shall have on-board diagnostics and fault code display.
- I. Standard controls shall include anti-short cycle and low voltage protection, and permit cooling operation down to 0 °F.
- J. Control board shall monitor each refrigerant safety switch independently.
- K. Control board shall retain last 5 fault codes in non-volatile memory, which will not be lost in the event of a power loss.

23 09 23. 13.B RTU Open-multi-protocol, direct digital controller

- 1. Shall be ASHRAE 62-2001 compliant.
- 2. Shall include built-in protocol for BACNET , Modbus , and Johnson N2.
- 3. Shall allow access of up to 62 network variables (SNVT). Shall be compatible with all open controllers
- 4. Baud rate Controller shall be selectable using a dipswitch.
- 5. Shall have an LED display independently showing the status of serial communication,running, errors, power, all digital outputs, and all analog inputs.
- 6. Shall accept the following inputs: space temperature, setpoint adjustment, outdoor air temperature, indoor air quality, outdoor air quality, compressor lock- out, fire shutdown, enthalpy switch, and fan status/filter status/ humidity/ remote occupancy.
- 7. Software upgrades will be accomplished by either local or remote download. No software upgrades through chip replacements are allowed.

**23 09 33 Electric and Electronic Control System for HVAC**

23 09 33. 13 Decentralized, Rooftop Units

23 09 33. 13.A General

- 1. Shall be complete with self- contained low- voltage control circuit protected by a resettable circuit breaker on the 24-v transformer side. Transformer shall have 75VA capability.
- 2. Shall utilize color-coded wiring.
- 3. Shall include a central control terminal board to conveniently and safely provide connection points for vital control functions such as: smoke detectors, phase monitor, gas controller, economizer, thermostat, DDC control options, and low and high pressure switches.
- 4. The heat exchanger shall be controlled by an integrated gas controller (IGC) microprocessor. See heat exchanger section of this specification.

23 09 33. 23.B Safeties

- 1. Compressor over-temperature, over-current. High internal pressure differential.
- 2. Low-pressure switch.
  - a. Units with 2 compressors shall have different sized connectors for the circuit 1 and circuit 2 low **and high** pressure switches. They shall physically prevent the cross- wiring of the safety switches between circuits 1 and 2.
  - b. Low pressure switch shall use different color wire than the high pressure switch. The purpose is to assist the installer and service technician to correctly wire and or troubleshoot the rooftop unit.
- 3. High pressure switch.
  - a. Units with 2 compressors shall have different sized connectors for the circuit 1 and circuit 2 **low and** high pressure switches. They shall physically prevent the cross-wiring of the safety switches between circuits 1 and 2.

b. High pressure switch shall use different color wire than the low pressure switch. The purpose is to assist the installer and service technician to correctly wire and or troubleshoot the rooftop unit.

4. Automatic reset,/motor thermal overload protector.

**23 09 93                    Sequence of Operations for HVAC Controls**

23 09 93. 13      Decentralized, Rooftop Units

23 09 93. 13      INSERT SEQUENCE OF OPERATION

**23 40 13                    Panel Air Filters**

23 40 13. 13      Decentralized, Rooftop Units

23 40 13. 13.A    Standard filter section

1. Shall consist of factory-installed, low velocity, disposable 2" thick fiberglass filters of commercially available sizes.
2. Units can accept 2" or 4" filters and have a field convertible toolless
3. Filters shall be accessible through an access panel with toolless removal as described in the unit cabinet section of this specification (23 81 19.13.H).

**23 81 19                    Self-Contained Air Conditioners**

23 81 19. 13      Small-Capacity Self-Contained Air Conditioners

23 81 19. 13.A    General

1. Outdoor, rooftop mounted, electrically controlled, heating and cooling unit utilizing a fully hermetic scroll compressor(s) for cooling duty
2. Factory assembled, single-piece heating and cooling rooftop unit. Contained within the unit enclosure shall be all factory wiring, piping, controls, and special features required prior to field start-up.
3. Unit shall use environmentally sound, R-410A refrigerant.
4. Unit shall be installed in accordance with the manufacturer's instructions.
5. Unit must be selected and installed in compliance with local, state, and federal codes.

23 81 19. 13.B    Quality Assurance

1. Unit meets ASHRAE 90.1 minimum efficiency requirements.
3. Unit shall be rated in accordance with AHRI Standards 210/240 and 340/360.
4. Unit shall be designed to conform to ASHRAE 15, 2001.
5. Unit shall be UL-tested and certified in accordance with ANSI Z21.47 Standards and UL-listed and certified under Canadian standards as a total package for safety requirements.
6. Insulation and adhesive shall meet NFPA 90A requirements for flame spread and smoke generation.
7. Unit casing shall be capable of withstanding 1000-hour salt spray exposure per ASTM B117 (scribed specimen).
8. Unit shall be designed in accordance with ISO 9001, and shall be manufactured in a facility registered by; ISO 9001.
9. Roof curb shall be designed to conform to NRCA Standards.
10. Unit shall be subjected to a completely automated run test on the assembly line. The data for each unit; will be stored at the factory, and must be available upon request.
11. Unit shall be designed in accordance with UL Standard 1995, including tested to withstand rain.
12. Unit shake tested to assurance level 1, ASTM D4169 to ensure shipping reliability.
13. High Efficient Motors listed shall meet section 313 of the Energy Independence and Security Act of 2007; (EISA 2007).

23 81 19. 13.B    Delivery, Storage, and Handling

1. Unit shall be stored and handled per manufacturer's recommendations.

23 81 19. 13.E    Project Conditions

1. As specified in the contract.

23 81 19. 13.F    Operating Characteristics

1. Unit shall be capable of starting and running at 125°F (52°C) ambient outdoor temperature, meeting maximum load criteria of AHRI Standard 210/240 or 340/360 at ± 10% voltage.

1. Compressor with standard controls shall be capable of operation down to 0°F (2°C), ambient outdoor temperatures. See below for head pressure control package or winter start kit.
3. Unit shall discharge supply air vertically or horizontally as shown on contract drawings.
4. Unit shall be factory configured for vertical supply & return configurations.
5. Unit shall be field convertible from vertical to horizontal airflow on all models.
6. Unit shall be capable of mixed operation: vertical supply with horizontal return or horizontal supply with vertical return.
- 23 81 19. 13.G Electrical Requirements
  1. Main power supply voltage, phase, and frequency must match those required by the manufacturer.
- 23 81 19. 13.H Unit Cabinet
  1. **Unit cabinet shall be constructed of galvanized steel with exterior surfaces coated with a non-chalking, powder paint finish, certified at 1000 hour salt spray test per ASTM-B117 standards.**
  2. Evaporator fan compartment interior cabinet insulation shall conform to AHRI Standards 210/240 or 340/360 minimum exterior sweat criteria. Interior surfaces shall be insulated with a minimum 1/2- in. thick, 1 lb density, flexible fiberglass insulation, neoprene coated on the air side. Aluminum foil- faced fiberglass insulation shall be used in the gas heat compartment. Fan shall be a belt drive assembly and include an adjustable pitch motor pulley. Fan wheel shall be double inlet type with forward curve blades, dynamically balanced to operate smoothly throughout the entire range of operation. Airflow design shall be constant volume. Bearings shall be sealed and permanently lubricated for longer life and no maintenance. Entire blower assembly and motor shall be slide out design.
  3. Condenser Fan Assembly: The outdoor fans shall be of the direct drive type, discharge air vertically, have aluminum blades riveted to corrosion resistant steel spider brackets and shall be dynamically balanced for smooth operation. The outdoor fan motors shall have permanently lubricated bearings internally protected against overload conditions and staged independently. A cleaning window shall be provided on two sides of the units for coil cleaning.
  4. Base of unit shall have a minimum of four locations for thru-the-base gas and electrical connections (factory installed or field installed), standard.
  5. Base Rail
    - a. Unit shall have base rails on a minimum of 4 sides.
    - b. Holes shall be provided in the base rails for rigging shackles to facilitate maneuvering and overhead rigging.
    - c. Holes shall be provided in the base rail for moving the rooftop by fork truck..
    - d. Base rail shall be a minimum of 16 gauge thickness.
  6. Condensate pan and connections
    - a. Shall be an internally sloped condensate drain pan made of a non-corrosive material.
    - b. Shall comply with ASHRAE Standard 62.
    - c. Shall use a 3/4" - 14 NPT drain connection, possible either through the bottom or side of the drain pan. Connection shall be made per manufacturer's recommendations.
  7. Top panel
    - a. Shall be a single piece top panel.
  9. Electrical Connections
    - a. All unit power wiring shall enter unit cabinet at a single, factory-prepared, knockout location.
    - b. Thru-the-base capability.
      - (1.) Standard unit shall have a thru-the-base electrical location(s) using a raised, embossed portion of the unit basepan.
      - (2.) Optional, factory- approved, water-tight connection method must be used for thru-the-base electrical connections.
      - (3.) No basepan penetration, other than those authorized by the manufacturer, is permitted.
  10. Component access panels (standard)
    - a. Cabinet panels shall be easily removable for servicing.
    - b. Unit shall have one factory installed, toolless, removable, filter access panel.
    - c. Panels covering control box, indoor fan, indoor fan motor, gas components(where applicable), and compressors shall have a molded composite handles.
    - d. Handles shall be UV modified, composite. They shall be permanently attached, and recessed into the panel.
    - e. Screws on the vertical portion of all removable access panel shall engage into heat resistant, molded composite collars.

- f. Collars shall be removable and easily replaceable using manufacturer recommended parts.
- 23 81 19. 13.J Coils
  - 1. Standard Aluminum Fin/Copper Tube Coils
    - a. Standard evaporator and condenser coils shall have aluminum lanced plate fins mechanically bonded to seamless internally grooved copper tubes with all joints brazed.
    - b. Evaporator coils shall be leak tested to 150 psig, pressure tested to 450 psig, and qualified to UL 1995 burst test at 1775 psig.
    - c. Condenser coils shall be leak tested to 150 psig, pressure tested to 650 psig, and qualified to UL 1995 burst test at 1980 psig.
- 23 81 19. 13.K Refrigerant Components
  - 1. Refrigerant circuit shall include the following control, safety, and maintenance features
    - a. Thermostatic Expansion Valve (TXV) shall help provide optimum performance across the entire operating range. Shall contain removable power element to allow change out of power element and bulb without removing the valve body.(Orifice on 3-5 Ton Units)
    - b. Refrigerant filter drier - Solid core design.
    - c. Service gauge connections on suction and discharge lines.
    - d. Pressure gauge access through a specially designed access port in the top panel of the unit.
  - 2. There shall be gauge line access port in the skin of the rooftop, covered by a black, removable plug.
    - a. The plug shall be easy to remove and replace.
    - b. When the plug is removed, the gauge access port shall enable maintenance personnel to route their pressure gauge lines.
    - c. This gauge access port shall facilitate correct and accurate condenser pressure readings by enabling the reading with the compressor access panel on.
    - d. The plug shall be made of a leak proof, UV- resistant, composite material.
  - 3. Compressors
    - a. Unit shall use fully hermetic, scroll compressor for each independent refrigeration circuit.
    - b. Compressor motors shall be cooled by refrigerant gas passing through motor windings.
    - c. Compressors shall be internally protected from high discharge temperature conditions.
    - d. Compressors shall be protected from an over-temperature and over-amperage conditions by an internal, motor overload device.
    - e. Compressor shall be factory mounted on rubber grommets.
    - f. Compressor motors shall have internal line break thermal, current overload and high pressure differential protection.
    - g. Crankcase heaters shall not be required for normal operating range, unless provided by the factory.
- 23 81 19. 13.L Filter Section
  - 1. Filters access is specified in the unit cabinet section of this specification.
  - 2. Shall consist of factory-installed, low velocity, throw-away 2" thick fiberglass filters.
  - 3. Units can accept 2" or 4" filters and have a field convertible toolless
- 23 81 19. 13.M Evaporator Fan and Motor
  - 1. Evaporator fan motor
    - a. Shall have permanently lubricated bearings.
    - b. Shall have inherent automatic-reset thermal overload protection or circuit breaker.
  - 3. Belt-driven Evaporator Fan
    - a. Belt drive shall include an adjustable-pitch motor pulley.
    - b. Shall use sealed, permanently lubricated ball-bearing type.
    - c. Blower fan shall be double-inlet type with forward-curved blades.
    - d. Shall be constructed from steel with a corrosion resistant finish and dynamically balanced.
- 23 81 19. 13.N Condenser Fans and Motors

The outdoor fans shall be of the direct drive type, discharge air vertically, have aluminum blades riveted to corrosion resistant steel spider brackets and shall be dynamically balanced for smooth operation. The outdoor fan motors shall have permanently lubricated bearings internally protected against overload conditions and staged independently. A cleaning window shall be provided on two sides of the units for coil cleaning.

1. Condenser fan motors
  - a. Shall be a totally enclosed motor.
  - b. Shall use permanently lubricated bearings.
  - c. Shall have inherent thermal overload protection with an automatic reset feature.
  - d. All models shall use a shaft-down design except shaft-up on ZX14 & ZY12 size with rain shield.
2. Condenser Fans
  - a. Shall be a direct-driven propeller type fan.
  - b. Shall have aluminum blades riveted to corrosion-resistant steel spiders and shall be dynamically balanced.
- 23 81 19. 13.O Special Features Options and Accessories
  1. IntelliSpeed-Staged Air Volume System (ZX12, ZX14, &ZY12)
    - a. Evaporator fan motor:
      - (1.) Shall have permanently lubricated bearings.
      - (2.) Shall have a maximum continuous bhp rating for continuous duty operation; no safety factors above that rating.
      - (3.) Shall be Variable Frequency duty and 2-speed control.
      - (4.) Shall contain motor shaft grounding ring to prevent electrical bearing fluting damage by safely diverting harmful shaft voltages and bearing currents to ground.
    2. Variable Frequency Drive (VFD). Only available on 2-speed indoor fan motor option (IntelliSpeed)  
INSERT MITSUBISHI DRIVE SPECIFICATIONS
    3. Standard Integrated Economizers:
      - a. Integrated, gear-driven opposing modulating blade design type capable of simultaneous economizer and compressor operation.
      - b. Independent modules for vertical or horizontal return configurations shall be available. Vertical return modules shall be available as a factory installed option.
      - c. Damper blades shall be galvanized steel with composite gears. Plastic or composite blades on intake or return shall not be acceptable.
      - d. Shall include all hardware and controls to provide free cooling with outdoor air when temperature and/or humidity are below setpoints.
      - e. Shall be equipped with gear driven dampers for both the outdoor ventilation air and the return air for positive air stream control.
      - f. Standard models shall be equipped with low- leakage dampers, not to exceed 2% leakage at 1 in. wg pres- sure differential. Economizers will come with Actuator and module that is tied to Simplicity SE
        - (1.) Combined minimum and DCV maximum damper position potentiometers with compressor staging re-lay.
        - (2.) Functions with solid state analog enthalpy or dry bulb changeover control sensing.
        - (3.) Contain LED indicates for:when free cooling is availablewhen module is in DCV mode when exhaust fan contact is closed

## GENERAL

Units shall be manufactured by Johnson Controls Unitary Products in an ISO 9001 certified facility.

Johnson Controls Series 20 units are convertible single package units. ZJ models have four independent refrigerant circuits, for efficient part load operation and maximum comfort control. Although the units are primarily designed for curb mounting on a roof, they can also be slab-mounted at ground level or set on steel beams above a finished roof. Cooling only, cooling with gas heat and cooling with electric heat models are available with a wide variety of factory-mounted options and field-installed accessories to make them suitable for almost every application. All units are self-contained and assembled on full perimeter base rails with holes in the four corners for overhead rigging. Every unit is completely piped, wired, charged and tested at the factory to simplify the field installation and to provide years of dependable operation. All models (including those with an economizer) are suitable for either bottom or horizontal duct connections. Models with power exhaust are suitable for bottom duct connections only. For bottom duct, remove the sheet metal panels from the supply and return air openings through the base of the unit. or horizontal duct, replace the supply and return air panels on the rear of the unit with a side duct flange accessory. All supply air blowers are equipped with a belt drive that can be adjusted to meet exact requirements of the job. A high static drive option is available for applications with a higher CFM and/or static pressure requirement.

ZJ/ZR/XP240 models have 4 condenser fan motors. All compressors include crankcase heat and internal pressure relief. Every refrigerant circuit includes an expansion valve, a liquid line filter-drier, a discharge line high pressure switch and a suction line with a freestat and low pressure/loss of charge switch. The unit control circuit includes a 75 VA transformer, a 24-volt circuit breaker and a relay board with two compressor lockout circuits, a terminal strip for thermostat wiring, plus an additional set of pin connectors to simplify the interface of additional field controls. All units have long lasting powder paint cabinets with 1000 hour salt spray test approval under ASTM-B117 procedures. All models are CSA approved. All models include a 1-year limited warranty on the complete unit. Compressors and electric heater elements carry an additional 4-year warranty.

## DESCRIPTION

ZJ units shall be factory-assembled, single packaged, ZJ\*\*\*N Electric Cooling/Gas Heat, ZJ\*\*\*C/E Electric Cooling/Optional Electric Heat, designed for outdoor mounted installation. The 20 ton unit shall have a minimum EER rating of 11.6.

They shall have built-in field convertible duct connections for down discharge supply/return or horizontal discharge supply/ return, and be available with factory installed options or field installed accessories. The units shall be factory wired, piped, charged with R-410A refrigerant and factory tested prior to shipment. All unit wiring shall be both numbered and color coded. All units shall be manufactured in a facility certified to ISO 9001 standards and the cooling performance shall be rated in accordance with DOE and AHRI test procedures. Units shall be CSA listed, classified to ANSIZ21.47 standards, UL 1995/ CAN/CSA No. 236-M90 conditions.

## UNIT CABINET

Unit cabinet shall be constructed of galvanized steel, with exterior surfaces coated with a non-chalking, powdered paint finish, certified at 1000 hours salt spray test per ASTM-B117 standards. Indoor blower section shall be insulated with a minimum 1/2" thick insulation, coated on the airside. Aluminum foil faced insulation shall be used in the furnace compartment and be fastened with ridged fasteners to prevent insulation from entering the air stream. Cabinet panels shall be "large" size, easily removable for servicing and maintenance. Full perimeter base rails shall be provided to assure reliable transit of equipment, overhead rigging and proper sealing on roof curb applications. Disposable 2" filters shall be furnished and be accessible through a removable access door, sealed airtight. Units filter track shall be designed to accommodate either 2" or 4" filters. Fan performance measuring ports shall be provided on the outside of the cabinet to allow accurate air measurements of evaporator fan performance without removing panels or creating air by-pass of the coils. Condensate pan shall be internally sloped and conform to ASHRAE 62-89 self- draining standards. Condensate connection shall be a minimum of 1" I.D. female and be a ridged mount connection. Unit shall incorporate a fixed outdoor air damper with an outdoor air intake opening covered with a bird screen and a rain hood painted to match the exterior of the unit.

## INDOOR (EVAPORATOR) FAN ASSEMBLY

Fan shall be a belt drive assembly and include an adjustable- pitch motor pulley. Job site selected (B.H.P.) brake horsepower shall not exceed the motors nameplate horsepower rating, plus the service factor. Units shall be designed not to operate above service factor. Fan wheel shall be double-inlet type with forward-curved blades, dynamically balanced to operate smoothly throughout the entire range of operation. Airflow design shall be constant air volume.

**VARIABLE AIR VOLUME (VAV)** - A variable air volume (VAV) option using a variable frequency drive (VFD) is available for applications requiring a constant supply duct static pressure. Units equipped for VAV shall be controlled by a duct pressure transducer with a 0 - 5" WC pressure range. The pressure transducer shall provide a 0 - 5 VDC



output signal to a VAV control board which, in turn shall provide a 2 - 10 VDC speed reference signal to the VFD. The VAV control board shall operate using factory-installed Supply Air, Return Air and Outside Air Temperature Sensors. Units equipped with VFD's shall have factory-installed manual bypass as an option.

**IntelliSpeed™ Supply Fan Control Option (ASHRAE 90.1 compliant, section 6.4.3.10)** – Units configured with the IntelliSpeed™ Supply Fan Option will contain a VFD for variable volume supply fan operation. This option allows the supply fan RPM to vary based on the number of compressors or heating stages energized. The economizer's minimum position will also be configurable to vary based on the supply fan VFD frequency output.

### OUTDOOR (CONDENSER) FAN ASSEMBLY

The outdoor fans shall be of the direct-driven propeller type, discharge air vertically, have aluminum blades riveted to corrosion resistant steel spider brackets and shall be dynamically balanced for smooth operation. The 4 outdoor fan motors shall be totally enclosed with permanently lubricated bearings, internally protected against overload conditions and staged independently.

### REFRIGERANT COMPONENTS

#### Compressors:

- a. Shall be Scroll compressors internally protected with internal high-pressure relief and over temperature protection.
- b. Shall have internal spring isolation and sound muffling to minimize vibration and noise, and be externally isolated on a dedicated, independent mounting.

#### Coils:

- a. Evaporator and condenser coils shall have aluminum plate fins mechanically bonded to seamless internally enhanced copper tubes with all joints brazed. Special Phenolic coating shall be available as a factory option
- b. Evaporator and Condenser coils shall be of the direct expansion, draw-thru, design

#### Refrigerant Circuit and Refrigerant Safety Components shall include:

- Balance-port thermostatic expansion valve with independent circuit feed system.
- Filter drier/strainer to eliminate any moisture or foreign matter.

- Accessible service gage connections on both suction and discharge lines to charge, evacuate, and measure refrigerant pressure during any necessary servicing or troubleshooting, without losing charge.
- The refrigeration system shall provide at least 15° F of sub-cooling at design conditions.
- All models shall have four independent circuits.
- Hot gas bypass option shall be factory-installed on compressor #1 discharge line to provide cooling in low- load applications. HGBP shall be a standard feature on VAV models and an optional feature on CV models.

#### Unit Controls:

- a. Unit shall be complete with self-contained low-voltage control circuit protected by a resettable circuit breaker on the 24-volt transformer side
- b. Unit shall incorporate a lockout circuit which provides reset capability at the space thermostat or base unit, should any of the following standard safety devices trip and shut off compressor
- c. Loss-of-charge/Low-pressure switch. (1) High-pressure switch, (2) Freeze-protection thermostat, evaporator coil. If any of the above safety devices trip, a LED (light-emitting diode) indicator shall flash a diagnostic code that indicates which safety switch has tripped
- d. Unit shall incorporate "AUTO RESET" compressor over temperature, over current protection
- e. Unit shall operate with conventional thermostat designs and have a low voltage terminal strip for easy hook-up
- f. Unit control board shall have on-board diagnostics and fault code display
- g. Standard controls shall include anti-short cycle and low voltage protection, and permit cooling operation down to 0 °F
- h. Control board shall monitor each refrigerant safety switch independently
- i. Control board shall retain last 5 fault codes in non volatile memory, which will not be lost in the event of a power loss

### UNIT OPERATING CHARACTERISTICS

Unit shall be capable of starting and running at 125° F outdoor temperature, exceeding maximum load criteria of AHRI Standard 340/360. The compressor, with standard controls, shall be capable of operation down to 25° F outdoor temperature. Accessory low ambient kit shall be available for operation to 0° F.

### ELECTRICAL REQUIREMENTS

All unit power wiring shall enter unit cabinet at a single factory provided location and be capable of side or bottom entry, to minimize roof penetrations and avoid unit field modifications. Separate side and bottom openings shall be provided for the control wiring.

### STANDARD LIMITED WARRANTIES

- Compressor 5 Years
- Heat Exchanger 10 Years
- Electric Heat Element 5 Years
- Other Parts 1 Year

### OPTIONAL OUTDOOR AIR

Shall be made available by either/or:

- **Economizer** – Outdoor and return air dampers that are interlocked and positioned by a fully-modulating, spring return damper actuator. The maximum leakage rate for the outdoor air intake dampers shall not exceed 2% when dampers are fully closed and operating against a pressure differential of 0.5 IWG. A unit-mounted potentiometer shall be provided to adjust the outdoor and return air damper assembly to take in CFM of outdoor air to meet the minimum ventilation requirement of the conditioned space during normal operation. During economizer operation, a mixed-air temperature control shall modulate the outdoor and return air damper assembly to prevent the supply air temperature from dropping below 55°F. Changeover from compressor to economizer operation shall be provided by an integral electronic enthalpy control that feeds input into the basic module. The outdoor intake opening shall be covered with a rain hood that matches the exterior of the unit. Water eliminator/filters shall be provided. Simultaneous economizer/compressor operation is also possible. Dampers shall fully close on power loss.

### OTHER FACTORY INSTALLED OPTIONS

- **Power Exhaust Option** - Whenever the outdoor air intake dampers are opened for free cooling, the exhaust fan will be energized to prevent the conditioned space from being over-pressurized during economizer operation. The exhaust fan, motor and controls are installed and wired at the factory. The rain hood must be assembled and installed in the field. The power exhaust option can only be used on bottom duct configurations.
- **Phase Monitor** - Designed to prevent unit damage. The phase monitor will shut the unit down in an out-of phase condition.
- **High Static Drive**

### FIELD INSTALLED OPTIONS

**Date**

08/31/2017

**Project Name**

City of Corinth 8-31-2017

**Project Number**

**Client / Purchaser**



**Control Summary Page**

<b>Control</b>	<b>Models and Unit Tags</b>
BACnet MSTP,MdbS,N2 COM Card	ZXE08A4B3AB1C112A2 RTU-7, 8, 10
	ZQE06A4B1AB1C112A2 RTU-6, 9
	ZXE14A4C3AB1C112A2 RTU-4
	ZXE09A4B3AB1C112A2 RTU-5
	ZQE04A4B1AB1C112A2 RTU-11
BACnet MSTP,MdbS,N2 COM Card	J20ZJC00G4D1BCD1A1 RTU-1, 2
	J20ZJC00R4D1BCA1A1 RTU-3

## 23 09 23 Direct- digital Control system for HVAC

### 23 09 23. 13 Decentralized, Rooftop Units:

#### 23 09 23. 13.A. Unit Control Board

1. ASHRAE 62- 2001 compliant. BTL certified.
2. Shall accept 20-30 VAC input power, 50/60Hz. 24 VAC nominal.
3. Operating temperature range from -40F to 158F; 10-90% RH (non-condensing UI), and -4F to 158F; 10-90% Rh (non-condensing), with a storage temperature range from -40F to 194F; 5-95% RH (non-condensing).
4. Shall include an option of and Economizer microprocessor controller which communicates directly with the Unit Control Board and has 8 Analog outputs, 2 Analog inputs, 2 Binary outputs, 3 Binary outputs.
5. Controller shall accept the following inputs: space temperature, return air temperature sensor, setpoint adjustment, outdoor air temperature, indoor air quality, outdoor air quality, indoor relative humidity, compressor lock- out, fire/smoke shutdown, single and dual enthalpy, fan status, remote time clock, SA Bus communicated temperature/humidity/CO2 values from Network sensors, FC Bus Network Overrides for space temperature, outdoor air temperature, space humidity, outdoor air quality, Indoor air quality, System purge.
6. Shall accept a single CO2 sensor or multiple CO2 sensors networked together via communication bus in the conditioned space, and be Demand Control Ventilation (DCV) ready.
7. Shall provide the following outputs: economizer, fan, cooling stage 1, cooling stage 2, heat stage 1, heat stage 2, heat stage 3/ exhaust/ reversing valve/ dehumidify/occupied.
8. Unit shall provide surge protection for the controller through a circuit breaker.
9. Shall be Internet capable, and communicate at a Baud rate of 38.4K or faster.
10. Shall have an LED display independently showing the status of activity on the communication bus, and processor operation.
11. Unit shall incorporate a lockout circuit which provides reset capability at the space thermostat or base unit should any of the following standard safety devices trip and shut off compressor. If any of these safety devices trip, the LCD screen will display alarm message indicating the specific safety device that caused the lockout.
  - a. Loss of charge/Low-pressure switch.
  - b. High-pressure switch.
  - c. Freeze condition sensor on evaporator coil.
12. Unit control board must support each usage case:
  - a. Conventional thermostat with low voltage input terminals for easy installation
  - b. Communicating network sensors in the occupied space to provide feedback on space conditions for unit control board to compare with associated setpoints
  - c. Communication via BACnet MS/TP, Modbus RTU, N2 protocols for integration into a building automation/management system
13. Anti-short cycle and low voltage protection features included.
14. Internal occupied/unoccupied scheduling
15. Unit control board shall permit cooling operation down to a selectable value as low as 0 degrees F.
16. Shall allow for start-up, commissioning, troubleshooting, parameter adjustment, setpoint adjustment via onboard display and navigable menu with no additional interface tool or controls technician required.
17. The unit control board shall run a self-test diagnostics algorithm at startup that operated the cooling cycle, heating cycle, fan operation. A status report shall be provided upon completion of the diagnostic self-test.
18. Utilize any wi-fi enabled smart device to access the HVAC or multiple HVAC units if communication wiring between them is present (FC Bus or SA Bus). Remote access shall allow complete ability to perform start-up, commissioning, troubleshooting, parameter adjustment, setpoint adjustment.
19. Local embedded trending and scheduling. Trending data and occupancy scheduling predefined from the factory. Occupancy schedule to be modified via control board joystick menu navigation and remotely using a smart device (cellular phone, laptop, tablet)
20. A menu on the onboard screen shall display the unit status and allow changing parameters where applicable. These include but are not limited to:
  - a. Demand Ventilation Mode – enable or disable
  - b. Operational Setpoint – display current value
  - c. Supply Air Temperature (SAT) – display current value
  - d. Return Air Temperature (RAT) – display current value

- e. Operational Supply Humidity (OprSH) – display current value as provided by a 0-10VDS input, SA Bus Network Sensor, or FC Bus communicated value
  - f. Return Air Humidity (RAH) – display current value
  - g. Operational outdoor Air Temperature (OprOAT) – enthalpy calculated from OAH 0-10VDC input to Economizer board and OprOAT only if economizer is present
  - h. Operational Outdoor Air Humidity (OprOAH) – the buffered outdoor air humidity. May be from economizer boards OAH 0-10VDC input or FC Bus communicated value
  - i. Operational outdoor Air Quality (OprOAQ) – the buffered outdoor air quality in use. May be from economizer boards OAQ 0-10VDC input or FC Bus communicated value
  - j. Operational Indoor Air Quality (OprIAQ) – the buffered indoor air quality in use. May be from economizer board IAQ 0-10VDC input, SA Bus Network Sensor, or FC Bus communicated value
21. A menu shall display and allow modification to the following operations and settings:
- a. HVAC Zone Fan
  - b. Cooling
  - c. Heating
  - d. Economizer
  - e. Demand Ventilation
  - f. Power Exhaust
  - g. Sensors
  - h. Network
22. A menu shall display and allow modification to the following operations and settings:
- a. HVAC Zone – Occupied status
  - b. Indoor Fan status
  - c. Cooling status
  - d. Heating status
  - e. Economizer indication whether free-cooling is available or not
  - f. Enabling or disabling of Demand Ventilation
  - g. Power Exhaust
    - 1) Enable/disable hot-gas reheat if available
    - 2) Warmup/Cooldown
    - 3) Title 24 Load Shed
    - 4) Defrost
23. A menu shall display and allow modification to the following operations and settings:
- a. Firmware version (of UCB, Economizer, other peripheral boards)
  - b. Setting time zone
  - c. Network information
    - 1) Device name that will appear on the FC Bus
    - 2) Selection of communication protocol
    - 3) Operational Baud Rate
    - 4) Device ID
24. A menu shall display and allow modification to the following operations and settings:
- a. Version of firmware
  - b. Ability to Load new firmware
  - c. Create a backup file of the firmware and parameter setting via USB port
  - d. Restore factory default parameter values and setup
  - e. Full and Partial Cloning of parameter setpoints from or to other units
  - f. Data trend exporting
25. A menu shall display and allow modification to the following operations and settings:

- a. Unit serial number, model number and name
- b. Ability to reset Lockouts
- c. Controller name
- d. Displays the current values of all setpoints in use
- e. Displays all current values for the indoor and outdoor zones
- f. Displays current values related to:
  - 1) Indoor Fan
  - 2) Cooling
  - 3) Heating
  - 4) Heat Pump operation
  - 5) Economizer operation
  - 6) Power Exhaust
  - 7) Demand Ventilation
  - 8) Air monitoring station
  - 9) Hot Gas Reheat
  - 10) Smoke Control
- g. Current information for inputs; including
  - 1) Sensors
  - 2) Coil Sensors
  - 3) Thermostat
  - 4) Binary Inputs
  - 5) Unit Protection
  - 6) Network Inputs
  - 7) All outputs (relay and binary)
- h. Self-Test
  - 1) A patented self-test system that runs through a series of algorithms to provide a report of all functioning characteristics of the system at time of startup and commissioning.

23 09 23. 13.B. Auxiliary Control Boards

- 1. ASHRAE 62- 2001 compliant. BTL certified.
- 2. Economizer controller CEC Title 24 Compliant
  - a. Display alarms if the following occur
    - 1) Economizer is economizing when conditions do not support
    - 2) Economizer is not economizing when conditions do support
    - 3) Damper Stuck
    - 4) Excess Outdoor Air
    - 5) Failed Sensor
- 3. Refrigeration Fault Detection & Diagnostics
  - a. There is insufficient refrigerant in any circuit
  - b. There is excessive refrigerant in any circuit
  - c. There is excessive refrigerant flow
  - d. There is insufficient refrigerant flow (restriction)
  - e. Inefficient compressor
  - f. Insufficient High-side heat transfer
  - g. Excessive High-side heat transfer (low ambient control problem, low  $\Delta P$ )
  - h. Insufficient Low-side heat transfer
  - i. Excessive Low-side heat transfer

- j. Sensor fault- The liquid temperature is greater than the condenser temperature (Could also be triggered if refrigerant level is very low in the system)
- k. Sensor fault- Sensor data is not available
- l. The unit is off
- m. The ambient temperature is too low
- n. The ambient temperature is too high
- o. The return air wet-bulb temperature is too low
- p. The return air wet-bulb temperature is too high
- q. Sensor fault- The condensing temperature is lower than the ambient temperature (Could also be triggered when the condenser is wet)
- r. The suction line temperature is less than the evaporator temperature
- s. The evaporator temperature is greater than the ambient temperature
- t. The liquid temperature is lower than the ambient temperature
- u. Sensor fault- Suction temperature or ambient temperature is invalid
- v. Sensor fault- The return air dry-bulb or wet-bulb temperature is invalid
- w. Sensor fault- The liquid pressure or suction pressure is invalid
- x. Sensor fault- The suction line temperature is invalid
- y. The return air dry-bulb temperature is too low
- z. The return air dry-bulb temperature is too high
- aa. The Efficiency Index is below 75% of ideal
- bb. The Capacity Index is below 75% of ideal

23 09 23. 13.C Remote Accessibility:

1. ASHRAE 62- 2001 compliant. BTL certified.
2. Provide the ability to adjust parameter values, setpoints, limits remotely
3. Connectivity to an Ethernet network via static IP address or Dynamic Name Server (DNS)
4. Allow a maximum of 100 devices on the same FC bus trunk and accessed by one remote device

**BUSINESS ITEM 7.**

**City Council Regular and Workshop Session**

**Meeting Date:** 01/18/2018

**Title:** Community Waste Disposal Contract Extension

**Submitted For:** Bob Hart, City Manager

**Submitted By:** Kim Pence, City Secretary

**Finance Review:** N/A

**Legal Review:** Yes

**City Manager Review: Approval:** Bob Hart, City Manager

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**AGENDA ITEM**

Consider and act on a 1 year extension of Contract with Community Waste Disposal for solid waste and recycling services.

**AGENDA ITEM SUMMARY/BACKGROUND**

During a recent contract review, staff discovered the contract with CWD for solid waste collection had an incorrect term provision. The initial contract was established effective January 1, 2013 and was to run five years or ending December 31, 2017. However, the contract provided a termination of December 31, 2108. Consequently the city and CWD must exercise the first renewal provision in order to have a fully operating contract. Staff has prepared a letter agreement exercising the first renewal period and waiving the notification provision contemplated under terms of the contract.

**RECOMMENDATION**

Recommend execution of the letter agreement

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**Attachments**

Corinth CWD Letter

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940-498-3200

City of Corinth

Fax: 940-498-7505

www.cityofcorinth.com

3300 Corinth Parkway

Corinth, TX 76208

**Via CMRRR** xxxx xxxx xxxx xxxx xxxx

Community Waste Disposal, LP

2010 California Crossing Road

Dallas, TX 75220

ATTN: Greg Roemer, President, CWD

Re: Letter agreement (this “Letter Agreement”) between City of Corinth, Texas (the “City”), and Community Waste Disposal, LP (the “Contractor”), regarding the first annual extension of the Contract For Collection of Solid Waste executed December 10, 2012 (the “Contract”)

Dear Mr. Roemer

This Letter Agreement binds the signatories to the terms herein.

In accordance with Section 1(B) of the Contract, the City and Contractor hereby renew and extend the Contract for a one-year period. The City and Contractor agree that the five (5) year initial term of the Contract was January 1, 2013 through December 31, 2017, and that this Letter Agreement is the first of up to three (3) renewal terms of one year. This Letter Agreement constitutes the written agreement of both the City and Contractor to extend the term of the Contract until midnight, December 31, 2018. For this first annual renewal of the Contract only, the City and Contractor waive all written notice of renewal or acceptance to the other party prior to the expiration of the term of the Contract. The City and Contractor agree that after December 31, 2018, up to two (2) additional renewal terms of one year are authorized by written agreement of both parties in accordance with the terms of the Contract.

Other than the terms provided herein, nothing in this Letter Agreement shall amend the rights and obligations of the City and Contractor pursuant to the Contract.

This Letter Agreement may be executed simultaneously in two or more counterparts, each of which shall be deemed an original and all of which together shall constitute one and the same instrument. A signature of a party transmitted by facsimile or by other electronic means shall be binding on such party to the same extent as an original signature. If this Letter Agreement is signed by the parties or party and delivered by means of facsimile or other electronic transmission, the

CORINTH/CWD LETTER AGREEMENT – 1ST ANNUAL EXTENSION

Page 1 of 2

parties agree promptly to thereafter exchange original, executed counterparts thereof, but failure to do so shall not affect the validity, enforceability or binding effect thereof.

**Agreed and accepted on the \_\_\_\_ day of \_\_\_\_\_, 2018:**

**ON BEHALF OF CITY:  
CITY OF CORINTH, TEXAS**

By: \_\_\_\_\_  
Bob Hart, City Manager

**ON BEHALF OF CONTRACTOR:  
COMMUNITY WASTE DISPOSAL, LP**

By: CWD Management, Inc.,  
Its General Partner

By: \_\_\_\_\_,  
Greg Roemer, President