CITY OF GRAPEVINE
Chapter 7, Buildings and Construction, Article V, Residential Code

ARTICLE V. RESIDENTIAL CODE*

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***Editor's note:** Ord. No. 2001-93, § 2, adopted Dec. 4, 2001, repealed former Art. V of this chapter in its entirety and added new provisions as Art. V to read as herein set out. Former Art. V, §§ 7-140, 7-141, pertained to the housing code and derived from Ord. No. 79-12, § 1, adopted March 20, 1979; Ord. No. 80-58, § 1, adopted Oct. 21, 1980; and Ord. No. 84-10, § 1, adopted
March 6, 1984.

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Sec. 7-140. Adoption.

There is hereby adopted for the purpose of establishing rules and regulations for the construction, alteration, removal, demolition, equipment, use and occupancy, location and maintenance of buildings and structures, that certain code known as the International Residential Code, copy-righted by the International Code Council being particularly the 2006 edition thereof, of which a copy has been and now is filed in the office of the city secretary, and the same is hereby adopted and incorporated as fully as if set out at length herein. The provisions of this code shall regulate the construction of all one- and two-family dwellings and multifamily dwellings with property lines between units not more than three stories in height with a separate means of egress and their accessory structures; subject to all amendments thereof or superseding provisions contained in this chapter.

Any item not specifically addressed by this code shall be regulated by the current building code adopted by the city.

(Ord. No. 2001-93, § 2, 12-4-01; Ord. No. 2005-15, § 4, 3-1-05; Ord. No. 2007-36, § 4, 7-17-07)

Sec. 7-141. Conflicts.

When any portion of this code conflicts with state law or any other code or ordinance adopted by the city, the most restrictive requirement shall apply.

When any provision in this code conflicts with any other provision in this code the most restrictive requirement shall apply.

All references made to electrical provisions shall be replaced with the words "electrical code adopted by this jurisdiction".

All references to the International Building Code shall mean the building code adopted by the city.

All references to the International Plumbing Code shall mean the plumbing code adopted by the city.

All references to the International Mechanical Code shall mean the mechanical code adopted by the city.

All references to the International Existing Building Code shall mean the existing building provisions of the construction codes adopted by the city.

All references to the International Fire Code shall mean the fire code adopted by the city.

Any item not specifically addressed by this code shall be regulated by the current building code adopted by the city.

(Ord. No. 2001-93, § 2, 12-4-01; Ord. No. 2005-15, § 4, 3-1-05)

Sec. 7-142. Amendments.

[The residential code herein adopted is specifically amended as follows:]

Section R101.1 Title is hereby amended to read as follows:

Section R101.1 Title. These provisions shall be know as *the Residential Code for One- and Two-family Dwellings* of The City of Grapevine; and shall be cited as such and will be referred to herein as "this code."

Section R101.2 Scope is hereby amended to read as follows:

Section R101.2 Scope. The provisions of the *International Residential Code for One- and Two-family Dwellings* shall apply to the construction, alteration, movement, enlargement, replacement, repair, equipment, use and occupancy, location, removal and demolition of detached one- and two-family dwellings and townhouses not more than three stories above-grade in height with a separate means of egress and their accessory structures. All structures three or more stories in height shall be equipped with an approved automatic fire extinguisher system.

Section R102.4 Referenced codes and standards is hereby amended to read as follows:

Section R102.4 Referenced codes and standards. The codes, and standards referenced in this code shall be considered part of the requirements of this code to the prescribed extent of each such reference. Whenever amendments have been adopted to the referenced codes and standards, each reference to said code and standard shall be considered to reference the amendments as well. Any reference made to NFPA 70 or the ICC Electrical Code or any other reference to electrical provisions shall mean the Electrical Code and its amendments as adopted.

Where differences occur between provisions of this code and referenced codes and standards, the provisions of this code shall apply.

{Exception unchanged}

Section R105.2 Work exempt from permit is amended as follows:

Section R105.2 Work exempt from permit.

{Bulk of section to remain unchanged}

Building:

> One-story detached accessory structures used as tool and storage sheds, playhouses and similar uses, not exceeding 120 square feet (11.15 m2) in floor area require permits but are exempt from fees.

{Remainder of section to remain unchanged}

Section R105.3.1.1 Determination of substantially improved or substantially damaged existing buildings in flood hazard areas is hereby deleted in its entirety:

Section R105.3.2 Time limitation of application is hereby amended in its entirety to read as follows:

Section R105.3.2 Time limitation of application. Applications for which no permit is issued within 180 days following the date of application shall expire by limitation, and plans and other data submitted for review may thereafter be returned to the applicant or destroyed by the Building Official. The Building Official may extend the time for action by the applicant for a period not exceeding 180 days on request by the applicant showing that circumstances beyond the control of the applicant have prevented action from being taken. No application shall be extended more than once. In order to renew action on an application after expiration, the applicant shall resubmit plans and pay a new plan review fee.

Section R105.5 Expiration is hereby amended to read as follows:

Section R105.5 Expiration. Every permit issued by the building official under the provisions of this code shall expire by limitation and become null and void if the building or work authorized by such permit is not commenced and an inspection requested within 180 days from the date of such permit, or if the building or work authorized by such permit is suspended or abandoned at any time after the work is commenced for a period of 180 days or if more than 180 days pass between any two inspections of the building or work, including the final inspection. Inspections requested and/or performed on work which is not complete shall not constitute an inspection for the purposes of this section. In the event of an expired permit, before such work can be recommenced, and/or inspections requested, a new permit shall be first obtained to do so, and the fee therefor shall be one-half the amount required for a new permit for such work, provided no changes have been made or will be made in the original plans and specifications for such work; and provided further that such suspension or abandonment has not exceeded 30 days. In order to renew action on a

permit more than 30 days after expiration, the permittee shall pay a new full permit fee. The building official shall have the sole discretion, except as otherwise provided herein, to extend permits and inspection deadlines for projects of an unusually large scope. Any building or work subject to a permit which has expired for a period of more than 30 days shall be declared a nuisance in accordance with Chapter 7, Article II, and/or Chapter 12, Article VI of the Grapevine Code of Ordinances.

Any permittee holding an unexpired permit may apply for an extension of the time within which work may commence under that permit when the permittee is unable to commence work within the time required by this section for good and satisfactory reasons. The building official may extend the time for action by the permittee for a period not exceeding 180 days on written request by the permittee showing that circumstances beyond the control of the permittee have prevented action from being taken. No permit shall be extended nor renewed more than once.

Section R106 Construction Documents is hereby amended by the addition of a new subsection *R106.6* to read as follows:

Section R106.6 Expiration of Plan Review. Applications for which no permit is issued within 180 days following the date of application shall expire by limitation, and plans and other data submitted for review may thereafter be returned to the applicant or destroyed by the building official. The building official may extend the time for action by the applicant for a period not exceeding 180 days on request by the applicant showing that circumstances beyond the control of the applicant have prevented action from being taken. No application shall be extended more than once. In order to renew action on an application after expiration, the applicant shall resubmit plans and pay a new plan review fee.

Section R108.2 Schedule of Permit Fees is hereby amended to read as follows:

Section R108.2 Schedule of Permit Fees. On buildings, structures, electrical, gas, mechanical, and plumbing systems or alterations requiring a permit, a fee for each permit shall be paid as required, in accordance with Table 108, Building Permit Fees attached hereto as Exhibit "A" and Table 108A Mechanical, Electrical and Plumbing Permit Fees attached hereto as Exhibit "C" and incorporated herein by reference.

Building valuations shall be determined by the building valuation data table attached hereto as Exhibit "B" or the contract valuation wherever is greater.

Section R108.5 Refunds is hereby amended to read as follows:

Section R108.5 Refunds. 80% of the building, electrical, mechanical, and/or plumbing fee may be refunded, provided that no inspections have been performed.

Section R108 Fees, is hereby amended by the addition of a new subsection *108.6. Investigation, Fees, work without a permit* to read as follows:

Section R108.6 Investigation, Fees, work without permit. Whenever any work for which a permit is required by this code has been commenced without first obtaining said permit, a special investigation shall be made before a permit may be issued for such work. An

investigation fee, in addition to the permit fee, shall be collected whether or not a permit is then or subsequently issued. The investigation fee shall be equal to the amount of the permit fee required by this code. The minimum investigation fee shall be the same as the minimum permit fee set forth in the fee schedule adopted by the city. The payment of such investigation fee shall not exempt any person from compliance with all other provisions of this code nor from any penalty prescribed by law. Any building or work subject to a permit which has expired for a period of more than 30 days shall be declared a nuisance in accordance with Chapter 7, Article II, and/or Chapter 12, Article VI of the Grapevine Code of Ordinances.

Section R108 Fees is hereby amended by the addition of a new Section *108.7* to read as follows:

Section R108.7 Reinspection fee. A reinspection fee may be assessed for each inspection or reinspection when such portion of work for which inspection is called is not complete or when corrections called for are not made.

This subsection is not to be interpreted as requiring reinspection fees the first time a job is rejected for failure to comply with the requirements of this code, but as controlling the practice of calling for inspections before the job is ready for such inspection or reinspection. Reinspection fees may be assessed when the inspection record card is not posted or otherwise available on the work site, the approved plans are not readily available to the inspector, for failure to provide access on the date for which inspection is requested, or for deviating from plans requiring the approval of the building official.

To obtain a reinspection, the applicant shall file an application therefor in writing on a form furnished for that purpose and pay the reinspection fee in accordance with Table 1-A or as set forth in the fee schedule adopted by the jurisdiction.

In instances where reinspection fees have been assessed, no additional inspection of the work will be performed until the required fees have been paid.

Section R109.1.3 Floodplain inspections; is deleted in its entirety.

Section R110 Certificate of Occupancy (R110.1 through R110.5); is hereby deleted in its entirety.

Section R112.1 General is hereby deleted and replaced with the following:

Section R112.1 General. In order to hear and decide appeals of orders, decisions or determinations made by the building official relative to the application and interpretation of this code, there shall be and is hereby created a board of appeals. The board of appeals shall be appointed by the City Council and shall hold office at its pleasure. The board shall adopt rules of procedure for conducting its business. This board shall consist of members and follow the procedures as prescribed in Section 7-4 of this chapter. This board shall be known as the Building Board of Appeals.

Section R112.2 Limitations on authority is hereby amended to read as follows:

Section R112.2 Limitations on authority. An application for appeal shall be based on a claim that the true intent of this code or the rules legally adopted there under have been incorrectly interpreted, the provisions of this code do not fully apply or an equally good or better form of construction is proposed. The board shall have no authority to waive requirements of this code, nor make interpretations on the administrative provisions of this code.

Section R112.2.1 Determination of substantial improvement in areas prone to flooding, is hereby deleted in its entirety.

Section R113.4 Violation penalties is hereby deleted in it entirety and replaced with the following:

Section R113.4 Violation penalties. Any person who violates a provision of this code or fails to comply with any of the requirements thereof or who erects, constructs, alters or repairs a building or structure in violation of the approved construction documents or directive of the building official, or of a permit or certificate issued under the provisions of this code, shall be subject to punishment as provided in Section 1-6 of the Code of Ordinances.

Section R202 Definitions, definition of "Townhouse" is amended to read as follows:

TOWNHOUSE. A single-family dwelling unit constructed in a group of attached units separated by property lines in which each unit extends from foundation to roof and with open space on at least two sides.

Section R202 General Definitions is hereby amended by adding the following definition:

GLAZING AREA. Total area of the glazed fenestration measured using the rough opening and including sash, curbing or other framing elements that enclose conditioned space. Glazing area includes the area of glazed fenestration assemblies in walls bounding conditioned basements. For doors where the daylight opening area is less than 50 percent of the door area, the glazing area is the daylight opening area. For all other doors, the glazing area is the rough opening area for the door including the door and the frame.

Table R301.2(1) Climatic and Geographic Design Criteria, is hereby amended to read as follows:

See Exhibit "D"

Section R302.1 Exterior Walls is hereby amended to read as follows:

Section R302.1 Exterior Walls. Construction, projections, openings and penetrations of exterior walls of dwellings and accessory buildings shall comply with Table R302.1. Exterior walls with a fire separation distance of less than 5 feet shall have not less than a one-hour fire-resistive rating with exposure from both sides, with the sole exception of walls of structures located on property zoned R-5.0, as provided for in Section 16, Zero Lot Line District, of the Grapevine Comprehensive Zoning Ordinance No. 82-73. Projections beyond

the exterior wall shall not extend more than 12" (305 mm) into the areas where openings are prohibited, nor shall they extend over the lot line.

Projections extending into the fire separation distance shall have not less than one-hour fire-resistive construction on the underside. The above previsions shall not apply to walls which are perpendicular to the line used to determine the fire separation distance.

Exceptions:

1. Tool and storage sheds, playhouses and similar structures exempted from permit fees by *Section R105.2* are not required to provide wall protection based on location on the lot. Projections beyond the exterior wall shall not extend over the lot line.

2. Open metal carport structures may be constructed with zero (0) feet of the property line without fire-resistive or opening protection when the location of such is approved as required by other adopted ordinances.

Section R302.1 Exterior walls is hereby amended by the addition of a new subsection *302.1.1. Penetrations* to read as follows:

Section R302.1.1 Penetrations. Penetrations located in the exterior wall of a dwelling with a fire separation distance less than three (5) feet shall be protected in accordance with Section R317.3.

Exceptions:

1. Structures located on property zoned R-5.0, as provided for in Section 16, Zero Lot Line District of the Grapevine Comprehensive Zoning Ordinance No. 82-73.

2. Penetrations shall be permitted in walls that are perpendicular to the line used to determine the fire separation distance.

Section R303.3 Bathrooms. Exceptions; is amended to read as follows:

Section R303.3 Bathrooms.

{Bulk of section unchanged}

Exceptions: The glazed areas shall not be required where artificial light and a mechanical ventilation system, complying with one of the following, are provided.

1. The minimum ventilations rates shall be 50 cfm (23.6 L/s) for intermittent ventilation or 20 cft (9.4 L/s) for continuous ventilation. Ventilation air from the space shall be exhausted directly to the outside.

2. Bathrooms that contain only a water closet, lavatory or combination thereof may be ventilated with an approved mechanical recirculating fan or similar device designed to remove odors from the air.

Section R303.8 Required heating is hereby amended to read as follows:

Section R303.8 Required heating. Every dwelling unit shall be provided with heating facilities capable of maintaining a minimum room temperature of 68℉ (20℃) at a point three (3) feet (914 mm) above the floor and two (2) feet (610 mm) from exterior walls in all habitable rooms at the design temperature. The installation of portable space heaters shall not be used to achieve compliance with this section.

Section R311.2.2 Under stair protection is hereby amended to read as follows:

Section R311.2.2 Under stair protection. Enclosed accessible space under stairs shall have walls, under stair surface and any soffits protected on the enclosed side with 5/8 inch (15.8 mm) fire-rated gypsum board or one-hour fire-resistive construction.

Section R311.5.6.3 Handrail grip size is hereby amended to read as follows:

Section R311.5.6.3 Handrail grip size. All required handrails shall be of one of the following types or provide equivalent graspability.

1. Type I. Handrails with a circular cross section shall have an outside diameter of at least 1 1/4 inches (32 mm) and not greater than 25/8 inches. If the handrail is not circular it shall have a perimeter dimension of at least 4 inches (102 mm) and not greater than 61/4 inches (160 mm) with a maximum cross section of dimension of 25/8 inches.

{Remainder of section unchanged}

Section R313.3 Power source is hereby amended to read as follows:

Section R313.3 Power source. In new construction, the required smoke alarms shall receive their primary power from the building wiring when such wiring is served from a commercial source, and when primary power is interrupted, shall receive power from a battery. Wiring shall be permanent and without a disconnecting switch other than those required for overcurrent protection. Smoke alarms shall be permitted to be battery operated when installed in buildings that undergo alterations, repairs or additions not required to be interconnected and hardwired by Section R313.2.1.

Section R317.1 Two-family dwellings is hereby amended by the addition of an exception number 3 to read as follows:

Section R317.1 Two-family dwellings

{Bulk of section to remain unchanged}

Exceptions:

1.--2. {Existing exceptions unchanged}

3. Two-family dwelling units that are also divided by a property line through the structure shall be separated as required for townhouses.

Section R318 Moisture vapor retarders, is amended to read as follows:

Section R318 Moisture vapor retarders. In all framed walls, floors and roof/ceilings comprising elements of the building thermal envelope, a vapor retarder, when installed, shall be installed in a manner so as to not trap moisture.

{Exceptions deleted}

Section R322 Accessibility is hereby deleted in its entirety and replaced with the following:

The design and construction of accessible building features shall comply with the State Laws regulating same. It shall be the responsibility of the permit applicant to provide verification to the building department that plans were reviewed and the building inspected by a state certified entity in accordance with state law.

Figure 602.6.1 is hereby amended by showing 16 gage metal ties on both top plates.

Section R701.1 Application is amended to read as follows:

Section R701.1 Application. The provisions of this chapter shall control the design and construction of the interior and exterior wall covering for all buildings. Regardless of other provisions of this code, the use of kraft waterproof building paper or asphalt saturated rag felt is permitted only when covered by a veneer approved by this code. The use of wood shakes or wood shingles as an exterior wall covering is only permitted when such materials meet minimum Class "C" roofing material standards as demonstrated by a nationally recognized testing agency.

Section R703.7.4.1 Size and spacing, is amended by the adoption of a second paragraph to read as follows:

Section R703.7.4.1 Size and spacing.

{First paragraph to remain unchanged}

For 2.67 square feet of wall area, the following dimensions shall be adhered to:

1. When ties are placed on studs 16" o.c., they shall be spaced no further apart than 24" vertically starting approximately 12" from the foundation.

2. When ties are placed on studs 24" o.c., they shall be spaced no further apart than 16" vertically starting approximately 8" from the foundation.

{Exceptions to remain unchanged}

Section R703.7.4.2 Air space is amended by the addition of a second paragraph to read as follows:

Section R703.7.4.2 Air space.

{First paragraph to remain unchanged}

When using ties that will flex when pushed, spot bedding of cement mortar shall be installed on all ties.

Section R902.1 Roof covering materials is amended to read as follows:

Section R902.1 Roof covering materials. Roofs shall be covered with materials as set forth in Sections *R904 and R905.* All roofing materials shall be a minimum Class "C" rated as demonstrated by a nationally recognized testing agency. Classes A, B and C roofing required to be listed by this section shall be tested in accordance with UL 790 or ASTM E 108. Roof assemblies with coverings of brick, masonry, slate, clay or concrete roof tile, exposed concrete roof deck, ferrous or copper shingles or sheets; and metal sheets and shingles, shall be considered Class A roof coverings.

Section R907.1 General is hereby amended to read as follows:

Section R907.1 General. Materials and methods of application used for recovering or replacing an existing roof covering shall comply with the requirements of this chapter.

Not more than 25 percent of the roof covering of any building shall be removed and replaced within a 12-month period unless the entire roof covering is made to conform to the requirements for new roofing.

Exception: Reroofing shall not be required to meet the minimum design slope requirement of one-forth vertical in 12 units horizontal (2-percent slope) in Section R905 for roofs that provide positive roof damage, provided that the slope of the existing roof is not decreased.

The replacement materials for all or part of a roof shall comply with all of the requirements of Section R902. In those cases where it proves necessary to replace all or part of an ordinary wood shingled roof, and minimum Class "C" roofing does not meet the exposure length of the existing roof, Class "C" composition shingles may be overlaid on the existing shingles, subject to the other provisions of this chapter.

Section N1101.1 Scope is hereby amended by the addition of a new paragraph to read as follows:

Section N1101.1 Scope.

{Bulk of section to remain unchanged}

{Exception unchanged}

Nothing contained herein shall be construed to supercede state laws regulating energy efficiency. When conflicts arise between this code and state law, the most restrictive shall apply.

Section N1101.2 Compliance is hereby amended to read as follows:

Section N1101.2 Compliance. Compliance shall be demonstrated by either meeting the requirements of the International *Energy Conservation Code* or meeting the requirements of this chapter. Climate zones from Figure N1101.2, Figure N1101.3, Table N1101.2, or Table N1102.2 (1) shall be used in determining the applicable requirements from this chapter. Software tools used to demonstrate energy code compliance that are deemed acceptable by the building official may only utilize the energy chapter of the 2001 or the 2003 International Residential Code when code edition selection is available.

It shall be the responsibility of the permit applicant to provide verification to the building department that plans were reviewed and the building inspected by a state certified entity in accordance with state law.

Section N1101 General is hereby amended by the addition of FIGURE N1101.3 TEXAS CLIMATE ZONES immediately following Figure N1101.2 and attached hereto as Exhibit "F":

Section N1101.2.1 is hereby amended to read as follows:

Section N1101.2.1 Warm humid counties. Warm humid counties are listed in Table N1102.2.1 and Table N1101.2.1 (1).

Section N1101 General is hereby amended by amending TABLE N1101.2 CLIMATE ZONES BY STATE AND COUNTIES by deleting the references to Texas and add TABLE N1102.2 (1) CLIMATE ZONES AND SUB CLIMATE ZONES FOR TEXAS attached hereto as Exhibit "G":
Section N1101 General is hereby amended by amending TABLE N1101.2.1 WARM HUMID COUNTIES by deleting the references to Texas and add TABLE N1101.2.1 (1) WARM HUMID COUNTIES FOR TEXAS attached hereto as Exhibit "H":

Section N1101 General is hereby amended by the addition of TABLE N1101.3 TEXAS CLIMATE ZONES DEFINITION attached hereto as Exhibit "I":

Section N1101.7 Above Code Programs is hereby amended to read as follows:

N1101.7 Alternative compliance. A building certified by a national, state, or local accredited energy efficiency program and determined by the Energy Systems Laboratory to be in compliance with the energy efficiency requirements of this section may, at the option of the Code Official, be considered in compliance. The United States Environmental Protection Agency's Star Program certification of energy code equivalency shall be considered in compliance.

Table N1102.1 INSULATION AND FENESTRATION REQUIREMENTS BY COMPONENT is hereby amended and attached hereto as Exhibit "J":

Table N1102.1.2 EQUIVALENT U-FACTORS is hereby amended and attached hereto as Exhibit "K":

Section N1102.2.1 Ceilings with attic spaces is hereby amended by adding an exception to read as follows:

Section N1102.2.2 Ceilings with attic spaces.

{Bulk of section unchanged}

Exception: Sloped ceilings not exceeding 20% of the total projected attic area may be insulated with a minimum R-value of R-19 when the remainder of the attic area is insulated with a minimum R-value of R-40.

Section N1102.2.2 Ceilings without attic spaces is hereby amended by adding an exception to read as follows:

Section N1102.2.2 Ceilings without attic spaces.

{Bulk of section unchanged}

Exception: Sloped ceilings not exceeding 20% of the total projected attic area may be insulated with a minimum R-value of R-19 when the remainder of the attic area is insulted with a minimum R-value of R-40.

Section N1102.3.3 Glazed fenestration exemption is hereby amended to read as follows:

N1102.3.3 Glazed fenestration exemption. Up to 1 percent of glazed fenestration per dwelling unit shall be permitted to be exempt from U-factor and SHGC requirements in Section *N1102.1.*

Section N1102.3.5 Thermally isolated sunroom U-factor is hereby amended to read as follows:

N1102.3.5 Thermally isolated sunroom. New windows and doors separating the sunroom from conditioned space shall meet the building thermal envelope requirements.

Section N1102.3.6 Replacement fenestration is hereby amended to read as follows:

N1102.3.6 Replacement fenestration. Where some or all of an existing fenestration unit is replaced with a new fenestration product, including sash and glazing, the replacement fenestration unit shall meet the applicable requirements for U-factor and SHGC in Table N1102.3.6.

Exceptions:

1. Replacement skylights shall have a maximum U-factor for 0.60 when installed in any location above 1,999 HDD.

2. For buildings constructed in conformance with an energy as required by State of Texas Senate Bill Number 5, 77th Legislature, replacement fenestration units may comply with the applicable U-factor and SHGC in Table N1102.3.6.

Section N1102.3.7 Prescriptive path for additions is hereby amended to read as follows:

N1102.3.7 Prescriptive path for additions. As an alternative to demonstrating compliance with 402.1 or 404, additions with a conditioned floor area less than 500 square feet (46.5 m 2) to existing single-family residential buildings and structures shall meet the prescriptive envelope component criteria in Table N1102.3.6 for the designated heating degree days (HDD) applicable to the location. The U-factor of each individual fenestration product (windows, doors and skylights) shall be used to calculate and area weighted average fenestration product U-factor for the addition, which shall not exceed the applicable listed values in Table N1102.3.6. For additions, other than sunroom additions, the total area of fenestration products shall not exceed 40 percent of the gross wall and roof area of the addition. The R-values for opaque thermal envelope components shall be equal to or greater than the applicable listed values in Table N1102.3.6.
Conditioned sunroom additions shall maintain thermal isolation; shall not be used as kitchens or sleeping rooms.

In locations with heating degree days (HDD) less than 3,500 the combined solar heat gain coefficient (the area weighted average) of all glazed fenestration products used in additions and as replacement windows in accordance with this section shall not exceed 0.40.

Table N1102.3.6 PRESCRIPTIVE ENVELOPE COMPONENT CRITERA ADDITIONS TO AND REPLACEMENT WINDOWS FOR EXISTING DETACHED ONE- AND TWO-FAMILY DWELLINGS is hereby added and is attached as exhibit "L":

Section N1102.5. Moisture Control is hereby amended to read as follows:

N1102.5 Moisture Control. The building design shall not create conditions of accelerated deterioration from moisture condensation. Above-grade frame walls, floors and ceilings not ventilated to allow moisture to escape shall be provided with an approved vapor retarder. The vapor retarder shall be installed in a manner so as to not trap moisture.

Exceptions:

1. In construction where moisture or its freezing will not damage the materials.

2. Frame walls, floors and ceiling in jurisdictions in Zones 1, 2, 3, 4A and 4B (Crawl space vapor retarders are not exempted.)

3. Where other approved means to avoid condensation are provided.

Section N1103.2.1. Insulation is hereby amended by the addition of a second exception to read as follows:

Section N1103.2.1 Insulation.

{Bulk of section unchanged}

Exceptions:

1. Ducts or portions thereof located completely inside the building thermal envelope.

2. Supply and return ducts can be insulated to a minimum of R-6, if the efficiency of the cooling equipment is upgraded to one SEER point above the NAECA (National Appliance Energy Conservation Act) Standard.

Section M1304 Type of fuel is amended by the addition of a new section M1304.2 to read as follows:

Section M1304.2 Minimum burial depth. Underground fuel piping systems shall be installed a minimum depth of 18 inches (458 mm) below grade.

Section M1305.1.3 Appliances in attics is amended to read as follows:

Section M1305.1.3 Appliances in attics. Attics containing appliances requiring access shall be provided . . . {bulk of paragraph unchanged} . . . sides of the appliance where access is required. The clear access opening dimensions shall be a minimum of 20 inches by 30 inches (508 mm by 762 mm), or larger where such dimensions are not large enough to allow removal of the largest appliance. As a minimum, access to the attic space shall be provided by one of the following:

1. A permanent stair.

2. A pull down stair.

3. An access door from an upper floor level.

Exception: The passageway and level service space are not required where the appliance is capable of being serviced and removed through the required opening.

Section M1305.1.3.1 Electrical requirements is amended by the addition of a sentence at the end of a paragraph to read as follows:

Low voltage wiring of 50 Volts or less shall be installed in a manner to prevent physical damage.

Section M1305.1.4.1 Ground clearance is amended to read as follows:

Section M1305.1.4.1 Ground clearance. Appliances supported from the ground shall be level and firmly supported on a concrete slab or other approved material extending above the adjoining grade a minimum of three (3) inches (76 mm). Appliances suspended from the floor shall have a clearance of not less than six (6) inches (152 mm) above the ground.

Section M1305.1.4.3 Electrical requirements is amended by the addition of a sentence at the end of the paragraph to read as follows:
Low voltage wiring of 50 Volts or less shall be installed in a manner to prevent physical damage.

Section M1502.3 Duct size is amended to read as follows:

Section M1502.3 Duct size. The minimum diameter of the exhaust duct shall be as recommended by the manufacturer, shall be at least the diameter of the appliance outlet and shall be a minimum nominal size of four (4) INCHES (102 mm) in diameter. The size of duct shall not be reduced along its developed length nor at the point of termination.

Section M1502.6 Duct length is amended to read as follows:

Section M1502.6 Duct length. The maximum length of a clothes dryer exhaust duct shall not exceed 25 feet (7620 mm) from the dryer location to the wall or roof termination with not more than two bends. When extra bends are installed, the maximum length of the duct shall be reduced two and one-half (2.5) feet (762 mm) for each 45-degree (0.79 rad) bend and five (5) feet (1,524 mm) for each 90-degree (1.6 rad) bend that occur after the first two bends, measuring in the direction of airflow. The maximum length of the exhaust duct does not include the transition duct.

{Exception unchanged}

Section M2005.2 Prohibited locations is amended to read as follows:

Section M2005.2 Prohibited locations. Fuel-fired water heaters shall not be installed in a room used as a storage closet. Water heaters located in a bedroom or bathroom shall be installed in a sealed enclosure so that combustion air will not be taken from the living space. Access to such enclosure may be from the bedroom or bathroom when through a solid door, weather stripped in accordance with the exterior door air leakage requirements of the International *Energy Conservation Code* and equipped with an approved self-closing device. Direct-vent water heaters are not required to be installed within an enclosure.

Section G2403 General definitions, definition of "Appliance, Unvented" and "Wall Heater, Unvented Type" is hereby amended to read as follows:

Section G2403 General definitions,

APPLIANCE, UNVENTED. An appliance designed or installed in such a manner that the products of combustion are not conveyed by a vent or chimney directly to the outside atmosphere. All unvented appliances are expressly prohibited by this code.

WALL HEATER, UNVENTED TYPE. A room heater of the type designed for insertion in or attachment to a wall or partition. Such heater does not incorporate concealed venting arrangements in its construction and discharges all products of combustion through the front into the room being heated. All such equipment is prohibited by this code.

Section G2412.5 Gas Labeling is hereby amended by adding a second paragraph to read as follows:

Both ends of each section of medium pressure gas piping shall identify its operating gas pressure with an approved tag. The tags are to be composed of aluminum or stainless steel and the following wording shall be stamped into the tag:

"WARNING
1/2 to 5 psi gas pressure
Do Not Remove"

Section G2412.8 Sizing is amended by the addition of an exception to read as follows:

Section G2412.8 Sizing

{Bulk of section to remain unchanged}

Exception: Corrugated stainless steel tubing (CSST) shall be a minimum of 1/2 inch.

Section G2414.5.3 Corrugated stainless steel tubing is hereby amended to read as follows:

Section G2414.5.3 Corrugated stainless steel tubing. Corrugated stainless steel tubing shall be tested and listed in compliance with the construction, installation and performance requirement of ANSI LCI/CSA 6.26, and the following requirements:

1. A current model code evaluation report must exist for the product.

2. Each element of the system (pipe and all fittings) must be properly labeled.

3. Complete installation instructions shall be on the jobsite at any time inspection may be performed.

4. Pressure regulators shall be installed in a ventilated attic or other nonhabitable space with direct ventilation to the exterior.

5. A shut off valve shall be installed ahead of the manifold and shut off valves shall be installed at the manifold for each branch.

6. Each branch shall be clearly labeled at the manifold as to which appliance it serves.

Section 2415.6 Piping in solid floors is hereby amended to read as follows:

Section G2415.6 Piping in solid floors. Piping in solid floors shall comply with Section G2415.11.

Section G2415.9 Minimum burial depth is hereby amended to read as follows:

Section G2415.9 (404.9) Minimum burial depth. Underground piping systems shall be installed a minimum dept of 18 inches (458 mm) below grade.

Section G2417.9.1 Individual outside appliances is hereby deleted in its entirety.

Section G2417.4 Test pressure measurement is hereby amended to read as follows:

Section G2417.4 (406.4) Test pressure measurement. Test pressure shall be measured with a manometer or with a pressure-measuring device designed and calibrated to read, record, or indicate a pressure loss caused by leakage during the pressure test period. The source of pressure shall be isolated before the pressure tests are made. For tests requiring a pressure of 5 psig, gauges shall utilize a dial with a minimum diameter of three and one half inches (3 1/2"), a set hand, 1/10 pound incrementation and pressure range not to exceed 15 psi. For tests requiring a pressure of 10 psig, mechanical gauges shall utilize a dial with a minimum diameter of three and one half inches (3 1/2"), a set hand, a minimum of 2/10 pound incrementation and a pressure range not to exceed 30 psi.

Section G2417.4.1 Test pressure is hereby amended to read as follows:

Section G2417.4.1 (406.1) Test pressure. The test pressure to be used shall be not less than 1 1/2 times the working pressure, and shall be not less than 5 psig, or at the discretion of the Code Official, the piping and valves may be tested at a pressure of at least six (6) inches (152 mm) of mercury, measured with a manometer or slope gauge. For welded piping, and for piping carrying gas at pressures in excess of fourteen (14) inches water column pressure (3.48 kPa) and less than 56 inches of water column pressure (13.92 kPa), the test pressureshall not be less than ten (10) pounds per square inch (40.4 kPa). For piping carrying gas at a pressure that exceeds 56 inches of water column (13.92 kPa), the test pressure shall be not less than one and one-half times the proposed maximum working pressure.

Section G2417.4.2 Test duration is hereby amended to read as follows:

Section G2417.4.2 Test duration. Test duration shall be held for a length of time satisfactory to the Building Official, but in no case for less than 15 minutes. For welded piping, and for piping carrying gas at pressures in excess of 14 inches water column pressure (3.48 kPa), the test duration shall be held for a length of time satisfactory to the Building Official, but in no case for less than 30 minutes.

Section G2420.1 Gas shutoff valves is hereby amended by the addition of Section G2420.1.4 to read as follows:

Section G2420.1.4 Gas shutoff valves. Valves in CSST installations. Shutoff valves installed with corrugated stainless steel (CSST) piping systems shall be supported with an approved termination fitting, or equivalent support, suitable for the size of the valves, of adequate strength and quality, and located at intervals so as to prevent or damp out excessive vibration but in no case greater than 12-inches from the center of the valve. Supports shall be installed so as not to interfere with the free expansion and contraction of

the system's piping, fittings, and valves between anchors. All valves and supports shall be designed and installed so they will not be disengaged by movement of the supporting piping.

Section G2421.1 Pressure regulators is hereby amended by the addition of a second paragraph and an exception to read as follows:

Section G2421.1 Pressure regulators.

{First paragraph to remain unchanged}

Access to regulators shall comply with the requirements for access to appliances as specified in Section M1305 Exception: A passageway or level service space is not required when the regulator is capable of being serviced and removed through the required attic opening.

Section G2425.8 Equipment not required to be vented is amended to read as follows:

Section G2425.8 Equipment not required to be vented. The following appliances shall not be required to be vented:

1. Ranges.

2. Built-in domestic cooking units listed and marked for optional venting.

3. Hot plates and laundry stoves.

4. Type 1 Clothes dryers (Type 1 clothes dryers shall be exhausted in accordance with the requirements of Section G2437).

5. Refrigerators

6. Counter appliances.

Where the appliances and equipment listed in Items 1 through 6 above are installed so that the aggregate input rating exceeds 20 Btu per hour per cubic foot (207 watts per m>=) of volume of the room or space in which such appliances and equipment are installed, one or more shall be provided with venting systems or other approved means for conveying the vent gases to the outdoor atmosphere so that the aggregate input rating of the remaining unvented appliances and equipment does not exceed the 20 Btu per hour per cubic foot (207 watts per m>=) figure. Where the room or space in which the equipment is installed is directly connected to another room or space by a doorway, archway or other opening of comparable size that cannot be closed, the volume of such adjacent room or space shall be permitted to be included in the calculations.

Section G2439.5 Clothes dryer ducts is hereby amended to read as follows:

Section G2439.5 Clothes dryer ducts.

{Bulk of section to remain unchanged}

The size of duct shall not be reduced along its developed length nor at the point of termination.

Section G2439.5.1 Maximum length is hereby amended to read as follows:

Section G2439.5.1 (613.6.1) Maximum length. The maximum length of a clothes dryer exhaust duct shall not exceed 25 feet (7,620 mm) from the dryer location to the outlet terminal with not more than two bends. When extra bends are installed, the maximum length of the duct shall be reduced two and one-half (2 1/2) feet (762 mm) for each 45-degree (0.79 rad) bend and five (5) feet (1,524 mm) for each 90-degree (1.6 rad) bend that occur after the first two bends, measuring in the direction of airflow.

{Exception is unchanged}

Section G2445 Unvented room heaters is hereby amended in its entirety to read as follows:

Section G2445 Unvented room heaters. Unvented gas fired room heaters and decorative appliances shall be prohibited by this code.

Section G2448.1.1 Installation requirements is hereby amended to read as follows:

Section G2448.1.1 (623.1.1) Installation requirements. The requirements for water heaters relative to access, sizing, relief valves, drain pans and scald protection shall be in accordance with this code.

Section 2503.5.1 Rough plumbing, Item 1; is amended by the addition of a sentence at the end of subsection one to read as follows:

Section 2503.5.1 Rough plumbing.

{Bulk of section to remain unchanged}

1. {Bulk of Item 1 to remain unchanged.} Shower receptors shall be tested for water tightness by filling with water to the level of the rough threshold. The drain shall be plugged in a manner so that both sides of pans shall be

Section P2503.7.2 Testing is amended to read as follows:

Section P2503.7.2 Testing. Reduced pressure principle . . . {Bulk of section to remain unchanged} . . . at the time of installation, immediately after repairs or relocation and at regular intervals as required by applicable state or local provision.

Section P2603.2.1 Protection against physical damage is hereby amended to read as follows:

Section P2603.2.1 Protection against physical damage. In concealed locations . . . {Bulk of section unchanged} . . . Protective shield plates shall be a minimum of .062-inch-thick (1.6 mm) steel, and shall cover the area of the pipe where the member is notched or bored.

Section P2603.6 Freezing is amended to read as follows:

Section P2603.6 Freezing. Water heaters, water soil or waste pipe shall not be installed outside of a building, in exterior walls, in attics or crawl spaces, or in any other place subjected to freezing temperature unless adequate provision is made to protect it from freezing by insulation or heat or both. Water service pipe shall be installed not less than 12 inches (305 mm) deep or less than six (6) inches (152 mm) below the frost line. Building sewers shall be a minimum of 12 inches below grade.

Section P2603.6.1 Sewer depth is hereby deleted and replaced with the following:
Section P2603.6.1 Sewer depth. Building sewers shall be a minimum of 12 inches (304 mm) below grade.

Section P2709.1 Construction is amended by the addition of an exception to read as follows:

Section P2709.1 Construction.

{Bulk of section to remain unchanged}

Exception: Showers designed to comply with ICC/ANSI A117.1.

Section P2801.6 Water heaters installed in garages is hereby amended by the addition of an exception to read as follows:

Section P2801.6 Water heaters installed in garages.

{Bulk of section unchanged}

Exception: Elevation of the ignition source is not required for water heaters that are listed as flammable vapor resistant and for installation without elevation.

Section P2803.6.1 Requirements for discharge is amended to read as follows:

Section P2803.6.1 Requirements for discharge

{Bulk of section to remain unchanged}

(1--4) {unchanged}

(5) Discharge, to an indirect waste receptor or to the outdoors. Where discharging to the outdoors in areas subject to freezing, discharge piping shall be first piped to an indirect waste receptor through an air gap located in a conditioned area.

(6--9) {to remain unchanged}

(10) Not terminate more than six inches (6") above waste receptor.

{Balance of section unchanged}

Section P2902.5.3 Lawn irrigation systems, is hereby amended to read as follows:

Section P2902.5.3 Lawn irrigation systems. The potable water supply to lawn irrigation systems shall be protected against backflow by a double check valve, an atmospheric-type vacuum breaker, a pressure-type vacuum breaker or a reduced pressure principle backflow preventer. A valve shall not be installed downstream from an atmospheric vacuum breaker. Where chemicals are introduced into the system, the potable water supply shall be protected against backflow by a reduced pressure principle backflow preventer.

Section P2904.5.1 Under concrete slabs is hereby amended by deleting all references to Polybutylene (PB) plastic pipe and tubing:

Table P2904.4 Water service pipe is hereby amended by the deletion of all references to "Polybutylene (PB) plastic pipe and tubing".

Table P2904.5 Water distribution pipe is hereby amended by the deletion of all references to Polybutylene (PB) plastic pipe and tubing.

Table P2904.6 Pipe fittings is hereby amended by the deletion of all references to Polybutylene (PB) plastic.

Section P2904.15 Underground joints is hereby amended by deleting all reference to Polybutylene (PB) plastic pipe and tubing.

Section P3005.2.6 Base of stacks is hereby amended to read as follows:

Section P3005.2.6 Base of stacks. Each horizontal drain shall be provided with a cleanout at its upper terminal.

Exception: Cleanouts may be omitted on a horizontal drain less than fire (5) feet (1,524 mm) in length unless such line is serving sinks or urinals.

Section P3111.1 Type of fixture is amended to read as follows:

Section P3111.1 Type of fixture. A combination waste and vent system shall not serve fixtures other than floor drains, standpipes, and indirect waste receptors. Combination drain and vent systems shall not receive the discharge of a food waste grinder.

Section P3111.2 Installation is amended to read as follows:

Section P3111.2 Installation. The only vertical pipe of a combination drain and vent system shall be the connection between the fixture drain of a standpipe, and the horizontal combination waste and vent pipe. The maximum vertical distance shall be eight (8) feet (2,438 mm).

Section P3112.2 Vent connection is hereby amended to read as follows:

Section P3112.2 Installation. Traps for island sinks and similar equipment shall be roughed in above the floor and may vented by extending the vent as high as possible, but not less than the drainboard height and then returning it downward and connecting it to the horizontal sink drain immediately downstream from the vertical fixture drain. The return vent shall be connected to the horizontal drain through a wye-branch fitting and shall, in addition, be provided with a foot vent taken off the vertical fixture vent by means of a wye-branch immediately below the floor and extending to the nearest partition and then through the roof to the open air or may be connected to other vents at a point not less than six (6) inches (152 mm) above the flood level rim of the fixtures served. Drainage fittings shall be used on all parts of the vent below the floor level rim of the fixtures served. Drainage fittings shall be used on all parts of the vent below the floor level and a minimum slope of one-quarter (1/4) inch per foot (20.9 mm/m) back to thedrain shall be maintained. The return bend used under the drainboard shall be a one (1) piece fitting or an assembly of a forty-five (45) degree (0.79 radius), a ninety (90) degree (1.6 radius) and a forty-five (45) degree (0.79 radius) elbow in the order named. Pipe sizing shall be as elsewhere required in this Code. The island sink drain, upstream of the return vent, shall serve no other fixtures. An accessible cleanout shall be installed in the vertical portion of the foot vent.

Chapter 33 General Requirements is hereby deleted in its entirety and replaced with the following:

Chapter 33 General Requirements. The electrical portions of this code are included for reference only. All electrical work shall comply with the electrical code adopted by the City.

Chapters 34 through 42 Electrical Provisions are hereby deleted in their entirety.

Appendix Chapters --The following Appendix Chapter from the 2006 International Residential Code is hereby incorporated as if set out at length herein:

Appendix Chapter H, Patio Covers is hereby adopted in its entirety.

(Ord. No. 2007-36, § 4, 7-17-07)

Editor's note: Ord. No. 2007-36, § 4, adopted July 17, 2007, repealed the former § 7-142, and enacted a new § 7-142 as set out herein. The former § 7-142 pertained to similar subject matter and derived from Ord. No. 2001-93, § 3, adopted Dec. 4, 2001; Ord. No. 2005-15, § 4, adopted March 1, 2005.

EXHIBIT "A"

TABLE NO. 1-A
BUILDING PERMIT FEES

TOTAL VALUATION	FEE
$1.00 to $500.00	**$21.00**
$501.00 to $2,000.00	**$21.00 for the first $500.00 plus $2.75 for each additional $100.00, or fraction thereof, to and including $2,000.00**
$2,001.00 to $25.000.00	**$62.25 for the first $2,000.00 plus $12.50 for each additional $1,000.00, or fraction thereof, to and including $25,000.00**
$25,001.00 to $50,000.00	**$349.75 for the first $25,000.00 plus $9.00 for each additional $1,000.00, or fraction thereof, to and including $50,000.00**
$50,001.00 to $100,000.00	**$574.75 for the first $50,000.00 plus $6.25 for each additional $1,000.00, or fraction thereof, to and including $100,000.00**
$100,001.00 to $500,000.00	**$887.25 for the first $100,000.00 plus $5.00 for each additional $1,000.00, or fraction thereof, to and including $500,000.00**
$500,001.00 to $1,000,000.00	**$2,887.25 for the first $500,000.00 plus $4.25 for each additional $1,000.00, or fraction thereof, to and including $1,000,000.00**
$1,000,001.00 and up	**$5,012.25 for the first $1,000,000.00 plus $2.75 for each additional $1,000.00, or fraction thereof**

OTHER INSPECTIONS AND FEES:

1. Certificate of Occupancy……...$50.00
2. Inspections outside of normal business hours……...$42.00 per hour* (minimum charge- two hours)
3. Reinspection fees assessed under provisions of Section 108.85, 2003 UBC and Sec. 108.7 2003 IRC……...$42.00
4. Inspections for which no fee is specifically indicated……$42.00 per hour* (minimum charge- one-half hour)
5. Additional plan review required by changes, additions or revisions to plans……..…..$42.00 per hour*
6. For use of outside consultants for plan checking and inspections, or both…… ……..actual costs**
7. Foundation permits or any partial permit…….10% of building permit fee in addition to building permit fee
8. Plan review fee (not applicable to Group R-3 private residences)…….65% of building permit fee in addition to building permit fee
9. Building permit fees for the Grapevine- Colleyville Independent School District…….25% of the fees established in Table No. 1-A- *Building Permit Fees.*
10. Project valuation to be determined by the regional construction valuation table, adopted by the city, or the contract valuation whichever is greater.

Permit valuations shall include all work required for a completed project, including profit, but need not include the value or cost of the land. Other methods for determining the project valuations for unique or unusual projects may be approved by the Building Official.

*Or the total hourly cost of the jurisdiction, whichever is the greatest. This cost shall include supervision, overhead, equipment, hourly wages and fringe benefits of the employees involved.
** Actual costs include administrative and overhead costs.

LOT DRAINAGE FEES

Single Family & Duplex	$150.00
Swimming Pools	$150.00
All remaining classifications	$250.00 < ½ Acre
	$350.00 ½ Acre to 1 Acre
	$450.00 > 1 Acre

COMMERCIAL BUILDINGS – Add 65% of the Building Permit for plan review fee. To be paid when plans are brought in for review. (This fee is in addition to the permit fee.) Plan review fees are not required for Group R-3 Private Residences. A 65% plan review fee is required for sign permit applications, but is not in addition to the permit fee.

EXHIBIT "B"

BUILDING VALUATION DATA

The following table, based on the table published in *Building Safety* Magazine, shall be used to determine construction costs per square foot. Adjustments may be determined to be necessary by the building official for unusual projects.

The unit costs are intended to comply with the description of "valuation" in Section 108 of the 2003 *International Building Code* and thus include architectural, structural, electrical, plumbing and mechanical work. The unit costs also include the contractor's profit, which should not be omitted.

If there are differences between the value of the project calculated using this table, and the contract valuation, the greater number shall be used.

This table shall also be used to calculate plan review fees.

Group	(2003 International Building Code)	Type of Construction								
		IA	IB	IIA	IIB	IIIA	IIIB	IV	VA	VB
	Assembly, theaters, with stage	127.78	123.66	120.79	115.83	107.71	107.14	112.17	99.80	96.21
	Assembly, theaters, without stage	117.86	113.75	110.88	105.92	97.79	97.23	102.26	89.88	86.30
	Assembly, nightclubs	96.38	93.68	91.33	87.91	82.23	81.23	84.70	74.90	72.42
	Assembly, restaurants, bars, banquet halls	95.61	92.91	89.79	87.14	80.69	80.46	83.93	73.36	71.65
	Assembly, church	118.34	114.24	111.36	106.39	98.26	97.69	102.74	90.35	86.77
	Assembly, general, community halls, libraries, museums	97.99	93.88	90.23	86.03	77.13	77.33	82.39	69.22	66.40
	Assembly, arenas	95.61	92.91	89.79	87.14	80.69	80.46	83.93	73.36	71.65
	Business	98.42	94.86	91.84	87.54	78.33	77.90	84.20	69.96	67.32
	Educational	103.35	99.86	97.01	92.71	85.52	83.50	89.65	76.41	73.55
	Factory and industrial, moderate hazard	59.69	56.94	53.54	51.92	44.86	45.63	49.81	38.26	36.35
	Factory and industrial, low hazard	58.92	56.17	53.54	51.15	44.86	44.86	49.04	38.26	35.58
H-1	High Hazard, explosives	56.06	53.32	50.68	48.30	42.12	42.12	45.95	35.52	N.P.
H234	High Hazard	56.06	53.32	50.68	48.30	42.12	42.12	46.18	35.52	32.84
H-5	HPM	98.42	94.86	91.84	87.54	78.33	77.90	84.20	69.96	67.32
I-1	Institutional, supervised environment	97.18	93.85	91.32	87.62	80.39	80.34	84.96	73.88	70.96
I-2	Institutional, incapacitated	163.84	160.27	157.25	152.96	143.47	N.P.	149.61	135.09	N.P.
I-3	Institutional, restrained	111.81	108.24	105.22	100.93	92.66	91.46	97.58	84.28	80.10
I-4	Institutional, day care facilities	97.18	93.85	91.32	87.62	80.39	80.34	84.96	73.88	70.96
M	Mercantile	71.82	69.12	65.99	63.34	57.28	57.04	60.12	49.94	48.24
R-1	Residential, hotels	98.16	94.82	89.91	88.60	81.41	81.37	85.98	74.90	71.98
R-2	Residential, multiple family	83.81	78.45	75.93	72.23	71.00	70.00	69.73	69.00	68.23
R-3	Residential, one- and two-family	73.10	73.10	73.10	73.10	73.10	73.10	73.10	73.10	73.10
R-4	Residential, care/assisted living facilities	97.18	93.85	91.32	87.62	80.39	80.34	84.96	73.88	70.96
S-1	Storage, moderate hazard	55.29	52.55	49.14	47.53	40.58	41.35	45.41	33.98	32.07
S-2	Storage, low hazard	54.52	51.78	49.14	46.76	40.58	40.58	44.64	33.98	31.30
U	Utility, miscellaneous	42.22	39.92	37.55	35.67	30.94	30.94	33.67	25.44	24.22

Add 0.5 percent to total cost for each story over three
Deduct 20 percent for shell-only buildings

This table is based on the October 2004 edition of *Building Safety*, with modifications, published by the International Code Council. A regional modifier of 0.77 was utilized as established for Texas in *Building Standards*, the predecessor to *Building Safety*.

EXHIBIT "C"

CITY OF GRAPEVINE
MECHANICAL, ELECTRICAL, PLUMBING AND FUEL GAS
PERMIT FEES

TYPE OF OCCUPANCY	BUILDING AREA (SQ FT)	PERMIT FEES	AMOUNT DUE
		EACH TRADE	
I. R-3 SINGLE FAMILY, DUPLEX TOWNHOUSE, NEW CONSTRUCTION & ADDITIONS (PER UNIT) TOTAL SQ.FOOT UNDER ROOF _____	1 - 749 750 – 1,199 1,200 - 1,500 1,501 - 1,750 1,751 - 2,000 2,001 - 2,250 2,251 - 3,000 3,001 - 3,500 3,501 - 4,000 4,001 +	$ 33.25 $ 49.88 $ 63.18 $ 76.48 $ 83.13 $ 89.78 $ 96.43 $ 103.08 $ 109.73 $ 120.37	$_____
		EACH TRADE	
II. A, E, I, R-1 HOTELS, APARTMENTS, DRINKING/DINING, EDUCATIONAL, ASSEMBLY, INSTITUTIONAL	1 - 500 501 – 100,000 100,001 – 500,000 500,001 +	$ 37.00 $ 17.50+.035 $ 3,500.00+.03 $15,000.00+.02 } PER SQUARE FOOT	$_____
		EACH TRADE	
III. B, F, H, M, S, U OFFICE, RETAIL, WHOLESALE, GARAGES, FACTORIES, WORKSHOPS, SERVICE STATIONS, WAREHOUSE	1 - 500 501 - 50,000 50,001- 100,000 100,001+	$ 37.00 $ 32.00+ .01 $ 182.00+ .007 $ 582.00+ .003 } PER SQUARE FOOT	$_____
	CONTRACT VALUATION OF WORK	EACH TRADE	
IV. ANY OCCUPANCY GROUP, ALTERATIONS, FINISH-OUTS, SHELL COMPLETIONS CONTRACT VALUATION OF WORK: $_____	0- 500 501- 1,500 1,501- 3,000 3,001- 5,000 5,001- 50,000 50,001- 100,000 100,001- 500,000 500,000+	**$ 37.00** **$ 45.00** **$ 57.00** **$ 72.00** **$ 27.00+ .009** **$ 127.00+ .007** **$ 327.00+ .005** **$ 1,327.00+ .003** } **PER DOLLAR VALUATION**	$_____
V. MISCELLANEOUS IRRIGATION SYSTEMS MOBILE HOME SERVICE TEMPORARY POLE SERVICE SWIMMING POOLS SIGN ELECTRIC		EACH TRADE $ 37.00 $ 37.00 $ 37.00 $ 37.00 $ 37.00	$_____

OTHER INSPECTIONS AND FEES
INSPECTIONS OUTSIDE NORMAL BUSINESS HOURS (2HR MINIMUM)……..$42.00/HOUR*
REINSPECTION FEES…… $42.00
PERMITS FOR WHICH NO FEE IS SPECIFICALLY INDICATED…….. $37.00
INSPECTIONS FOR WHICH NO FEE IS SPECIFICALLY INDICATED (1/2 HOUR MINIMUM)…….$42.00/HOUR
ADDITIONAL PLAN REVIEW REQUIRED BY CHANGES, ADDITIONS, OR REVISIONS TO
APPROVED PLANS……..$42.00/HOUR
BUILDING PERMIT FEES FOR THE GRAPEVINE-COLLEYVILLE INDEPENDENT SCHOOL DISTRICT
SHALL BE 25% OF THE FEES ESTABLISHED IN THIS TABLE
FOR USE OF OUTSIDE CONSULTANTS FOR PLAN CHECKING AND INSPECTIONS, OR BOTH……ACTUAL COSTS**

*OR THE TOTAL HOURLY COST TO THE JURISDICTION WHICHEVER IS GREATER.
**ACTUAL COSTS INCLUDE ADMINISTRATIVE AND OVERHEAD COSTS.

O:\SW\COUNCIL\AGENDAS\2004\0904\EXHIBIT C.DOC
6/21/01/REVISED 10/27/04

EXHIBIT "D"

TABLE R301.2(1)

GROUND SNOW LOAD	WIND SPEED[d]	SEISMIC DESIGN CATEGORY[f]
5 lb/ft^2	90 (3-sec-gust)/75 fastest mile	A

SUBJECT TO DAMAGE FROM		
Weathering[a]	Frost line depth[b]	Termite[c]
Moderate	6"	Very Heavy

WINTER DESIGN TEMP[e]	ICE BARRIER UNDERLAYMENT REQUIRED[h]	FLOOD HAZARDS[g]	AIR FREEZING INDEX[i]	MEAN ANNUAL TEMP[j]
22℉	No	Local Code	69℉	64.9℉

For SI: 1 pound per square foot = 0.0479 kPa, 1 mile per hour = 0.447 m/s.

a. Weathering may require a higher strength concrete or grade of masonry than necessary to satisfy the structural requirements of this code. The weathering column shall be filled in with the weathering index (i.e., "negligible," "moderate" or severe") for concrete as determined from the Weathering Probability Map [Figure R301.2(3)]. The grade of masonry units shall be determined from ASTM C 34, C 55, C 62, C 73, C 90, C 129, C 145, C 216 or C 652.

b. The frost line depth may require deeper footings than indicated in Figure R403.1 (1). The jurisdiction shall fill in the frost line depth column with the minimum depth of footing below finish grade.

c. The jurisdiction shall fill in this part of the table to indicate the need for protection depending on whether there has been a history of local subterranean termite damage.

d. The jurisdiction shall fill in this part of the table with the wind speed from the basic wind speed map [Figure R301.2 (4)]. Wind exposure category shall be determined on a site-specific basis in accordance with Section R301.2.1.4.

e. The outdoor design dry-bulb temperature shall be selected from the columns of 97 ½ - percent values for winter from Appendix D of the *International Plumbing Code.* Deviations from the Appendix D temperatures shall be permitted to reflect local climates or local weather experience as determined by the building official.

f. The jurisdiction shall fill in this part of the table with the seismic design category determined from Section R301.2.2.1.

g. The jurisdiction shall fill in this part of the table with (a) the date of the jurisdiction's entry into the National Flood Insurance Program (date of adoption of the first code of ordinance for management of flood hazard areas), (b) the date(s) of the currently effective FIRM and FBFM, or other flood hazard map adopted by the community, as may be amended.

h. In accordance with Sections R905.2.7.1, R905.4.3.1, R905.5.3.1, R905.6.3.1, R905.7.3.1 and R905.8.3.1, where there has been a history of local damage from the effect of ice damming, the jurisdiction shall fill in this part of the table with "YES". Otherwise, the jurisdiction shall fill in this part of the table with "NO".

i. The jurisdiction shall fill in this part of the table with the 100-year return period air freezing index (BF-days) from Figure R403.3(2) or from the 100-year (99%) value of the National Climatic Data Center data table "Air Freezing Index – USA Method (Base 32℉ahrenheit)" at www.ncdc.noaa.gov/fpsf.html.

j. The jurisdiction shall fill in this part of the table with the mean annual temperature from the National Climatic Data Center data table "Air Freezing Index – USA Method (Base 32℉ahrenheit)" at www.ncdc.noaa.gov/fpsf.html.

EXHIBIT "F"

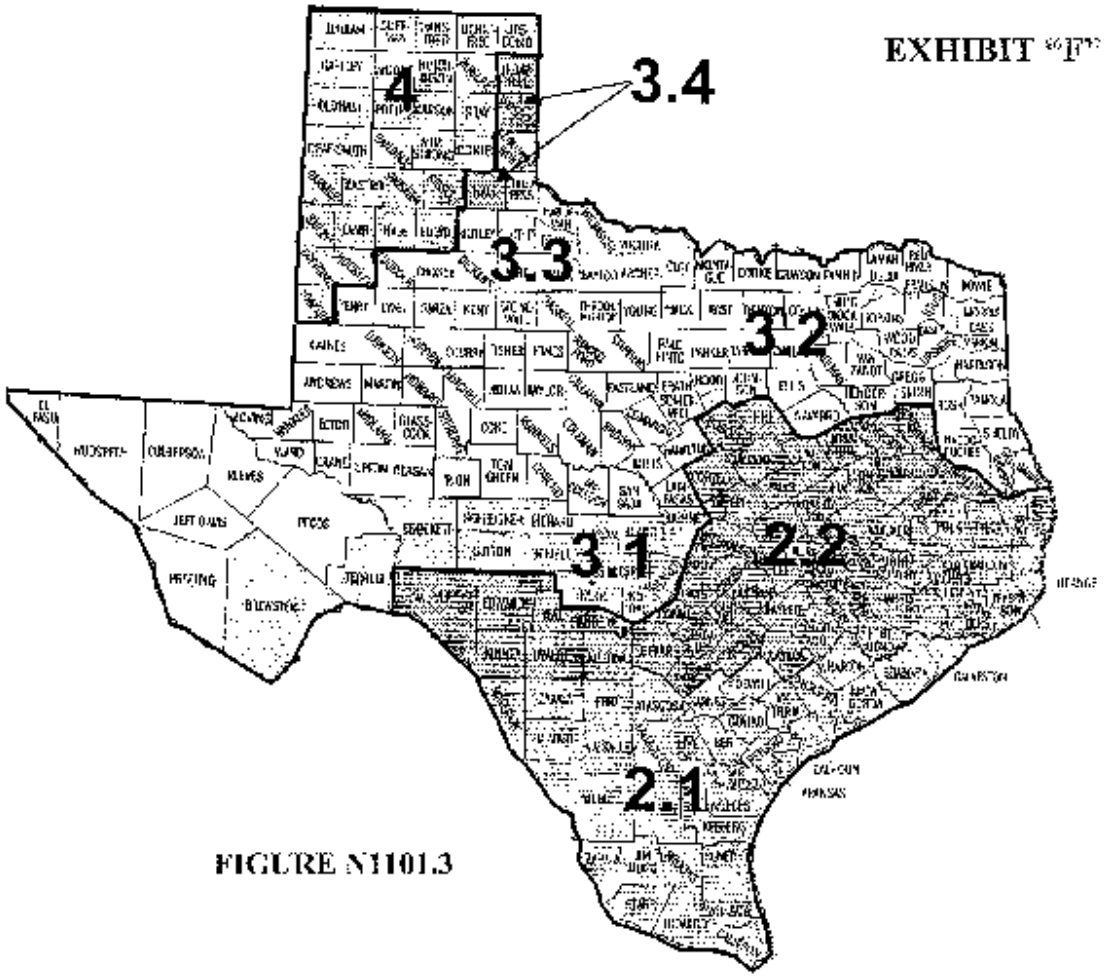

FIGURE N1101.3

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EXHIBIT "G"

TABLE N 11022 (1) CLIMATE ZONES AND SUB CLIMATE ZONES FOR TEXAS

ZONE 2

ANDERSON	2.2	DE WITT	2.1	JIM HOGG	2.1	ORANGE	2.2
ANGELINA	2.2	DIMMIT	2.1	JIM WELLS	2.1	POLK	2.2
ARANSAS	2.1	DUVAL	2.1	KARNES	2.1	REAL	2.2
ATASCOSA	2.1	EDWARDS	2.2	KENEDY	2.1	REFUGIO	2.1
AUSTIN	2.2	FALLS	2.2	KINNEY	2.2	ROBERTSON	2.2
BANDERA	2.2	FAYETTE	2.2	KLEBERG	2.1	SAN JACINTO	2.2
BASTROP	2.2	FORT BEND	2.2	LA SALLE	2.1	SAN PATRICIO	2.1
BEE	2.1	FREESTONE	2.2	LAVACA	2.2	STARR	2.1
BELL	2.2	FRIO	2.1	LEE	2.2	TRAVIS	2.2
BEXAR	2.2	GALVESTON	2.1	LEON	2.2	TRINITY	2.2
BOSQUE	2.2	GOLIAD	2.1	LIBERTY	2.2	TYLER	2.2
BRAZORIA	2.1	GONZALES	2.2	LIMESTONE	2.2	UVALDE	2.2
BRAZOS	2.2	GRIMES	2.2	LIVE OAK	2.1	VAL VERDE	2.2
BROOKS	2.1	GUADALUPE	2.2	MADISON	2.2	VICTORIA	2.1
BURLESON	2.2	HARDIN	2.2	MATAGORDA	2.1	WALKER	2.2
CALDWELL	2.2	HARRIS	2.2	MAVERICK	2.1	WALLER	2.2
CALHOUN	2.1	HAYS	2.2	MCLENNAN	2.2	WASHINGTON	2.2
CAMERON	2.1	HIDLAGO	2.1	MCMULLEN	2.1	WEBB	2.1
CHAMBERS	2.2	HILL	2.2	MEDINA	2.2	WHARTON	2.1
CHEROKEE	2.2	HOUSTON	2.2	MILAM	2.2	WILLACY	2.1
COLORADO	2.2	JACKSON	2.1	MONTGOMERY	2.2	WILLIAMSON	2.2
COMAL	2.2	JASPER	2.2	NEWTON	2.2	WILSON	2.2
CORYELL	2.2	JEFFERSON	2.2	NUECES	2.1	ZAPATA	2.1

ZONE 3

ANDREWS	3.2	EL PASO	3.2	KERR	3.1	ROCKWALL	3.2
ARCHER	3.3	ELLIS	3.2	KIMBLE	3.1	RUNNELS	3.2
BAYLOR	3.3	ERATH	3.2	KING	3.3	RUSK	3.2
BLANCO	3.1	FANNIN	3.2	KNOX	3.3	SABINE	3.2
BORDEN	3.3	FISHER	3.2	LAMAR	3.2	SAN AUGUSTINE	3.2
BOWIE	3.2	FOARD	3.3	LAMPASAS	3.2	SAN SABA	3.2
BREWSTER	3.1	FRANKLIN	3.2	LLANO	3.1	SCHLEICHER	3.1
BROWN	3.2	GAINES	3.3	LOVING	3.2	SCURRY	3.3
BURNET	3.1	GARZA	3.3	LUBBOCK	3.3	SHACKELFORD	3.2
CALLAHAN	3.2	GILLESPIE	3.1	LYNN	3.3	SHELBY	3.2
CAMP	3.2	GLASSCOCK	3.2	MARION	3.2	SMITH	3.2
CASS	3.2	GRAYSON	3.2	MARTIN	3.2	SOMERVELL	3.2
CHILDRESS	3.3	GREGG	3.2	MASON	3.1	STEPHENS	3.2
CLAY	3.3	HALL	3.4	MCCULLOCH	3.2	STERLING	3.2
COKE	3.2	HAMILTON	3.2	MENARD	3.1	STONEWALL	3.3
COLEMAN	3.2	HARDEMAN	3.3	MIDLAND	3.2	SUTTON	3.1
COLLIN	3.2	HARRISON	3.2	MILLS	3.2	TARRANT	3.2
COLLINGSWORTH	3.3	HASKELL	3.2	MITCHELL	3.2	TAYLOR	3.2
COMANCHE	3.2	HEMPHILL	3.4	MONTAGUE	3.2	TERRELL	3.1
CONCHO	3.2	HENDERSON	3.2	MORRIS	3.2	TERRY	3.3
COOKE	3.2	HOOD	3.2	MOTLEY	3.3	THROCKMORTON	3.2

COTTLE	3.3	HOPKINS	3.2	NACOGDOCHES	3.2	TITUS	3.2
CRANE	3.2	HOWARD	3.2	NAVARRO	3.2	TOM GREEN	3.2
CROCKETT	3.1	HUDSPETH	3.2	NOLAN	3.2	UPSHUR	3.2
CROSBY	3.3	HUNT	3.2	PALO PINTO	3.2	UPTON	3.2
CULBERSON	3.2	IRION	3.2	PANOLA	3.2	VAN ZANDT	3.2
DALLAS	3.2	JACK	3.2	PARKER	3.2	WARD	3.2
DAWSON	3.3	JEFF DAVIS	3.2	PECOS	3.2	WHEELER	3.4
DELTA	3.2	JOHNSON	3.2	PRESIDIO	3.1	WICHITA	3.3
DENTON	3.2	JONES	3.2	RAINS	3.2	WILBARGER	3.3
DICKENS	3.3	KAUFMAN	3.2	REAGAN	3.2	WINKLER	3.2
EASTLAND	3.2	KENDALL	3.1	RED RIVER	3.2	WISE	3.2
ECTOR	3.2	KENT	3.3	REEVES	3.2	WOOD	3.2
						YOUNG	3.2

ZONE 4

ARMSTRONG	DEAF SMITH	HOCKLEY	PARMER
BAILEY	DONLEY	HUTCHINSON	POTTER
BRISCOE	FLOYD	LAMB	RANDALL
CARSON	GRAY	LIPSCOMB	ROBERTS
CASTRO	HALE	MOORE	SHERMAN
COCHRAN	HANSFORD	OCHILTREE	SWISHER
DALLAM	HARTLEY	OLDHAM	YOAKUM

EXHIBIT "H"

TABLE N 1101.2.1 (1) WARM HUMID COUNTIES FOR TEXAS

ANDERSON	2.2	EDWARDS	2.2	KENDALL	3.1	REAL	2.2
ANGELINA	2.2	ELLIS	3.2	KENEDY	2.1	REFUGIO	2.1
ARANSAS	2.1	ERATH	3.2	KINNEY	2.2	ROBERTSON	2.2
ATASCOSA	2.1	FALLS	2.2	KLEBERG	2.1	ROCKWALL	3.2
AUSTIN	2.2	FAYETTE	2.2	LA SALLE	2.1	RUSK	3.2
BANDERA	2.2	FORT BEND	2.2	LAMAR	3.2	SABINE	3.2
BASTROP	2.2	FRANKLIN	3.2	LAMPASAS	3.2	SAN AUGUSTINE	3.2
BEE	2.1	FREESTONE	2.2	LAVACA	2.2	SAN JACINTO	2.2
BELL	2.2	FRIO	2.1	LEE	2.2	SAN PATRICIO	2.1
BEXAR	2.2	GALVESTON	2.1	LEON	2.2	SAN SABA	3.2
BLANCO	3.1	GILLESPIE	3.1	LLANO	3.1	SHELBY	3.2
BOSQUE	2.2	GOLIAD	2.1	LIBERTY	2.2	SMITH	3.2
BOWIE	3.2	GONZALES	2.2	LIMESTONE	2.2	STARR	2.1
BRAZORIA	2.1	GREGG	3.2	LIVE OAK	2.1	SOMMERVELL	3.2
BROWN	3.2	GRIMES	2.2	MADISON	2.2	TARRANT	3.2
BRAZOS	2.2	GUADALUPE	2.2	MARION	3.2	TITUS	3.2
BROOKS	2.1	HAMILTON	3.2	MATAGORDA	2.1	TRAVIS	2.2
BURLESON	2.2	HARDIN	2.2	MAVERICK	2.1	TRINITY	2.2
BURNET	3.1	HARRIS	2.2	MCLENNAN	2.2	TYLER	2.2
CALDWELL	2.2	HARRISON	3.2	MCMULLEN	2.1	UPSHUR	3.2
CALHOUN	2.1	HAYS	2.2	MEDINA	2.2	UVALDE	2.2
CAMERON	2.1	HENDERSON	3.2	MILAM	2.2	VAL VERDE	2.2
CHAMBERS	2.2	HIDALGO	2.1	MILLS	3.2	VAN ZANDT	3.2
CAMP	3.2	HOOD	3.2	MONTGOMERY	2.2	VICTORIA	2.1
CASS	3.2	HOPKINS	3.2	MORRIS	3.2	WALKER	2.2
CHEROKEE	2.2	HILL	2.2	NACOGDOCHES	3.2	WALLER	2.2
COLORADO	2.2	HOUSTON	2.2	NAVARRO	3.2	WASHINGTON	2.2
COMAL	2.2	HUNT	3.2	NEWTON	2.2	WEBB	2.1
COMANCHE	3.2	JACKSON	2.1	NUECES	2.1	WHARTON	2.1
CORYELL	2.3	JASPER	2.2	ORANGE	2.2	WILLACY	2.1
DALLAS	3.2	JEFFERSON	2.2	PALO PINTO	3.2	WILLIAMSON	2.2
DELTA	3.2	JIM HOGG	2.1	PANOLA	3.2	WILSON	2.2
DENTON	3.2	JIM WELLS	2.1	PARKER	3.2	WOOD	3.2
DE WITT	2.1	JOHNSON	3.2	POLK	2.2	ZAPATA	2.1
DIMMIT	2.1	KARNES	2.1	RAINS	3.2	ZAVALA	2.1
DUVAL	2.1	KAUFMAN	3.2	RED RIVER	3.2		

“EXHIBIT I"

TABLE N 1101.3
TEXAS CLIMATE ZONES DEFINITION

Climate Zone	Sub-Climate Zone	Thermal Criteria	
		IP units	SI units
2	2.1	1,400 < HDD65°F <500	833 <HDD 18°C< 278
	2.2	2,499 < HDD65°F <1,500	1,388 <HDD 18°C< 833
3	3.1	2,499 < HDD65°F <1,500	1,388 <HDD 18°C< 834
	3.2	2,999 < HDD65°F <2,500	1,666 <HDD 18°C< 1,389
	3.3	3,499 < HDD65°F <3,000	1,944 <HDD 18°C< 1,667
	3.4	3,999 < HDD65°F <3,500	2,222 <HDD 18°C< 1,945
4	4	4,499 < HDD65°F <3,500	2,500 <HDD 18°C< 1,945

EXHIBIT “J”

INSULATION AND FENESTATION REQUIREMENTS BY COMPONENT (TEXAS) [a]

TABLE N1102.1

CLIMATE SUB-CLIMATE ZONE	MAXIMUM WINDOW TO WALL AREA RATIO	FENESTRATION *U*-FACTOR	SKYLIGHT *U*-FACTOR	GLAZED FENESTRATION SHGC	CEILILNG *R*-VALUE	WOOD FRAME WALL *R*-VALUE	FLOOR *R*-VALUE	BASEMENT WALL *R*-VALUE	SLAB *R*-VALUE & DEPTH	CRAWL SPACE WALL *R*-VALUE
2.1	15	0.80	0.80	0.35	19	11	11	0	0	5
	20	0.75	0.75	0.35	30	13	11	0	0	5
	25	0.65	0.65	0.35	30	13	11	0	0	5
	30	0.51	0.51	0.35	38	13	11	0	0	5
2.2	15	0.65	0.65	0.40	30	13	11	5	0	6
	20	0.55	0.55	0.40	38	13	11	6	0	6
	25	0.51	0.51	0.35	38	13	19	8	0	10
	30	0.46	0.46	0.35	38	15	19	8	0	10
3.1	15	0.65	0.65	0.40	30	13	19	5	0	6
	20	0.55	0.55	0.40	38	13	19	6	0	6
	25	0.51	0.51	0.35	38	13	19	8	0	10
	30	0.46	0.46	0.35	38	15	19	8	0	10
3.2	15	0.60	0.60	0.40	30	13	19	6	0	7
	20	0.51	0.51	0.40	38	13	19	6	0	7
	25	0.45	0.45	0.40	38	16	19	6	0	7
	30	0.40	0.40	0.35	38	15	19	6	0	7
3.3	15	0.51	0.51	0.40	30	13	19	7	0	8
	20	0.45	0.45	0.40	38	13	19	7	0	8
	25	0.40	0.40	0.40	38	16	19	7	0	8
	30	0.40	0.40	0.40	38	19	19	7	0	8

3.4	15	0.45	0.45	NR	38	13	19	8	5,2 ft	11
	20	0.37	0.37	NR	38	13	19	8	6,2 ft	13
	25	0.37	0.37	NR	38	19	19	8	6,2 ft	13
	30	0.37	0.37	NR	38	19	28	13	6,2 ft	20
4	15	0.45	0.45	NR	38	13	19	8	5,2 ft	11
	20	0.37	0.37	NR	38	13	19	8	6,2 ft	13
	25	0.37	0.37	NR	38	19	19	8	6,2 ft	13
	30	0.37	0.37	NR	38	19	28	13	6,2 ft	20

EXHIBIT "K"

EQUIVALENT U-FACTORS [a]

TABLE N1102.1.2

CLIMATE SUB-CLIMATE ZONE	MAXIMUM WINDOW TO WALL AREA RATIO	FENESTRATION *U*-FACTOR	SKYLIGHT *U*-FACTOR	CEILILNG *U*-FACTOR	WOOD FRAME WALL *U*-FACTOR	FLOOR U-FACTOR	BASEMENT WALL *U*-FACTOR	CRAWL SPACE WALL *U*-FACTOR
2.1	15	0.80	0.80	0.055	0.086	0.069	0.360	0.135
	20	0.75	0.75	0.035	0.082	0.069	0.360	0.135
	25	0.65	0.65	0.035	0.082	0.069	0.360	0.135
	30	0.51	0.51	0.030	0.082	0.069	0.360	0.135
2.2	15	0.65	0.65	0.035	0.082	0.069	0.122	0.106
	20	0.55	0.55	0.030	0.082	0.069	0.096	0.106
	25	0.51	0.51	0.030	0.082	0.047	0.087	0.075
	30	0.46	0.46	0.030	0.071	0.047	0.087	0.075
3.1	15	0.65	0.65	0.035	0.082	0.069	0.122	0.106
	20	0.55	0.55	0.030	0.082	0.069	0.096	0.106
	25	0.51	0.51	0.030	0.082	0.047	0.087	0.075
	30	0.46	0.46	0.030	0.071	0.047	0.087	0.075
3.2	15	0.60	0.60	0.035	0.082	0.047	0.096	0.101
	20	0.51	0.51	0.030	0.082	0.047	0.096	0.101
	25	0.45	0.45	0.030	0.082	0.047	0.096	0.101
	30	0.40	0.40	0.030	0.071	0.047	0.096	0.101
3.3	15	0.51	0.51	0.035	0.082	0.047	0.092	0.096
	20	0.45	0.45	0.030	0.082	0.047	0.092	0.096
	25	0.40	0.40	0.030	0.071	0.047	0.092	0.096
	30	0.40	0.40	0.030	0.060	0.047	0.092	0.096

3.4	15	0.45	0.45	0.030	0.082	0.047	0.087	0.075
	20	0.37	0.37	0.030	0.082	0.047	0.087	0.065
	25	0.37	0.37	0.030	0.060	0.047	0.087	0.065
	30	0.37	0.37	0.030	0.060	0.034	0.059	0.058
4	15	0.45	0.45	0.030	0.082	0.047	0.087	0.075
	20	0.37	0.37	0.030	0.082	0.047	0.087	0.065
	25	0.37	0.37	0.030	0.060	0.047	0.087	0.065
	30	0.37	0.37	0.030	0.060	0.034	0.059	0.065

"EXHIBIT L"

TABLE N 1102.3.6
PRESCRIPTIVE ENVELOPE COMPONENT CRITERIA ADDITIONS TO AND REPLACEMENT WINDOWS FOR EXISTING DETACHED ONE- AND TWO- FAMILY DWELLINGS

HEATING DEGREE DAYS	MAXIMUM	MINIMUM					
	Fenestration *U*-factor	Ceiling *R*-value[a,e]	Wall *R*-value[e]	Floor *R*-value	Basement wall *R*-value[b]	Slab perimeter *R*-value	Crawl space wall *R*-Value
0 – 1,999	.075	R-26	R-13	R-11	R-5	R-0	R-5
2,000 – 3,999	0.50	R-30	R-13	R-19	R-8	R-0	R-10
4,000 – 5,999	0.40	R-38	R-18	R-21	R-10	R-0	R-19

a. "Ceiling *R*-value" shall be required for flat or inclined (cathedral) ceilings. Floors over outside air shall meet "Ceiling *R*-value" requirements.
b. Basement wall insulation to be installed in accordance with Section 402.2.6.
c. "Crawl space wall *R*-value" shall apply to unventilated crawl spaces only. Crawl space insulation shall be installed in accordance with Section 402.2.8.
d. Sunroom additions shall be required to have a maximum fenestration *U*-factor of 0.50 in locations with 2,000 to 5,999. In locations with 0 – 5,999 HDD, the minimum ceiling *R*-value shall be *R*-19 and the minimum wall *R*-value shall be *R*-13.