

ORDINANCE NO. 1252

AN ORDINANCE AMENDING CHAPTER 21, ARTICLES 3, 6 AND 8 THE FORT MORGAN MUNICIPAL CODE PERTAINING TO THE 2015 INTERNATIONAL RESIDENTIAL CODE, THE 2018 INTERNATIONAL PLUMBING CODE AND THE 2018 INTERNATIONAL FUEL GAS CODE

WHEREAS, the City of Fort Morgan, Colorado (the "City"), is a Colorado home rule municipality, duly organized and existing pursuant to Section 6 of Article XX of the Colorado Constitution; and

WHEREAS, the City Council (the "Council") has authority pursuant to the Home Rule Charter and C.R.S. §31-16-101, et seq. to adopt and enforce all ordinances; and

WHEREAS, pursuant to that authority, the City has previously enacted and amended Chapter 21, Articles 3, 6 and 8 of Fort Morgan Municipal Code (the "Code") regarding the International Residential Code, the International Plumbing Code and the International Fuel Gas Code; and

WHEREAS, the Council recognizes the value of various technical Codes, as providing commonly-adopted uniform standards for public health, safety and welfare issues relating to the subject matter of each and as the standards recommended by the City Building Department; and

WHEREAS, the State of Colorado has mandated certain updates to the Plumbing, Fuel Gas and Residential technical Codes, which the City must implement by July 2021; and

WHEREAS, the Council therefore desires to make the following recommended amendments to the International Residential Code, International Plumbing Code and International Fuel Gas Code.

NOW, THEREFORE, BE IT ORDAINED BY THE COUNCIL OF THE CITY OF FORT MORGAN, COLORADO, as follows:

SECTION 1. The Fort Morgan Municipal Code section 21-3-20, concerning Amendments to the 2015 International Residential Code, is hereby amended to read as follows:

Sec 21-3-20. - Amendments.

(a) Section R105.2, Work exempt from permit, of the International Residential Code, is revised to read and provide as follows:

" **R105.2 Work exempt from permit.** Permits shall not be required for the following. Exemption from permit requirements of this code shall not be deemed to grant

authorization for any work to be done in any manner in violation of the provisions of this code or any other laws or ordinances of this jurisdiction.

"1. One-story detached accessory buildings used as tool and storage sheds, playhouses and similar uses, provided the projected floor area does not exceed 120 square feet (11.15 m^2). All other storage structures over 120 square feet, no matter what they are made of (wood, metal shipping containers, etc.) will require a permit. All structures over 120 squares feet shall have an approved foundation to set on and if it is a pre-built building or a metal shipping container it will need to set on a gravel base, concrete, asphalt or an engineered designed base. The building shall also be tied down on all four corners with an approve[d] tie down system or have and engineered stamp letter stating that tie downs are not required, unless there is utilities (electric, water, sewer or gas) hooked to the structure then it shall have an approved tie down system.

(b) Table R301.2 (1), Climatic and Geographic Design Criteria, of the International Residential Code, is revised to read and provide as follows:

"TABLE R301.2(1)
CLIMATIC AND GEOGRAPHIC DESIGN CRITERIA

"Ground Snow Load	Wind Design		Seismic Design Category ^f	Subject to Damage From			Winter Design Temp ^e	Ice Barrier Underlay-ment Required ^h	Flood Hazards ^g	Air Freezing Index ⁱ	Mean Annual Temp ^j
	Speed (mph) ^d	Topographic Effects ^k		Weathering ^a	Frost Line Depth ^b	Termit e ^c					
30	115 MPH Exposure C ^l	NO	B	Severe	30"	Slight to moderate	1($^{\circ}\text{F}$)	NO ^m		FIRM flood ins. rate map 2/5/86	49($^{\circ}\text{F}$)

^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 97½-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 FIRMs and FBFMs) or (b) other flood hazard map adopted by the authority having jurisdiction as amended.

^h In accordance with Sections R905.2.7.1, R905.4.3.1, R905.6.3.1 and R905.8.3.1, where there has been a history of local damage from the effects 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 on the National Climatic Data Center data table 'Air Freezing Index-USA Method (Base 32°)' 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°)" at www.ncdc.noaa.gov/fpsf.html.

^k In accordance with Section R301.2.1.5, where there is local historical data documenting structural damage to buildings due to topographic wind speed-up effects, the jurisdiction shall fill in this part of the table with 'YES.' Otherwise, the jurisdiction shall indicate 'NO' in this part of the table.

^l Exposure B may be used if it can be shown that they can meet the Exposure B requirement as per Section R301.2.1.4 in the 2009 IRC.

^m Ice and water shall be required on all building where damage has been found on the eaves or rakes that requires the decking or structural component in these areas to be replaced."

- (c) Reserved.
- (d) Section R302.2.2, Parapets for Townhouses, of the International Residential Code, is revised to read and provide as follow:
 - " **R302.2.2 Parapets for Townhouses.** Parapets constructed in accordance with section R302.2.3 shall be constructed for townhouses as an extension of exterior walls or common walls in accordance with the following:
 1. Where roof surfaces adjacent to the wall or walls are at the same elevation, the parapet shall extend not less than 30 inches (762 mm) above the roof surfaces.
 2. Where roof surfaces adjacent to wall or walls are at different elevations and the higher roof is not more than 30 inches (762 mm) above the lower roof, the parapet shall extend not less than 30 inches (762 mm) above the lower roof surface.

Exception: A parapet is not required to be more than 12 inches high in the preceding two cases where the roof coving complies with a minimum Class C rating as tested in accordance with ASTM E108 or UL 790 and the roof decking or sheathing is noncombustible materials or approved fire-retardant-treated wood for a distance of 4 feet (1219 mm) on each side of the wall or walls, or one layer of $\frac{5}{8}$ -inch (15.9 mm) Type X gypsum board is installed directly beneath the roof decking or sheathing, supported by not less than nominal 2-inch (51 mm) ledgers attached to the sides of the roof framing members, for a distance of not less than 4 feet (1219 mm) on each side of the wall or walls and any openings or penetrations in the roof are not within 4 feet (1219 mm) of the common walls."

- 3. A parapet is not required where roof surfaces adjacent to the wall or walls are at different elevations and the higher roof is more than 30 inches (762 mm) above the lower roof. The common all construction from the lower roof to the underside of the higher roof shall have not less than a 1-hour fire-resistance rating. The wall shall be rated for exposure from both sides.

- (e) Reserved.

- (f) Section R313.1, Townhouse automatic fire sprinkler systems, of the International Residential Code, is revised to read and provide as follows:

"An automatic residential sprinkler system shall be installed in townhouses.

Exception: An automatic residential fire sprinkler system shall not be required where additions or alterations are made to existing townhouses that do not have automatic residential fire sprinkler system installed.

Add: or a two-hour fire rated wall is built as per Section R302.2 Item #2."

- (g) Section R313.2, One- and two-family dwellings automatic fire systems. (Deleted.)
- (h) Reserved.
- (i) Reserved.
- (j) Section R905.2.1, Sheathing requirements, of the International Residential Code, is revised to read and provide as follows:
 - " **R905.2.1. Sheathing requirements.** Asphalt shingles shall be fastened to solidly sheathed decks. The City defines decking as decking that does not have any gaps more than $\frac{1}{4}$ inch."
- (k) Reserved.
- (l) Reserved.
- (m) Section M1801.1, Venting required, of the International Residential Code, is revised to read and provide as follows:
 - " **M1801 Venting required.** Fuel-burning appliances shall be vented to the outside in accordance with their listing and label and manufacturer's installation instructions. Venting systems shall consist of approved chimneys or vents, or venting assemblies that are integral parts of labeled appliances. Gas-fired appliances shall be vented in accordance with Chapter 24."
- (n) Section G2406.2 (303.3), Prohibited locations, of the International Residential Code, is revised to read and provide as follows:
 - " **G2406.2 (303.3) Prohibited locations.** Appliances shall not be located in sleeping rooms, bathrooms, toilet rooms, storage closets or surgical rooms, or in a space that opens only into such rooms or spaces, except where the installation complies with one of the following:
 - "1. The appliance is a direct-vent appliance installed in accordance with the conditions of the listing and the manufacturer's instructions.
 - "2. Vented room heaters, wall furnaces, vented decorative appliances, vented gas fireplaces, vented gas fireplace heaters and decorative appliances for installation in vented solid fuel-burning fireplaces are installed in rooms that meet the required volume criteria of Section G2407.5.
 - "3. (Deleted.)
 - "4. (Deleted.)
 - "5. The appliance is installed in an existing room or space that opens only into a bedroom or bathroom, and such room or space is used for no other purpose and is provided with a solid weather-stripped door equipped with an approved self-closing device. All combustion air shall be taken directly from outdoors in accordance with Section G2407.6. This installation requirement shall only be used if there is no other option possible."

(o) Section G2413.6.1 (402.6.1) Liquefied petroleum gas systems, of the International Residential Code, is revised to read and provide as follows:

" **G2413.6.1 (402.6.1) Liquefied petroleum gas systems.** Temporary LP-gas systems shall be designed and installed in accordance with the Fire Code, as adopted and amended by the City, and NFPA 58. No permanent LP-gas systems shall be permitted."

(p) Section G2414.5.2 (403.5.2), Copper tubing. (Deleted.)

(q) Section G2414.6 (403.6), Plastic pipe, tubing and fittings. (Deleted.)

(r) Section G2414.6 (403.6.1) Anodeless riser, of the International Residential Code, is revised to read and provide as follows:

" **G2414.6 (403.6.1) Anodeless risers.** The City shall install all underground gas piping."

(s) Section G2414.6.2 (403.6.2), LP-gas systems, of the International Residential Code, is revised to read and provide as follows:

" **G2414.6.2 (403.6.2) LP-gas systems.** The use of plastic pipe, tubing and fittings in temporary undiluted liquefied petroleum gas piping systems shall be in accordance with NFPA 58. No permanent LP-gas piping systems shall be permitted."

(t) Section G2414.10.1 (403.10.1), Pipe joints, of the International Residential Code, is revised as follows:

" **G2414.10.1 Pipe joints.** Pipe joints shall be threaded, flanged, or welded. Any piping larger than 2" shall be welded."

(u) Section G2414.10.2 (403.10.2), Tubing joints. (Deleted.)

(v) Section G2414.10.4 (403.10.4) Metallic fitting, of the International Residential Code, is revised as follows:

" **G2414.10.4 (403.10.4) Metallic fitting.** Metallic fittings, including valves, strainers and filters shall comply with the following:

"1. Fittings used with steel or wrought iron pipe shall be steel or malleable iron.

"2. (Deleted.)

"3. The use of bushings in any consumer's piping is prohibited.

"4. Special fittings. Fittings such as couplings, proprietary-type joints, saddle tees, gland-type compression fittings, and flared, flareless or compression-type tubing fittings shall be: used within the fitting manufacturer's pressure-temperature recommendations; used within the service conditions anticipated with respect to vibration, fatigue, thermal expansion or contracting; installed or braced to prevent separation of the joint by gas pressure or external physical damage; and shall be approved."

(w) Section G2414.11 (403.11) plastic piping, joints and fittings. (Deleted)

(x) Section G2415.3 (404.3) Piping in concealed locations, of the International Residential Code, is revised as follows:

" **G2415.3 (404.3) Piping in concealed locations.** Portions of a piping system installed in concealed locations shall not have unions, tubing fittings, right and left couplings, bushings, compression couplings, and wing joints made by combinations of fittings.

" **Exceptions:** (Deleted.)"

(y) Section G2415.14 (404.14), Location of outlets, of the International Residential Code, is revised to read and provide as follows

" **G2415.14 (404.14) Location of outlets.** The unthreaded portion of piping outlets shall extend not less than 1 inch (25 mm) through finished ceilings and interior walls and where extending through floors, outdoor patios, slabs and finished exterior walls, shall not be less than 2 inches (51 mm) above them. The outlet fitting or piping shall be securely supported. Outlets shall not be placed behind doors. Outlets shall be located in the room or space where the appliance is installed.

" **Exception:** Listed and labeled flush-mounted-type quick-disconnect devices and listed and labeled gas convenience outlets shall be installed in accordance with the manufacturer's installations instructions."

(z) Section G2415.15 (404.15) Plastic pipe. (Deleted.)

(aa) Section G2415.17 (404.17) Testing of piping, of the International Residential Code, is revised to read and provide as follows:

" **G2415.17 (404.17) Testing of piping.** Before any system of piping is put in service or concealed or after a system of piping has been shut off for 12 months or more, it shall be tested to ensure that it is gas tight. Testing, inspection and purging of piping system shall comply with section G2417."

(bb) Section G2416.3 (405.3), Plastic. (Deleted.)

(cc) Section G2417.4 (406.4), Test pressure measurement, of the International Residential Code, is revised to read and provide as follows:

" **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. Mechanical gauges used to measure test pressure shall be performed with gauges displaying 1 lb increments."

(dd) Section G2417.4.1 (406.4.1), Test pressure, of the International Residential Code, is revised to read and provide as follows:

" G2417.4.1 **(406.4.1) Test pressure.** The test pressure to be used shall not be less than 15 lbs."

(ee) Section G2417.4.2 (406.4.2), Test duration, of the International Residential Code, is revised to read and provide as follows:

" G2417.4.2 **(406.4.2) Test duration.** The test duration shall not be less than one hour."

(ff) Section G2445 (621) UNVENTED ROOM. (Deleted.)

(gg) Section P2718.1, Waste connection, of the International Residential Code, is revised to read and provide as follows:

" P2718.1 **Waste connection.** The waste from an automatic clothes washer shall discharge through an air break into a standpipe in accordance with Section P2706.2 or into a laundry sink. The trap and fixture drain for an automatic clothes washer standpipe shall be a minimum of 2 inches (51 mm) in diameter. The automatic clothes washer fixture drain shall connect to a branch drain or drainage stack a minimum of 2 inches (51 mm) in diameter."

(hh) Section 2913, Reclaimed Water Systems, of the International Residential Code, is revised to read and provide as follows:

"Section 2913, Reclaimed Water Systems shall not be used."

(ii) **Section P3008.1, Sewage backflow, of the International Residential Code, is revised with the addition of new subsection P3008.1.1, to read and provide as follows:**

"P3008.1.1 Backwater valves shall be installed where waste receptors are located in a crawl space for receiving condensate discharge from equipment located in the crawl space.

Exception: Where equipment is installed in a crawl space, a waste receptor shall be allowed with an approved backwater valve instead.

(jj) Section E3401.1, Applicability, of the International Residential Code, is revised to read and provide as follows:

" E3401.1 **Applicability.** The provisions of Chapters 34 through 43 shall establish the general scope of the electrical system and equipment requirements of this code. Chapters 34 through 43 cover those wiring methods and materials most commonly encountered in the construction of one- and two-family dwellings and structures regulated by this code but are to be used as guidelines only. All electrical work shall meet the current National Electric Code adopted by the City of Fort Morgan at the time the work is being completed."

SECTION 2. The Fort Morgan Municipal Code section 21-6-10, concerning the adoption of the International Plumbing Code, is hereby amended as follows:

Sec. 21-6-10. - Adoption.

That certain document, a copy of which is on file in the office of the City Manager, being marked and designated as the Colorado Plumbing Code which includes the 2015 2018 International Plumbing Code (IPC) edition, including Appendix B, Rates of Rainfall for Various Cities, Appendix C, Structural Safety, Appendix D, Degree Day and Design Temperatures, and Appendix E, Sizing of Water Piping System, ~~and Appendix F, Structure Safety~~, as published by the International Code Council, be and is hereby adopted as the Plumbing Code of the City, regulating and governing the design, construction, quality of materials, erection, installation, alteration, repair, location, relocation, replacement, addition to, use or maintenance of plumbing systems as herein provided; providing for the issuance of permits and collection of fees therefor; and each and all of the regulations, provisions, penalties, conditions and terms of said Plumbing Code on file in the office of the City Manager, are hereby referred to, adopted and made a part hereof, as if fully set out in this Article, with the additions, insertions, deletions and changes, if any, prescribed in Section 21-6-20 of this Chapter.

SECTION 3. The Fort Morgan Municipal Code section 21-6-20, concerning Amendments to the International Plumbing Code, is hereby amended to read as follows:

Sec 21-6-20. - Amendments.

(a) Section 101.1, Title, of the International Plumbing Code, is revised to read and provide as follows:

"Section 101.1 Title. These regulations shall be known as the Plumbing Code of the City of Fort Morgan, Colorado, hereinafter referred to as 'the Plumbing Code.' "

(b) Section 106.6.2, Fee Schedule, of the International Plumbing Code, is revised to read and provide as follows:

"Section 106.6.2, Fee Schedule. The fees for all plumbing work shall be as determined by a Fee Sychedule approved by and available from the Building Official. When a plan or other data are required to be submitted for review, the plan review fees for plumbing work shall be equal to sixty-five percent (65%) of the total permit fee for a permit to do the work covered by the Plumbing Code. When plans are incomplete or changed so as to require additional plan review, an additional plan review fee shall be charged at the rate which has been established in the Resolution establishing such fees."

(c) Section 106.6.3, Fee refunds. (Deleted.)

(d) Section 108.4, Violation penalties. (Deleted.)

(e) Section 108.5, Stop work orders. (Deleted.)

(f) Section 109, Means of Appeal. (Deleted.)

(g) Section 109, Appeals, of the International Plumbing Code, is added to read and provide as follows:

"Section 109, Appeals. All appeals shall be heard and determined by the Board of Appeals pursuant to Sec. 21-1-50."

(h) Section 305.6, Freezing, of the International Plumbing Code, is revised to read and provide as follows:

"Section 305.4 Freezing. Water, soil and waste pipes shall not be installed outside of a building, in attics or crawl spaces, concealed in outside walls, or in any other place subjected to freezing temperatures unless adequate provision is made to protect such pipes from freezing by insulation or heat or both. Exterior water supply system piping shall be installed not less than 60 inches (1524 mm) below finished grade."

(i) Section 305.4.1, Sewer depth, of the International Plumbing Code, is revised to read and provide as follows:

"305.4.1 Sewer depth. Building sewers shall be a minimum of 24 inches (610 mm) below grade."

(j) Section 504.6.1, Collection of Relief Valve Discharge, of the International Plumbing Code, to revised to read and provide as follows:

"504.6.1 Collection of Relief Valve Discharge. A means shall be provided to capture the discharge from a relief valve and convey it to the sanitary drainage system or exterior of the structure either by gravity or a pumped discharge.

Exceptions:

1. Replacements for existing water heaters.
2. Where a water sensing device wired to a normal closed solenoid valve installed in the water supply piping to the water heater is placed within the water heater drain pan.

(k) Section 903.1, Roof extension, of the International Plumbing Code, is revised to read and provide as follows:

"Section 903.1 Roof extension. All open vent pipes that extend through a roof shall be terminated at least twelve (12) inches (305 mm) above the roof, except that where a roof is to be used for any purpose other than weather protection, the vent extensions shall be run at least 7 feet (2,134 mm) above the roof."

(k) (l) Section 1003.2 Approval, of the International Plumbing Code, is revised to read and provide as follows:

"Section 1003.2 Approval. The size, type and location of each interceptor and of each separator shall be approved by the City's Wastewater Treatment Plant. Wastes that do not require treatment or separation shall not be discharged into any interceptor or separator."

(f) **(m)** Section 1003.4.1, Grease interceptor capacity, of the International Plumbing Code, is revised to read and provide as follows:

"Section 1003.4.1 Grease interceptor capacity. Capacity of grease interceptors shall be approved by the City's Wastewater Treatment Plant."

SECTION 4. The Fort Morgan Municipal Code section 21-8-10, concerning the adoption of the 2018 International Fuel Gas Code, is hereby amended as follows:

Sec. 21-8-10. - Adoption.

That certain document, a copy of which is on file in the office of the City Manager, being marked and designated as the International Fuel Gas Code, 2015-2018 edition, including Appendix A, Sizing and Capacities of Gas Piping; Appendix B, Sizing of Venting Systems; Appendix C, Exit Terminals; and Appendix D, Recommended Procedure for Safety Inspection, as published by the International Code Council, be and is hereby adopted as the Fuel Gas Code of the City for regulating and governing fuel gas systems and gas-fired appliances as herein provided; providing for the issuance of permits and collection of fees therefor; and each and all of the regulations, provisions, penalties, conditions and terms of said Fuel Gas Code on file in the office of the City Manager, are hereby referred to, adopted and made a part hereof, as if fully set out in this Article with the additions, insertions, deletions and changes, if any, prescribed in Section 21-8-20 of this Chapter.

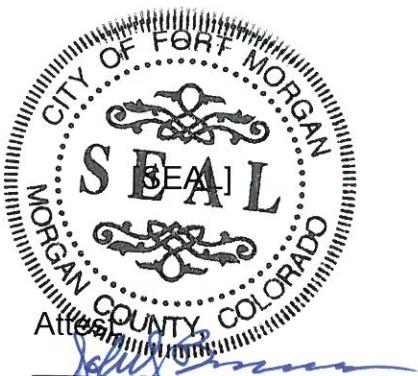
SECTION 5. If any section, provision, paragraph, clause or phrase of this Ordinance is held, or decided to be unconstitutional, invalid or enforceable for any reason, such decision shall not affect the constitutionality, validity or enforceability of the remaining portions of this Ordinance.

SECTION 6. All other ordinances or portions thereof inconsistent or conflicting with this Ordinance or any portion hereof are hereby repealed to the extent of such inconsistency or conflict.

SECTION 7. The City Council finds that this Ordinance is necessary for the immediate preservation of the public peace, health and safety of the residents of the City.

**INTRODUCED, READ, ADOPTED ON FIRST READING AND ORDERED
PUBLISHED** on the 1st day of June, 2021.

THE CITY COUNCIL OF THE CITY OF FORT
MORGAN, COLORADO



Ronald Shaver
By: Ronald Shaver
Mayor

John Brennan
John Brennan
City Clerk

PASSED, APPROVED AND ADOPTED ON FINAL READING AND ORDERED
PUBLISHED ~~16th~~ ^{6th} day of June, 2021.



THE CITY COUNCIL OF THE CITY OF
FORT MORGAN, COLORADO

Ronald Shaver
By: Ronald Shaver
Mayor

Attest:

John Brennan
John Brennan
City Clerk

STATE OF COLORADO)
COUNTY OF MORGAN)ss. CERTIFICATE
CITY OF FORT MORGAN)

I, John Brennan, the duly appointed, qualified Clerk of the City of Fort Morgan, Colorado, do hereby certify that the foregoing **Ordinance No. 1252** was, as a proposed Ordinance, duly and legally presented to the City Council of the City of Fort Morgan, Colorado, on the 1st day of June, 2021. Said ordinance, as proposed, was duly read at length at said meeting, and thereafter the same was, on the 16th day of June, published in *The Fort Morgan Times*, a daily newspaper of general circulation published and printed in the City of Fort Morgan, Morgan County, Colorado. Said proposed ordinance was again taken up and read a second time, duly and legally, passed, approved and adopted at a regular meeting of the City Council held on the 6th day of July. Within five (5) days after its final passage, said **Ordinance No. 1252** was published in *The Fort Morgan Times*, a daily newspaper of general circulation published and printed in the City of Fort Morgan, Morgan County, Colorado.

John Brennan
John Brennan
City Clerk