

**COUNCIL BLUFFS PLANNING COMMISSION
TUESDAY, OCTOBER 10, 2017 - 6:00 P.M.
COUNCIL BLUFFS PUBLIC LIBRARY, ROOM A
400 WILLOW AVENUE
COUNCIL BLUFFS, IOWA**

1. CALL TO ORDER

2. ROLL CALL

3. ADOPTION OF AGENDA

4. APPROVAL – MINUTES OF THE SEPTEMBER 12, 2017 MEETING

5. PROOF OF PUBLICATION

6. REVIEW OF MEETING PROCEDURES

7. PUBLIC HEARINGS

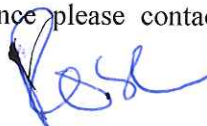
- A. CASE #SAV-17-003: Public hearing on the request of Driver Properties, LLC to vacate and dispose of that part of 11th Avenue extending from the east right-of-way line of South 8th Street to the west right-of-way line of South 7th Street and abutting Blocks 12 and 13 Riddle Subdivision. Location: 11th Avenue between South 7th and 8th Streets.
- B. CASE #ZT-17-005: Public hearing on the request of EQ School of Hair Design to amend the text of Chapter 15.03.595 of the Council Bluffs Municipal Code (Zoning Ordinance) to include ‘post secondary schools’ as part of the definition of ‘schools’.
- C. CASE #ZT-17-006: Public hearing on the request of Electric Guard Dog, LLC to amend Section 15.24.040(3)(e)(i) of the Municipal Code (Zoning Ordinance) to eliminate the required 300 foot separation distance between a ‘fence, electrically charged security’ and a residential district and/or legal nonconforming residential use.
- D. CASE #URV-17-005: Public hearing on the request of the City of Council Bluffs to create the College Road Urban Revitalization Area and adopt the required plan for an area legally described as proposed Lots 1-4, New Horizon Subdivision, Replat 2, City of council Bluffs, Pottawattamie County, Iowa. Location: east of Valley View Drive and south of College Road.

8. OTHER BUSINESS

- A. City Council update
- B. Other items of interest

9. ADJOURNMENT

If you plan to attend this meeting and require special assistance please contact the Community Development Department at (712) 328-4629 at least 48 hours before the meeting.



City Planning Commission

Department: Community Development Case #SAV-17-003 Applicant: Driver Properties, LLC c/o Dan Driver 15195 220 th Street Council Bluffs, IA 51503	Resolution of Intent No. _____ Resolution to Dispose No. _____	Planning Commission: 10/10/17 Set Public Hearing: Public Hearing:
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Subject/Title

Request: Public hearing on the request of Driver Properties, LLC to vacate and dispose of that part of 11th Avenue extending from the east right-of-way line of South 8th Street to the west right-of-way line of South 7th Street and abutting Block 12 and 13 Riddle's Subdivision.

Location: 11th Avenue between South 7th and 8th Streets

Background

The Community Development Department has received an application from Driver Properties, LLC, represented by Dan Driver, to vacate and dispose of the above described 11th Avenue right-of-way (see Attachment A). If vacated, the applicant intends to purchase their portion of right-of-way and construct a new parking lot and driveway for their contracting business (Driver Sewer & Water) at 1105 South 8th Street.

The subject 11th Avenue right-of-way is unimproved and measures 66 feet in width by 296 feet (m/l) in length. In early 2017, the Iowa Department of Transportation removed the former Burling Northern-Santa Fe railroad tracks from 11th Avenue as part of their rail consolidation plan associated with the Interstate 29/80 reconstruction project. The City has no plans to build a new street in the subject right-of-way.

The following exhibits show the existing conditions of the subject right-of-way and surrounding area.

Exhibit A: 2016 Aerial view of the subject alley and abutting properties facing south.

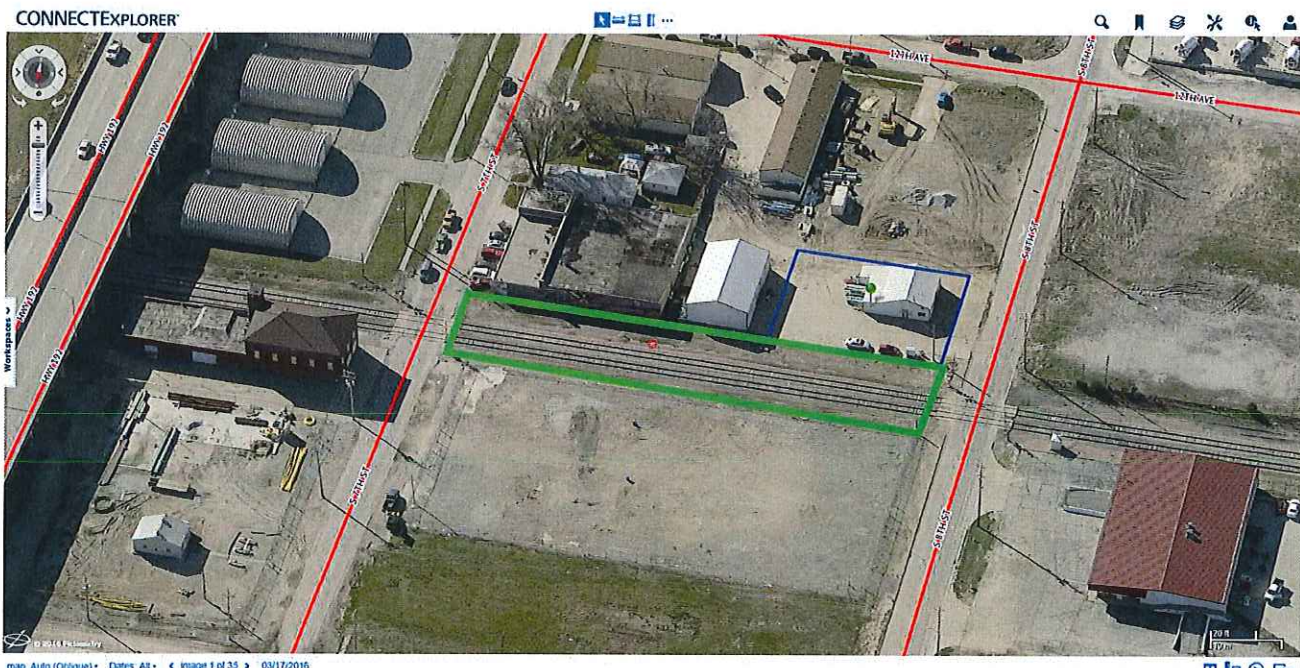


Exhibit B: View of the subject right-of-way facing east.



Exhibit C: View of the east alley in Block 13, Riddles Subdivision from the subject right-of-way.



On August 25, 2003 the City Council amended the adopted *Policy and Procedures for Alley, Street and Right-of-way Vacations*. The objectives of the amended Policy are as follows:

1. *To provide due process and citizen participation in the application and review process for vacations.*
There are four parcels of land which abut the subject right-of-way, as follows:
North – Vacant land owned by Black Hills/Iowa Gas Utility (no address)
South – Contractor's office/shop owned by Driver Properties, LLC (1105 South 8th Street)
Contractor's shop/warehouse owned by Robert and Kay Driver (no address)
Warehouse owned by Richard & Michele Bowers Trust (1100 South 7th Street)

All abutting property owners were mailed petitions asking if they are in favor of/opposed to and/or willing to/not willing to purchase the portion of the right-of-way that abuts their property, if vacated. Responses to these petitions are summarized in Comment #10 below.

2. *To ensure that no property owner is deprived of required and reasonable access.*
All abutting properties, except for one, have frontage on either South 7th Street or South 8th Street and will not be landlocked or have their access negatively impacted if the subject right-of-way is vacated. The property owned by Mr. and Mrs. Robert Driver is centrally located in Block 13, Riddles Subdivision and has only one road frontage that is 11th Avenue. The property is accessed from an abutting alley to the east and from South 8th Street through the applicant's property to the west. Mr. and Mrs. Driver along with Driver Properties, LLC utilize their properties together to operate Driver Sewer & Water. If the abutting 11th Avenue right-of-way is vacated this property would be landlocked, which is contrary the City's adopted policy and procedures for street right-of-way vacations. Mr. Robert Driver spoke with City staff and stated he is willing to deed his property to the applicant so that the two properties can be combined, if necessary for vacation approval.
3. *To discourage the creation and eliminate or reduce existing dead-end alleys, streets or other rights-of-way.*
This request will not create a dead-end right-of-way.
4. *To reduce or eliminate hazardous and dangerous traffic conditions.* The subject right-of-way is unimproved and is not used for vehicular and/or pedestrian traffic.
5. *To protect all existing and proposed public utilities located in the right-of-way and to maintain necessary utility easements.*
All City Departments and utilities were notified of the request. The following responses were received:
 - Public Works Departments stated they have utilities along South 7th and 8th Street but none located in the subject portion of 11th Avenue. Public Works also stated that any parking lot improvements must comply with current City standards and specifications.
 - Council Bluffs Water Works stated they have no utilities in the subject right-of-way.
 - MidAmerican Energy stated they have no objection to the right-of-way vacation.

Based on the information above, there are no utilities within this segment of 11th Avenue to the best of the City's knowledge. If vacated, an easement over said right-of-way will not be retained.
6. *To maintain appropriate right-of-way width to ensure that an adequate pedestrian and vehicular circulation system is retained.* Not applicable.
7. *To discourage the vacation of a portion of an existing alley, street or other right-of-way.* This request is to vacate a full 66' x 296' foot segment of 11th Avenue right-of-way between South 7th Street and South 8th Street.
8. *To assist in the implementation of the goals and objectives of the Comprehensive Plan.* The request is consistent with the local access and circulation objectives stated in Chapter 6, Transportation of the Bluffs Tomorrow: 2030 Plan (comprehensive plan).
9. *To reduce the City's maintenance liability on previously vacated right-of-way parcels from public improvement projects and various lots acquired through delinquent taxes or assessments.* Not applicable.

10. To establish an equitable price for surplus public property. All abutting property owners were notified about this vacation request. The following responses were received:

- Driver Properties, LLC stated they are in favor of the request and are willing to purchase their portion for the sum of \$599.25.
- Robert and Kay Driver stated they are in favor of the request and are willing to purchase their portion for the sum of \$315.46.
- Richard and Michele Bowers Trust stated they are in favor of the request and are willing to purchase their portion for the sum of \$629.40.
- No response has been received from Black Hills/Iowa Gas Utility as of the date of this report.

Note: The portion of 11th Avenue right-of-way located north of the east alley of Block 13, Riddles Subdivision was not included in any owner petitions, as this alley is owned by the City. If the vacation is approved, the segment of right-of-way (12' x 33') abutting said alley will remain under City ownership unless the City Council approves to dispose of the right-of-way to abutting property owners located to the east and west of the alley. This would require that the purchase price of right-of-way sold Mr. and Mrs. Driver and Richard & Michele Bowers Trust be recalculated as they would be purchasing more right-of-way than what was stated in their petitions

Recommendation

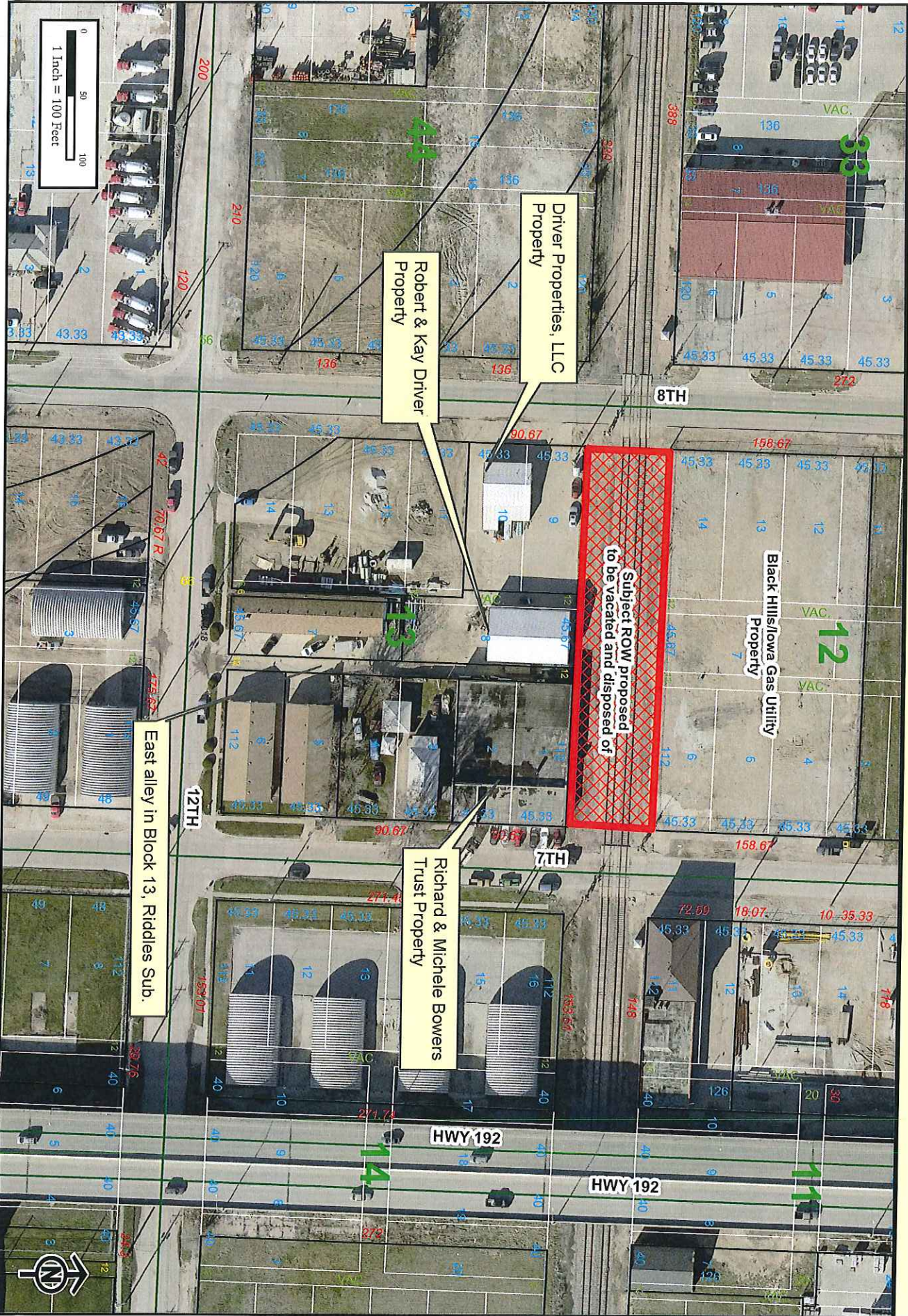
The Community Development Department recommends the following:

1. Approval of the request to vacate and dispose of that part of 11th Avenue extending from the east right-of-way line of South 8th Street to the west right-of-way line of South 7th Street and abutting Block 12 and 13 Riddle's Subdivision subject to the applicant and Mr. and Mrs. Robert Driver combining properties in order to not create a landlocked parcel and that all portions of the vacated right-of-way be acquired by the abutting property owners; and
2. Approval to dispose of the 12'x 33' section of 11th Avenue, located north of the east alley in Block 13, Riddles Subdivision, to each abutting property owner if vacated.

Attachment A – Right-of-way vacation map

Prepared By: Christopher Gibbons, Planner, Community Development Department

**CITY OF COUNCIL BLUFFS - CITY PLANNING COMMISSION
RIGHT-OF-WAY VACATION MAP CASE #SAV-17-003**



City Planning Commission Communication

Department: Community Development Case #ZT-17-005 Applicant: EQ School of Hair Design 536 West Broadway Council Bluffs, IA 51503	Ordinance No.	Planning Commission: October 10, 2017
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Subject/Title

CASE #ZT-17-005: Public hearing on the request of the EQ School of Hair Design to:

- Amend the definition of a “School”, §15.03.595, to included “post-secondary schools”

Background

The Community Development Department received a request of QRS Investments LLC for a text amendment to Title 15 of the Municipal Code (Zoning Ordinance) to:

- Amend the definition of a “School”, §15.03.595, to read: "School" means all schools, public or non-public, at all levels from prekindergarten level through grade twelve, which meet the requirements of the State Board of Public Instruction, and accredited schools that provide post-secondary education. Said “School” shall include the buildings and all land contiguous to said buildings.

The applicant has requested this amendment because they are interested in purchasing a new property to move their school to the new location. This text amendment would allow the school to operate in this location without requiring the property to be rezoned. The applicant notes that their school is recognized as a post-secondary school by the State of Iowa, and is nationally accredited through the National Accrediting Commission of Cosmetology Arts and Science.

The Zoning Ordinance currently defines a “School” as any school, public or nonpublic, at all levels from pre-kindergarten level through grade twelve (12), which meets the requirements of the State Board of Public Instruction, said school to include the buildings and all land contiguous to said buildings. “Post-secondary Schools” currently fall under the category of a “College or University”, which is currently listed as a Conditional Use in the R-3 and R-4 Districts, and a Principal Use in the A-P, C-3, and C-4 Districts.

The approval of this text amendment would currently allow post-secondary schools to operate as a Principal Use in the R-1, R-2, R-3, R-4, A-P, C-1, C-2, and C-3 Districts. The school would be required to meet all applicable standards as set forth in the Zoning Ordinance.

All City departments and utility providers received a copy of the proposed text amendment. Council Bluffs Water Works and MidAmerican Energy Company responded that they have no objections to the request.

No other comments have been received.

Recommendation

The Community Development Department recommends approval of the request to include “accredited Post-Secondary Schools” under the definition of a “School”. The definition of a “School” will become:

§15.03.595 School. "School" means all schools, public or non-public, at all levels from prekindergarten level through grade twelve, which meet the requirements of the State Board of Public Instruction, and accredited schools that provide post-secondary education. Said “School” shall include the buildings and all land contiguous to said buildings.

Attachment

Attachment A: Proposed text amendment

Prepared by: Chris Meeks, Planner

Attachment A

Proposed Text Amendment

15.03.595 School. "School" means all schools, public or non-public, at all levels from prekindergarten level through grade twelve, which meet the requirements of the State Board of Public Instruction, and accredited schools that provide post-secondary education. Said "School" shall include the buildings and all land contiguous to said buildings.

City Planning Commission Communication

Department: Community Development Case #ZT-17-006 Applicant: Electric Guard Dog 550 Assembly Street, 5 th Floor Columbia, SC 29201	Ordinance No.	Planning Commission:
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Subject/Title

Request: Public hearing on the request of Electric Guard Dog, LLC to amend the text in Chapter 15.24.040(3)(e)(i) of the Municipal Code (Zoning Ordinance) to eliminate the required 300 foot separation distance between a ‘fence, electrically charged security’ and a residential district and/or legal nonconforming residential use (see Attachment A).

Background

On January 11, 2016, the Council Bluffs City Council passed and approved Ordinance No. 6255 which amended Chapter 15.03, Definitions by adding Section 15.03.271a ‘ fence, electrical security’ and amended Chapter 15.24.040 *Supplemental Use and Site Development regulations*, Fence Regulations relative to adding ‘fence, electrical security’. The amendment was drafted by a committee of City staff members and included input from the applicant. The purpose of this amendment was to legitimize an electrically charged security fence that was installed by the applicant around the Camping World’s retail store site at 2802 South 21st Street. The adopted amendment allowed property owners located in a C-2/Commercial District to install an electrically charged security fence to protect their capital investment from theft and vandalism. The amendment also included standards to insure that said fence did not put the general public at risk by establishing a minimum separation distance, as stated in Section 15.24.0040(3)(e)(i) of the Council Bluffs Municipal Code (Zoning Ordinance):

(3) General Requirements for Residential and Commercial Districts

(E) Fence, electrically charged security may be allowed in a C-2 District in accordance with Section 13.16.485, subject to the following conditions:

(i) The site shall not be within 300 feet of a residential district, or legal non-conforming residential use.

The applicant has proposed to eliminate the required 300-foot separation distance between an electrically charged security fence and a residential zoning district in order to rectify an illegal fence they installed around the perimeter of Camping World’s new vehicles sales lot. The fence was installed without a permit and is located 195 feet, as opposed to the required 300 feet, from a residential zoning district (see Attachment B). On August 15, 2017, the applicant appeared before the Council Bluffs Zoning Board of Adjustment and requested a variance to allow the fence to remain in its current location (Case #BA-17-003). The Board reviewed the request and then denied the variance on the basis that the property did not have an unnecessary hardship that prevented the applicant from installing the fence in accordance with City zoning standards.

For reference purposes, the applicant provided safety studies for the electrically charged security fences (see Attachment C).

This proposed text amendment will apply to all properties zoned C-2/Commercial District within the City. For reference purposes, the following images below show the electrically charged fenced installed by the applicant around the new Camping World vehicle sales lot:

Exhibit A: View of the electric security fence facing west

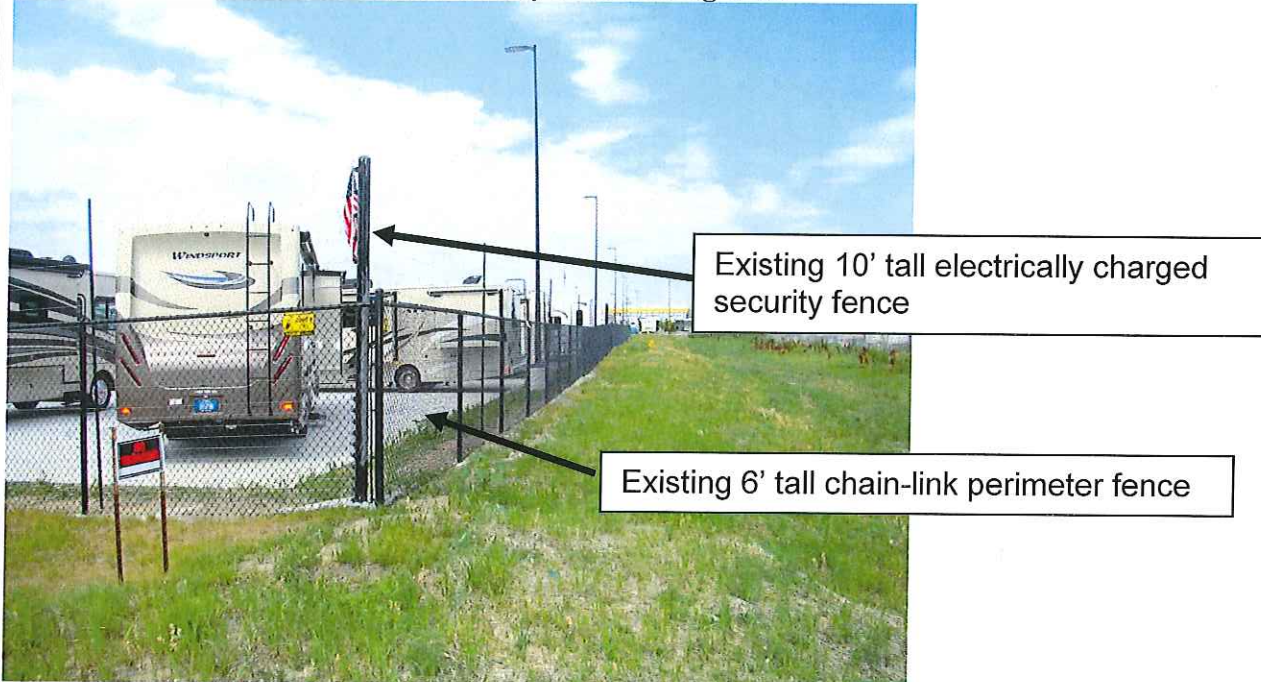


Exhibit B: View of the electric security fence that faces the residential area to the east



Exhibit C: View of residential dwellings to the east of the subject property.



All City departments and utility providers received a copy of the proposed text amendment. The following comments were received:

- Council Bluffs Fire Department stated the existing chain-link perimeter fence around the electrically charged security fence does not comply with the eight foot height requirement, as stated in Section 13.16.485(3), *Electric Code, Fence, electrically charged security*, of the Council Bluffs Municipal Code.
- Council Bluffs Building Division stated the electrically charged security fence was installed without a permit and does not comply with City standards. They are opposed to the text amendment request.
- The Community Development Department is opposed to the text amendment as the 300 foot separation requirements provides a reasonable balance between allowing commercial property owners to protect their capital investment with an electrically charged security fence while at the same time protecting the public from any risks associated with an electronically charged fence.

Recommendation

The Community Development Department recommends denial of the proposed text amendment based on reasons stated above.

Attachments

Attachment A: Proposed text amendment §15.24.040(3)(e)(i), *Fence regulations*, of the Supplemental Use and Site Development Regulations of the Municipal Code (Zoning Ordinance).

Attachment B: Location/zoning map showing the location of the illegal electrically charged security fence.

Attachment C: Safety studies for electrically charged fences

Prepared by: Christopher N. Gibbons, Planner

15.24.040 - Fence regulations

Fences, including masonry walls, vegetation, ornamental iron, chain link, open wood, solid wood or metal, forming a physical barrier, placed on private property, used for any purpose shall conform to the following requirements:

(3) General Requirements for Residential and Commercial Districts.

- (A) In a front yard or a street side yard, the height of a fence shall not exceed four feet, unless its placement meets the setback requirements for principal and accessory structures. Exception: ornamental iron fences located in front or street side yards may exceed four feet in height, but are limited to six feet in overall height.
- (B) No solid fence shall be placed within a front yard or street side yard which creates a safety hazard by obstructing the clear view of pedestrians or vehicles.
- (C) In an interior side yard or rear yard, the height of a fence, excepting vegetation fences, shall not exceed six feet. Fences in residential areas proposed to exceed six feet in height shall be reviewed on a case-by-case basis by the mayor or designee.
- (D) Security fences with sharp or pointed projections or containing barbed wire strands may be permitted in a C-2 district when placed on top of an otherwise conforming fence, if the following conditions are met:
 - (i) The site shall not abut any residential district; and
 - (ii) The use shall comply with all requirements for conforming uses and the site development regulations in a C-2 district.
- (E) Fence, electrically charged security may be allowed in C-2 District in accordance with [Section 13.16.485](#), subject to the following conditions:
 - ~~(i) The site shall not be within 300 feet of a residential district, or a legal non-conforming residential use;~~
 - (ii) The use shall comply with all requirements for conforming use and site development regulations in a C-2 District;
 - (iii) Shall not be located within the area defined as the front yard setback, street side yard setback, or the area between a structure and the front property line or street side property line, if greater than the minimum required setback; and
 - (iv) Shall not be located within the corridor design overlay district (CDO).

CITY OF COUNCIL BLUFFS - CITY PLANNING COMMISSION LOCATION/ZONING MAP - CASE #ZT-17-006



Map Legend

- Camping World Sales Lot (new)
- Parcel



Note: Subject property highlighted in red.



Last Amended: 9/13/17

DISCLAIMER
This map is prepared and compiled from records data. Users of this map are advised that the City does not warrant the accuracy or completeness of the information contained on this map. The user shall verify the information for their own use. The City assumes no responsibility for the information shown on this map.

Council Bluffs Community
Development Department
299 Pearl Street
Council Bluffs, IA 51503
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Safety of electric security fences

John G. Webster

Professor Emeritus of Biomedical Engineering

University of Wisconsin-Madison

Madison WI 53706

Electric current shocks us, not voltage

Most of us can remember receiving an electric shock; it can happen during a regular day. How can that happen and when? Walking across a carpet during dry weather, then touching a doorknob and feeling a spark that jumps to the doorknob is a very common way. Placing a finger inside of a lamp socket that inadvertently was turned on is yet another. Touching the spark plug in a car or lawn mower has happened to many people as well. But why are we all still alive after receiving these electric shocks during a regular day? *We are still alive because even though the voltage is high, not enough electric current flowed through our heart.*

Even when the voltage is high, when the current flows for only a very short duration we can not be electrocuted. Furthermore, it is even hard to get electrocuted in the home because the power line voltage of 120 volts can't drive enough continuous current through the high resistance of our dry skin. Kitchens and bathrooms fall in a different category; they are dangerous places because our skin may be wet. When our skin is wet, our skin resistance is low and permits a large electric current to flow through the body as shown in Figure 1. A large enough current can cause ventricular fibrillation. During ventricular fibrillation the pumping action of the heart ceases and death occurs within minutes unless treated. In the United States, approximately 1000 deaths per year occur in accidents that involve cord-connected appliances in kitchens, bathrooms, and other wet locations.

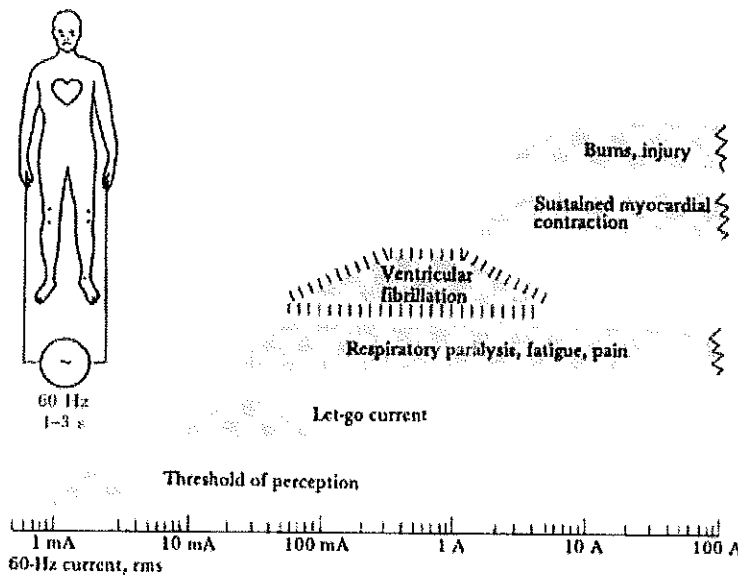


Figure 1 Physiological effects of electricity. Threshold or estimated mean values are given for each effect in a 70 kg human for a 1- to 3 s exposure to 60 Hz current applied via copper wires grasped by the hands. From W. A. Olson, *Electrical Safety*, in J. G. Webster (ed.), *Medical Instrumentation Application and Design*, 3rd ed., New York: John Wiley & Sons, 1998.

Department of Biomedical Engineering

2130 Engineering Centers Building University of Wisconsin-Madison 1550 Engineering Drive Madison, Wisconsin 53706-1609
608/263-4660 Fax: 608/265-9239 Email: bme@engr.wisc.edu <http://www.bme.wisc.edu/>

Short duration pulses are safer than continuous electric current

Figure 2 shows that shock durations longer than 1 second are the most dangerous. Note that as the shock duration is shortened to 0.2 seconds, it requires much more electric current to cause ventricular fibrillation. Electric security fences have taken advantage of this fact by shortening their shock duration to an even shorter duration of about 0.0003 seconds. Therefore, electric security fences are safe and do not lead to ventricular fibrillation due to the short 0.0003 second shock duration. .

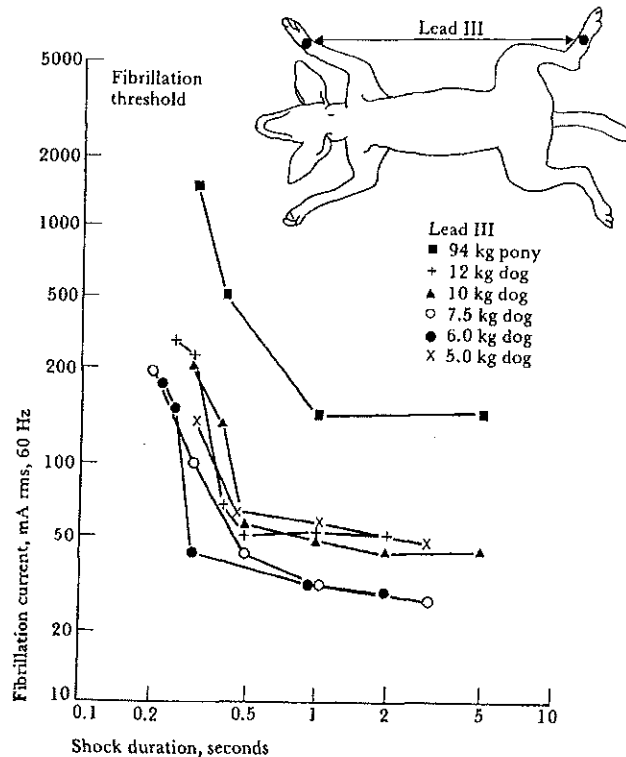


Figure 2 Thresholds for ventricular fibrillation in animals for 60-Hz ac current. Duration of current (0.2 to 5 s) and weight of animal body were varied. Fibrillation current versus shock duration for a 70 kg human is about 100 milliamperes for 5 second shock duration. It increases to about 800 milliamperes for 0.3 second shock duration. From L. A. Geddes, *IEEE Trans. Biomed. Eng.*, 1973, 20, 465–468.

Electricity near the heart is most dangerous

There are four situations where electricity may be applied close to the heart. (1) Figure 3(b) shows when a catheter tube is threaded through a vein into the heart, any accidental current is focused within the heart and a small current can cause ventricular fibrillation. (2) Cardiac pacemakers also pass electric current inside the heart, but the current is kept so small that ventricular fibrillation does not occur. (3) A Taser weapon may rarely shoot a dart between the ribs very close to the heart and apply a 0.0001 second pulse, but this has not been shown to cause ventricular fibrillation. Typically when a person takes an overdose of drugs, he creates a disturbance, police are called, the person refuses to obey, the police Taser him, afterwards he dies of a drug overdose, and the newspapers report, "Man dies after Taser shot." (4) A defibrillator applies a 0.005 second, 40 ampere electric current. This causes massive heart contraction that can change ventricular fibrillation to normal rhythm and save a life.

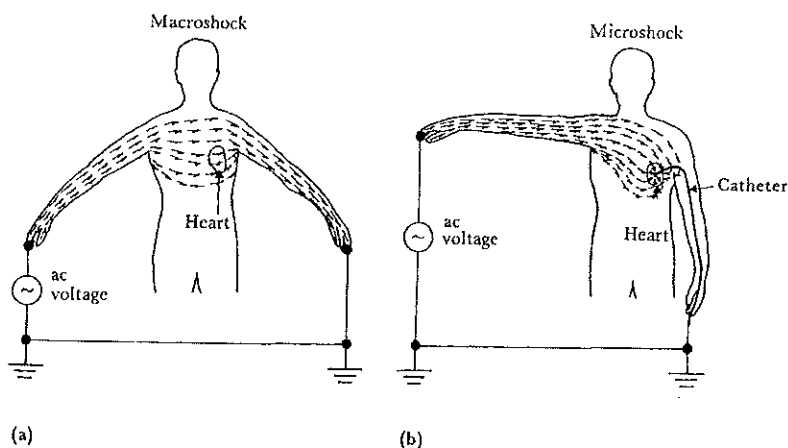


Figure 3 Effect of entry points on current distribution. (a) *Macroshock*, externally applied current spreads throughout the body, (b) *Microshock*, all the current applied through an intracardiac catheter flows through the heart. From F. J. Weibell, "Electrical Safety in the Hospital," *Annals of Biomedical Engineering*, 1974, 2, 126-148.

When comparing an electric security fence to the above examples, we know that an electric security fence is similar to Figure 3(a). Why do we know that? If a person contacts an electric fence, electric current is concentrated in the limbs and causes a deterrent shock; when it continues to pass through the torso, it spreads out and becomes more diffuse. Therefore as shown in Figure 3(a) and in Figure 2 electric security fences are safe because the deterrent shock spreads out and becomes more diffuse and is of a very short duration.

Only power lines cause ventricular fibrillation

Table 1 shows that short duration electric pulses, even though applied near the heart do not cause ventricular fibrillation. In contrast, the continuous current from power lines kills 1000 persons per year.

Table 1 Only power lines cause ventricular fibrillation

	Duration of pulse in seconds	Current in amperes	Likely to be applied near heart?	Caused ventricular fibrillation?
Power lines	Continuous	0.1	No	1000 per year
Electric security fence	0.0003 0.8 times/sec	10	No	No
Taser	0.0001 19 times/sec	2	May be	No
Cardiac pacemaker	0.001 1 time/sec	0.005	Yes	No
Defibrillator	0.005 1 time	40	Yes	Cures ventricular fibrillation
Spark plug	0.00002 1 time	0.2	No	No
Doorknob	0.00002 1 time	0.2	No	No

**Sentry Security Systems, LLC position on the relationship of security fences
to codes and standards**

Electric fencing is used safely throughout the world, with applications for both animal control and commercial security. In a commercial security setting, security fences deter crime and help apprehend criminals. The mere presence of a security fence discourages unlawful entry, theft and the destruction of property. Additionally, it is easier to apprehend the determined criminal because the owner and police are notified instantaneously when the criminal distorts or breaks the fence. Security fences also protect the people who work at a site, providing business owners and employees significant peace of mind.

The security fence sold by Sentry Security Systems is powered by a 12 volt DC marine (or similar) battery. The National Electric Code does not cover battery powered products such as smoke alarms. Therefore, the security fence sold by Sentry Security Systems is not covered by the NEC.

There is in fact no US standard that addresses security fences whether main or battery powered. UL 69 addresses animal control fences but not security fences. There is, however, a good international standard - IEC 60335-2-76 - that addresses security fences. This standard is attached for your information.

We respectfully request that you determine that, as a battery powered device, security fences do not fall under the National Electric Code.

Safety of electric fence energizers

Amit J. Nimunkar¹ and John G. Webster¹

¹Department of Biomedical Engineering, University of Wisconsin, 1550 Engineering Drive, Madison, WI 53706 USA.

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Abstract

The strength–duration curve for tissue excitation can be modeled by a parallel resistor–capacitor circuit that has a time constant. We tested five electric fence energizers to determine their current-versus-time waveforms. We estimated their safety characteristics using the existing IEC standard and propose a new standard. The investigator would discharge the device into a passive resistor–capacitor circuit and measure the resulting maximum voltage. If the maximum voltage does not exceed a limit, the device passes the test.

Key words: strength–duration curve, cardiac stimulation, ventricular fibrillation, electric safety, electric fence energizers, standards.

1. Introduction

The vast majority of work on electric safety has been done using power line frequencies such as 60 Hz. Thus most standards for electric safety apply to continuous 60 Hz current applied hand to hand. A separate class of electric devices applies electric current as single or a train of short pulses, such as are found in electric fence energizers (EFEs). A standard that specifically applies to EFEs is IEC (2006). To estimate the ventricular fibrillation (VF) risk of EFEs, we use the excitation behavior of excitable cells. Geddes and Baker (1989) presented the cell membrane excitation model (Analytical Strength–Duration Curve model) by a lumped parallel resistance–capacitance (RC) circuit. This model determines the cell excitation thresholds for varying rectangular pulse durations by assigning the strength–duration rheobase currents, chronaxie, and time constants (Geddes and Baker, 1989). Though this model was originally developed based on the experimental results of rectangular pulses, the effectiveness of applying this model for other waveforms has been discussed (IEC 1987, Jones and Geddes 1977). The charge–duration curve, derived from the strength–duration curve, has been shown in sound agreement with various experimental results for irregular waveforms. This permits calculating the VF excitation threshold of EFEs with various nonrectangular waveforms. We present measurements on electric fence energizers and discuss their possibility of inducing VF.

2. Mathematical background and calculation procedures

Based on the cell membrane excitation model (Weiss–Lapique model), Geddes and Baker (1989) developed a lumped RC model (analytical strength–duration curve) to describe the membrane excitation behavior. This model has been widely used in various fields in electrophysiology to calculate the excitation threshold. Figure 1 shows the normalized strength–duration curve for current (I), charge (Q) and energy (U). The expression of charge is also known as the charge–duration curve which is important for short duration stimulations.

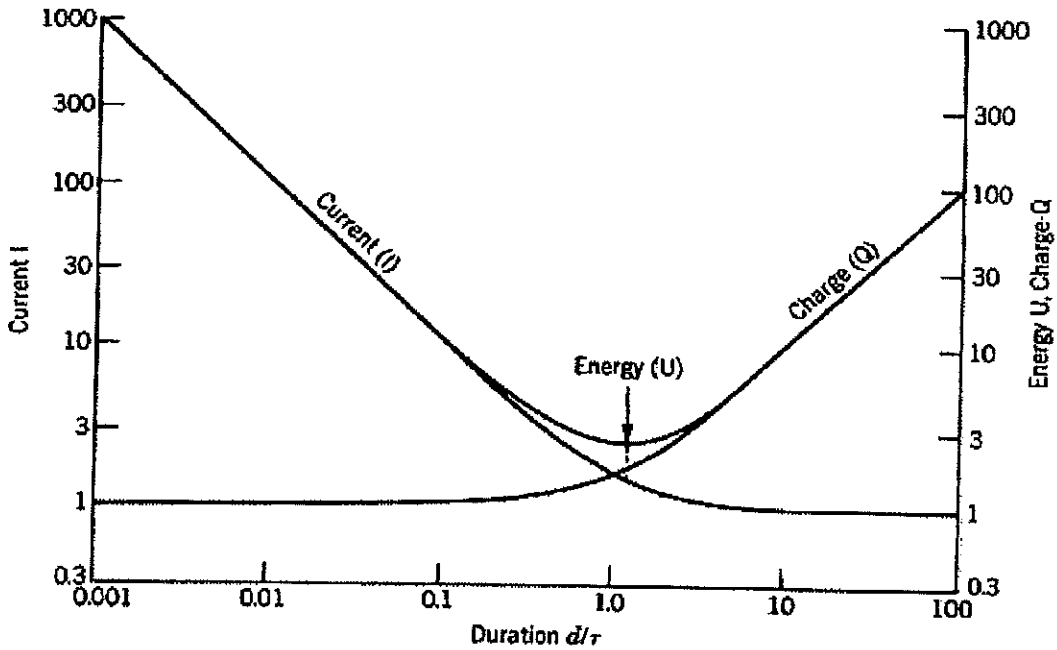


Figure 1. Normalized analytical strength-duration curve for current I , charge Q , and energy U . The x axis shows the normalized duration of d/τ . Note that for $d \ll \tau$, Q is constant and the most appropriate variable for estimating cell excitation. (from Geddes and Baker, 1989).

The equation for the strength-duration curve is (Geddes and Baker, 1989),

$$\Delta v = IR \left(1 - e^{-\frac{t}{\tau}} \right), \quad (1)$$

where I is a step current intensity, R is the shunt resistance, Δv is the depolarization potential threshold which is about 20 mV for myocardial cells, τ is the RC time constant, and t is the time I is applied.

If we let the stimulation duration go to infinity, the threshold current is defined as the rheobase current ($I = b$). If we substitute I in equation (1) by b and define the threshold current $I_d = \Delta v/R$ for the stimulation with duration d . Equation (1) becomes,

$$I_d = \frac{b}{1 - e^{-\frac{d}{\tau}}}. \quad (2)$$

We can calculate the threshold charge (Q_d) by integrating equation (2) and it becomes,

$$Q_d = I_d d = \frac{bd}{1 - e^{-\frac{d}{\tau}}}, \quad (3)$$

For short duration stimulation ($d \ll \tau$) with duration shorter than 0.1 times the RC time constant, equation (3) can be approximated by equation (4) and it yields equation (5),

$$1 - e^{-\frac{d}{\tau}} \approx \frac{d}{\tau}, \quad (4)$$

$$Q_d = b\tau \quad (5)$$

Equation (5) suggests that the charge excitation threshold for short duration stimulation is constant and equals the product of the RC time constant τ and the rheobase b . Geddes and Bourland (1985) showed that the charge–duration curve for single rectangular, trapezoidal, half sinusoid and critically damped waveforms had a good agreement for short duration stimulations. Therefore we used the same model to estimate thresholds for stimulation sources where I was not constant, under the same stimulation setting.

Cardiac cell excitation has been intensively studied at the 60 Hz power line frequency because most accidental electrocutions occur with 60 Hz current, which has a longer duration relative to the cardiac cell time constant of about 2 ms. However, EFEs operate with pulse durations much shorter than the time constant.

3. Methods

Figure 2 shows our experimental test set-up. The EFEs under test consist of Gallagher Group Ltd PowerPlus B600 (EFE1), Gallagher Group Ltd PowerPlus B280 (EFE2), Speedrite HPB (EFE3), Intellishock 20B (EFE4) and Blitzler 8902 (EFE5) EFEs. The short duration electrical pulses from these EFEs are passed through a series of eleven 47Ω (ARCOL D4.29, HS50 47 R F) resistors which measure 518Ω , which represents approximately the internal resistance of the human body. It is further connected to two 18Ω (RH 10 207 DALE 10 W 3%) resistors connected in parallel which measure 9.08Ω . This is used as the sensing resistor across which the oscilloscope measures the output voltage. For these very short pulses it is important to use noninductive resistors because the same current flowing through a resistor that has substantial inductance will measure a larger current than a resistor that is noninductive. To reduce electromagnetic interference, a faraday cage, covered with aluminum foil, was connected to ground. This diverted the electromagnetic interference to ground. The data were collected in EXCEL format from a disk in the Agilent 54621 oscilloscope. The calculations for different parameters presented in Table 1 and the Figures 3–5 were plotted using MATLAB.

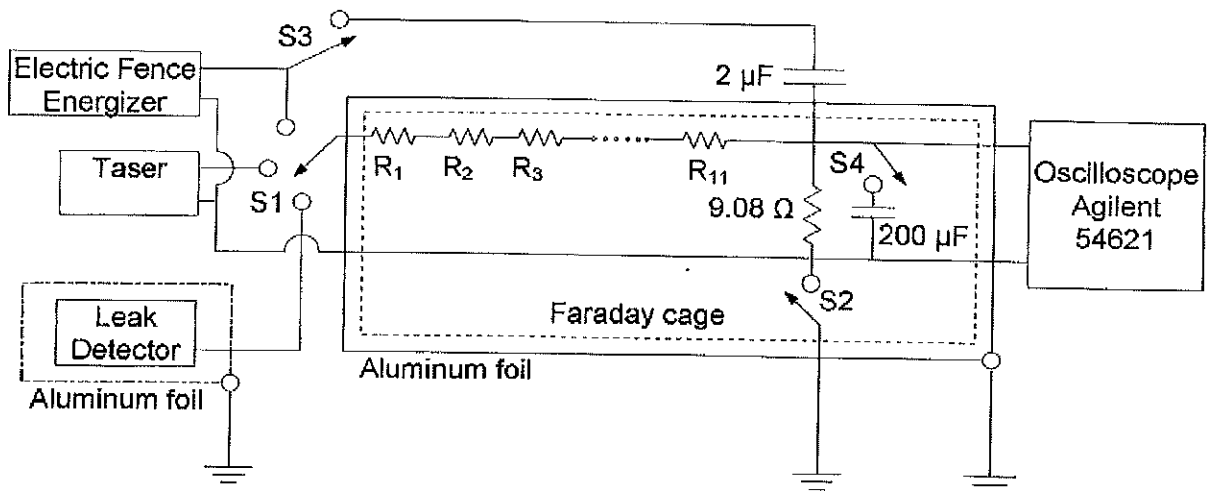


Figure 2. The EFE is selected by S1. The current flows through a string of 47 Ω resistors R_1 – R_{11} (total 518 Ω) which approximates the internal body resistance of 500 Ω . The 9.08 Ω yields a low voltage that is measured by the oscilloscope.

3.1. Determination of current

EFEs are used in conjunction with fences wires to form animal control fences and security fences. We tested five EFEs (EFE1–EFE5) using the experimental set-up in Figure 2 and obtained the output currents shown in Figure 3.

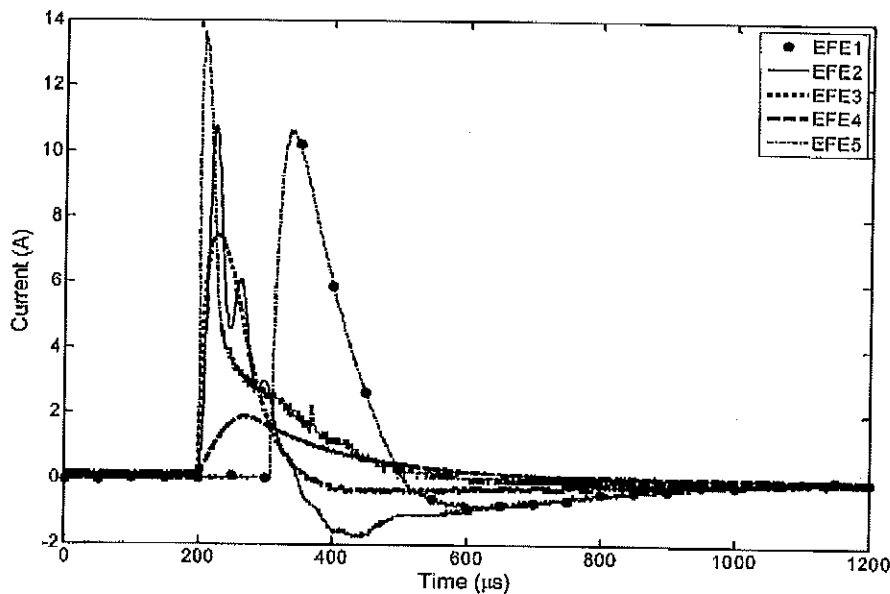


Figure 3. The output current waveform for five EFEs. EFE1 yields about 7.75 A for 151 μs = 1170 μC , EFE2 yields about 3.34 A for 345 μs = 1150 μC , EFE3 yields about 5.69 A for 91 μs =

518 μC , EFE4 yields about 1.25 A for 252 μs = 315 μC and EFE5 yields about 5.7 A for 137 μs = 781 μC .

4. Results

Table 1 shows the approximate results for the rms current, power, duration and charge for all the EFEs.

Table 1 Approximate results for all EFEs.

EFEs		EFE1	EFE2	EFE3	EFE4	ECF5
Parameters	Units					
A. (IEC)						
Total Energy	A^2ms	7.94	4.04	3.10	0.42	4.69
95% Energy Duration	μs	129	346	91	253	138
I_{rms}	A	7.65	3.33	5.69	1.25	5.69
IEC Standard I_{rms}	A	13.0	6.21	16.8	7.85	7.37
Pass IEC Standard	Yes/No	Yes	Yes	Yes	Yes	Yes
B. Proposed standard						
Voltage	V	3.88	2.91	NAv	NAv	NAv
Duration	μs	233	132			
Current	A	3.33	4.41			
Charge	μC	776	582			

NA- not applicable, NAv- not available

IEC (2006) defines in 3.116 “impulse duration: duration of that part of the impulse that contains 95% of the overall energy and is the shortest interval of integration of $P(t)$ that gives 95% of the integration of $P(t)$ over the total impulse. $I(t)$ is the impulse current as a function of time.” In 3.117 it defines “output current: r.m.s. value of the output current per impulse calculated over the impulse duration.” In 3.118 it defines “standard load: load consisting of a non-inductive resistor of $500 \Omega \pm 2.5 \Omega$ and a variable resistor that is adjusted so as to maximize the energy per impulse or output current in the 500Ω resistor, as applicable.” In 22.108, “Energizer output characteristics shall be such that – the impulse repetition rate shall not exceed 1 Hz; – the impulse duration of the impulse in the 500Ω component of the standard load shall not exceed 10 ms; – for energy limited energizers the energy/impulse in the 500Ω component of the standard load shall not exceed 5 J; The energy/impulse is the energy measured in the impulse over the impulse duration. – for current limited energizers the output current in the 500Ω component of the standard load shall not exceed for an impulse duration of greater than 0.1 ms, the value specified by the characteristic limit line detailed in Figure 102; an impulse duration of not greater than 0.1 ms, 15 700 mA. The equation of the line relating impulse duration (ms) to output current (mA) for $1\,000 \text{ mA} < \text{output current} < 15\,700 \text{ mA}$, is given by impulse duration = $41.885 \times 10^3 \times (\text{output current})^{-1.34}$.” We used these definitions and calculated the total energy, the shortest duration where 95% of the total energy occurs, the rms current for that duration from Figure 3 for the EFEs (EFE1–EFE5). Similarly we calculated the output current using the relationship impulse duration = $41.885 \times 10^3 \times (\text{output current})^{-1.34}$, provided by the IEC for all the EFEs (EFE1–EFE5). Table 1 lists these under the heading “A. (IEC)”. Table 1 shows that all the EFEs pass the IEC standard.

5. Proposed new standard

IEC (2006) uses the rms current for the shortest duration where 95% of the total energy occurs as the standard to determine if the EFE is safe for use. Geddes and Baker (1989) have shown that for pulses shorter than the cardiac cell time constant of 2 ms, the electric charge is the quantity that excites the cells. We propose a simple experimental set-up shown in Figure 2 to determine the maximum amount of charge that would flow from the EFEs and cause cardiac cell excitation. The cardiac cell is modeled as an RC circuit in Fig. 2 with $R = 9.08 \Omega$ and $C = 200 \mu\text{F}$ (GECONOL 9757511FC $200 \mu\text{F} \pm 10\%$ 250 VPK) with the RC time constant of 1.82 ms. For the EFEs (EFE1 and EFE2) the switches S1 and S4 are closed. This allows the $200 \mu\text{F}$ capacitor to charge rapidly (about $100 \mu\text{s}$) and discharge fairly slowly ($\tau = RC = 1.82 \text{ ms}$). Figures 4 and 5 show the voltage vs time waveforms for the different EFEs. The test was not performed for electric fence energizers EFE3–EFE5.

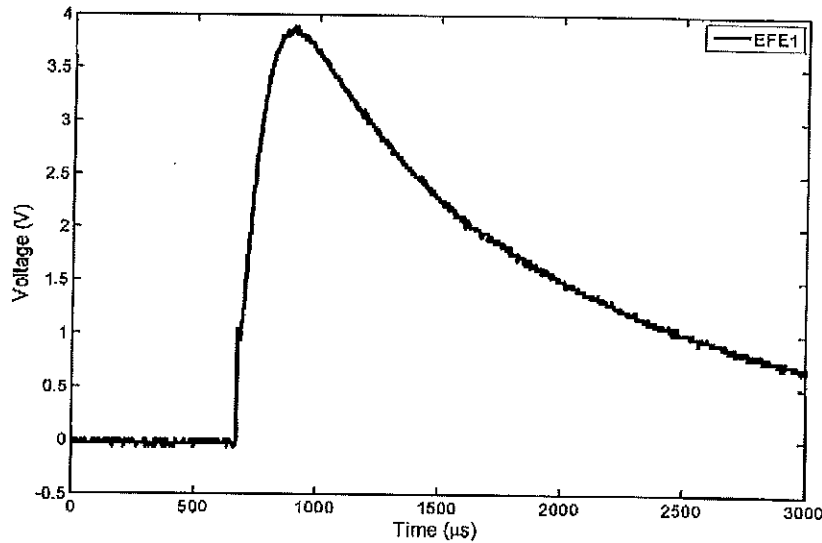


Figure 4. Output voltage waveform for EFE1. The maximal charge that flows through the cardiac cell model is given by $Q = CV = 200 \mu\text{F} \times 3.88 \text{ V} = 775 \mu\text{C}$, the current during which the capacitor charges to maximal value is given by $I = CV/T = (200 \mu\text{F} \times 3.88 \text{ V})/233 \mu\text{s} = 3.33 \text{ A}$.

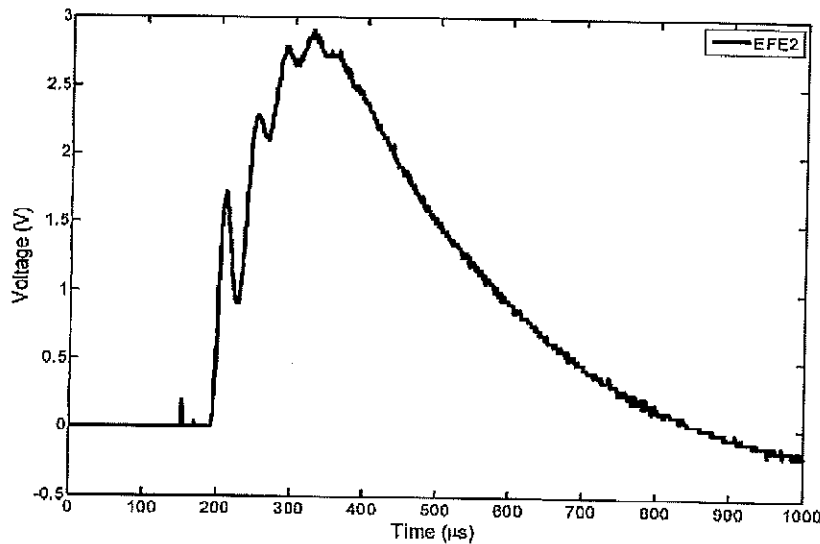


Figure 5. Output voltage waveform for the electric fence energizers EFE2. The maximal charge that flows through the cardiac cell model is given by $Q = CV = 200 \mu\text{F} \times 2.91 \text{ V} = 582 \mu\text{C}$, the current during which the capacitor charges to maximal value is given by $I = CV/T = (200 \mu\text{F} \times 2.91 \text{ V})/132 \mu\text{s} = 4.41 \text{ A}$.

6. Discussion

Geddes and Baker (1989) have shown that for pulses shorter than the cardiac cell time constant of 2 ms, the electric charge is the quantity that excites cardiac cells. Because the first half wave is the largest, the charge integrated in the first half wave determines cardiac cell excitation. The next half wave discharges the cardiac cell capacitance and does not contribute to cardiac cell excitation. Thus we list integral $I(t) = \text{charge } Q$ in Table 1.

IEC (2006) integrates $P(t)$, which is roughly equal to $I(t)$. Their Figure 102 roughly follows charge.

We propose revising EFE standards for measuring current to determine a safety standard to prevent VF. The new standard would measure cardiac cell excitation. It would not require the complex calculations required to determine "The current which flows during the time period in which 95 percent of the output energy (is delivered)." It would use a simple circuit similar to that in Figure 2 composed of resistors and a capacitor. The investigator would discharge the device into the circuit and measure the maximum voltage. If the maximum voltage does not exceed 5 V (as a conservative estimate), the EFE passes the test. The 500 Ω resistor closely approximates the resistance of the body and determines the current that flows through the body.

Acknowledgements

We thank L. Burke O'Neal and Silas Bernardoni for their help and suggestions.

References

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- Geddes L A and Bourland J D 1985 The strength-duration curve. *IEEE. Trans. Biomed. Eng.* **32(6)** 458–9
- IEC 1987 *International Electrotechnical Commission IEC Report: Effects of current passing through the human body* (IEC 60479-2) pp 47
- IEC 2006 *Household and similar electrical appliances – Safety – Part 2-76: Particular requirements for electric fence energizers*, (IEC 60335-2-76, Edition 2.1)
- Jones M and Geddes L A 1977 Strength duration curves for cardiac pacemaking and ventricular fibrillation *Cardiovasc. Res. Center Bull.* **15** 101–12

City Planning Commission

Department: Community Development Case No.: URV-17-005 Applicant: Community Development Department	Resolution No.: 17-	Planning Commission: 10-10-17 Resolution of Intent: 9-11-17 City Council Pub. Hearing: 10-23-17 First Reading: 10-23-17 Second Reading: 11-13-17 Third Reading: 11-27-17 (will ask to be waived)
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Subject/Title

Adoption of the College Road Urban Revitalization Plan and Area

Location

Undeveloped land lying east of Valley View Drive and south of College Road

Background/Discussion

Background

Chapter 404 of the Iowa Code authorizes a City to designate an area as an urban revitalization area. Improvements to qualified real estate within designated areas may then be eligible to receive a total or partial exemption from property taxes for a specified number of years. The exemptions are intended to stimulate private investment by reducing the tax increase that would normally result from making improvements to real estate property.

Urban revitalization tax abatement incentives can apply to residential, commercial and industrial development. Both new construction on vacant or unimproved land and rehabilitation of existing structures are eligible for tax abatement.

Discussion

A development proposal has been submitted by Immanuel Senior Housing for the construction of a senior housing facility, designed for independent living for residents 55 years and older. The developer will construct a building with 56 units consisting of 28 one-bedroom units and 28 two-bedroom units. The units will be affordable to individuals between 30% and 60% area median income. This means most of the units will be affordable to seniors with annual incomes between \$15,750 and \$36,000. Rents will range from \$400 up to \$775. Six units will be market rate units without any income restrictions.

The project will include a main lobby, community room, salon, manager's office, storage, wellness room, activity room and resident storage lockers. Each floor will also have its own community space. At least 35% of the building will be fully accessible for those with physical disabilities. The development is expected to create approximately five permanent jobs, primarily in property management and maintenance.

Total development costs are estimated to be \$11.4 million. The developer will apply for low income housing tax credits from the Iowa Finance Authority in November of 2017. Immanuel has submitted a development plan that shows a second phase which likely will be initiated upon the successful completion and lease up of the first building. Assuming that Phase I is approved by the Iowa Finance Authority this funding cycle, Immanuel plans to submit Phase II for funding in November of 2018.

City Planning Commission

Iowa Code permits the City to establish urban revitalization areas, which satisfy one of the five conditions outlined in Section 404.1. Staff believes a finding would be consistent under 404.1.4. Section 404.1.4 discusses an area, which is appropriate as an economic development area as defined in section 403.17.

On September 11, 2017, City Council approved Resolution 17-201 which directed staff to initiate the process of creating the College Road Urban Revitalization Plan and Area. This resolution set October 23, 2017 as the date of the public hearing.

We specifically ask that the Commission consider finding the following:

- That the proposed College Road Urban Revitalization Plan furthers the goals of the City’s Comprehensive Plan by “providing quality senior housing or support services to allow senior citizens to remain in the community;” and
- That the College Road Urban Revitalization Area is an area appropriate for urban revitalization designation as specified in Iowa Code Section 404.1.4. Section 404.1.4 discusses areas that are appropriate for economic development as defined by Section 403.17.

Staff Recommendation

The Community Development Department recommends approval of the College Road Urban Revitalization Plan.

Attachments

College Road Urban Revitalization Plan

Submitted by: Brenda Carrico, Program Coordinator, Community Development Department

College Road Urban Revitalization Plan



Prepared by

Community Development Department
City of Council Bluffs, Iowa

Adopted by

City Council on _____, 2017

TABLE OF CONTENTS

<u>SECTION</u>	<u>PAGE</u>
INTRODUCTION.....	2
LEGAL DESCRIPTION OF AREA	5
PROPERTY OWNERS & ASSESSED VALUATIONS.....	6
EXISTING ZONING & PROPOSED LAND USE	6
PROPOSALS FOR IMPROVING OR EXPANDING CITY SERVICES	7
RELOCATION PROVISIONS.....	7
OTHER PUBLIC ASSISTANCE	7
APPLICABILITY & TAX EXEMPTION SCHEDULE	7
APPLICATION AND REVIEW PROCESS	10
ATTACHMENT A: TAX PARCEL INFORMATION.....	11
ATTACHMENT B: PROJECT DESCRIPTION	12

INTRODUCTION

The Urban Revitalization Act empowers a municipality to designate an area appropriate for commercial and industrial enterprises, public improvements related to housing and residential development, or construction of housing and residential development for low and moderate-income families, including single or multi-family housing.

The City of Council Bluffs wishes to utilize property tax abatement incentives under the Urban Revitalization Act to facilitate the construction of commercial facilities providing elderly care in the community. The preparation and subsequent adoption of an Urban Revitalization Plan is required by the Iowa Code prior to the provision of property tax abatement.

Section 404.1 of the Iowa Code stipulates that the Council may, by ordinance, designate an area of the City as the revitalization area, if that area is classified as any of the following:

1. An area in which there is a predominance of buildings or improvements, whether residential or nonresidential, which by reason of dilapidation, deterioration, obsolescence, inadequate provision for ventilation, light, air, sanitation, or open spaces, high density of population and overcrowding, the existence of conditions which endanger life or property by fire and other causes or a combination of such factors, is conducive to ill health, transmission of disease, infant mortality, juvenile delinquency or crime and which is detrimental to the public health, safety or welfare.
2. An area which by reason of the presence of a substantial number of deteriorated or deteriorating structures, predominance of defective or inadequate street layout, incompatible land use relationships, faulty lot layout in relation to size, adequacy, accessibility or usefulness, unsanitary or unsafe conditions, deterioration of site or other improvements, diversity of ownership, tax or special assessment delinquency exceeding the actual value of the land, defective or unusual conditions of title, or the existence of conditions which endanger life or property by fire and other causes, or a combination of such factors, substantially impairs or arrests the sound growth of a municipality, retards the provision of housing accommodations or constitutes an economic or social liability and is a menace to the public health, safety or welfare in its present condition and use.
3. An area in which there is a predominance of buildings or improvements which by reason of age, history, architecture or significance should be preserved or restored to productive use.
4. An area which is appropriate as an economic development area as defined in Section 403.17(10) of the Iowa Code which states “an area of a municipality designated by the local governing body as appropriate for commercial and industrial enterprises, public improvements related to housing and residential development, or construction of housing and residential development for low and moderate income families, including single or multi-family housing.”

5. An area designated as appropriate for public improvements related to housing and residential development, or construction of housing and residential development, including single or multi-family housing.

The City of Council Bluffs concluded that the College Road Urban Revitalization Area meets the criteria of element 4. Consequently, on September 11, 2017, the City Council adopted Resolution No. 17-201, which directed staff to prepare a plan for the proposed revitalization area. Illustration 1 is the City Council Resolution.

College Road Urban Revitalization Plan
Illustration 1 – Resolution

RESOLUTION NO. 17-201

A RESOLUTION OF NECESSITY AND INTENT TO ESTABLISH A COLLEGE ROAD URBAN REVITALIZATION AREA LEGALLY DESCRIBED AS PROPOSED LOTS 1-4, NEW HORIZON SUBDIVISION, REPLAT 2, CITY OF COUNCIL BLUFFS, POTTAWATTAMIE COUNTY, IOWA.

- WHEREAS, the subject area is an appropriate area as defined in Sections 404.1.4 of the Iowa Code; and
- WHEREAS, a proposal has been submitted for the construction of a commercial project on the vacant land; and
- WHEREAS, a plan for the area must be developed in accordance with Section 404.2 of the Iowa Code; and
- WHEREAS, thirty days notice of public hearing is required to be sent to all property owners and occupants within the area; and
- WHEREAS, notice of public hearing is also required in accordance with Section 362.3 of the Iowa Code.

**NOW, THEREFORE, BE IT RESOLVED
BY THE CITY COUNCIL
OF THE
CITY OF COUNCIL BLUFFS, IOWA**

That the development of the area is necessary in the interest of the City and the area substantially meets the criteria of Section 404.1.4.

BE IT FURTHER RESOLVED

That the City Council directs staff to prepare a final plan pursuant to Section 404.2 of the Iowa Code by no later than September 29, 2017.

BE IT FURTHER RESOLVED

That the City Council directs the City Clerk to set this matter for public hearing on October 23, 2017.

**ADOPTED
AND
APPROVED:**

September 11, 2017


Matthew J. Walsh Mayor

ATTEST:


Jodi Quakenbush City Clerk

LEGAL DESCRIPTION

The College Road Urban Revitalization Area is a tract of land containing the following legally described parcels:

Proposed Lots 1-4, New Horizon Subdivision, Replat Two, City of Council Bluffs, Pottawattamie County, Iowa

Illustration 2 shows the location and the boundary of the College Road Urban Revitalization Area. The area is 12.29 acres.

College Road Urban Revitalization Plan Illustration 2 - Boundary



PROPERTY OWNERS AND ASSESSED VALUES

The College Road Urban Revitalization Area will be comprised of 12.29 acres of land owned by 92 Investments, LLC. Lots 1-4, New Horizon Subdivision, Replat 2, is part of parcel 754328300025. The land valuation for the proposed development was not complete at the time of the plan completion and is estimated to be \$16,277.86*. Estimated value is based on per acre land value for proposed Lots 1-4, based on the 2017 land valuation of the current parcel. This information was obtained from the records of the Pottawattamie County Assessor.

Parcel Number	Owner & Address	Land Valuation	Dwelling Valuation	Building Valuation	Total Valuation
754328300025	92 Investments, LLC	\$16,277.86*	\$0	\$0	\$16,277.86*

EXISTING ZONING AND PROPOSED LAND USE

The College Road Urban Revitalization Area is zoned R-3/Low Density Multi-Family Residential (pending) with a Planned Residential Overlay (pending). The R-3/Low Density Multi-Family District is intended and designed for development of medium density multi-family residential units. The Planned Residential Overlay is intended to provide flexibility in the use and design of structures and land in situations where conventional development may be inappropriate. The Overlay also permits projects that involve the mixture of commercial and residential uses.

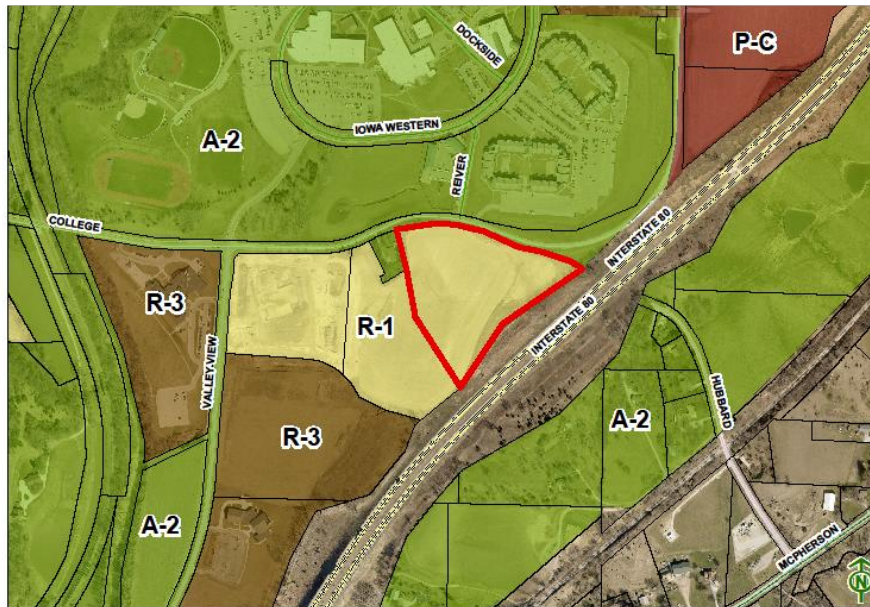
Surrounding zoning includes R-1 District to the west, R-3 District to the south and A-2 District to the north and east. Existing land uses abutting the proposed subdivision include Iowa Western Community College to the north, College View Elementary School and a church (under construction) to west, and New Horizons Presbyterian Church and a senior care and housing facility (under construction) to the south. An attached townhome development is proposed immediately to the west of the project site. The Bluffs Tomorrow: 2030 Future Land Use Plan designates the subject property as Rural Residential/Agricultural. Illustration 3 depicts the existing on-site and surrounding zoning.

A development proposal has been submitted by Immanuel Senior Housing for the construction of a multi-component project. The first phase of the project will include 56 units of senior independent living. The building will include a main lobby, community room, salon, manager's office and storage. Other residential support spaces including a community space on each floor and a wellness room and staff offices on the first floor, along with an activity room on the third floor. Future phases could include two additional buildings with similar programming. Associated parking and landscaping will also be provided with each phase of construction.

A more specific project narrative can be found in Attachment B.

College Road Urban Revitalization Plan

Illustration 3 – Zoning



PROPOSALS FOR IMPROVING OR EXPANDING CITY SERVICES

The proposed College Road Urban Revitalization Area will be served with all municipal services (sanitary sewer, water and storm sewer) and can be accessed by a dedicated roadway. A water main extension will be required. Electricity and gas service are also available to the project. The project is located adjacent to College Road Drive which is adequate to handle the additional traffic generated by this proposed project.

RELOCATION PROVISIONS

The College Road Urban Revitalization Area is currently undeveloped; therefore, the City will not displace any residential or non-residential tenants as a result of proposed improvements in the urban revitalization area.

OTHER PUBLIC ASSISTANCE

The developer is requesting property tax exemption. The developer has not requested any other public assistance.

APPLICABILITY AND TAX EXEMPTION SCHEDULE

1. Eligibility - The College Road Urban Revitalization Plan will apply to commercial and multi-family residential (12 or more units).

Both new construction and rehabilitation of existing structures will be eligible for tax abatement under the plan. Rehabilitation may include renovation of a structure to bring it

to code standards, remodeling and expansion. New construction of multi-family structures containing 12 or more units or the renovation of existing multi-family properties containing 3 or more units will also be eligible for property tax exemption under the plan.

2. Term - The term of this Plan shall be until December 31, 2035 or amended by City Council.

3. Commercial and Industrial

Ten Year - All eligible commercial and industrial real estate is eligible to receive a partial exemption from taxation on the actual value added by the improvements. The exemption is for a period of ten years. The amount of the partial exemption is equal to a percent of the actual value added by the improvements, determined as follows:

- a. For the first year, eighty percent.
- b. For the second year, seventy percent.
- c. For the third year, sixty percent.
- d. For the fourth year, fifty percent.
- e. For the fifth year, forty percent.
- f. For the sixth year, forty percent.
- g. For the seventh year, thirty percent.
- h. For the eighth year, thirty percent.
- i. For the ninth year, twenty percent.
- j. For the tenth year, twenty percent.

-OR-

Three Year - All eligible commercial and industrial real estate is eligible to receive a one hundred percent exemption from taxation on the actual value added by the improvements. The exemption is for a period of three years.

4. Multi-Family New Construction (12 or more units) - All eligible multi-family construction shall be eligible to receive a 100% exemption for a period of four years.

5. Multi-Family Rehabilitation (3 or more units) - All eligible multi-family rehabilitation projects shall be eligible to receive a 100% exemption for a period of ten years.

6. Improvements - Improvements shall include commercial and industrial rehabilitation and additions to existing structures as well as new construction on vacant land or on land with existing structures. Improvements involving multi-family projects shall include new construction of projects resulting in 12 or more units or the rehabilitation of existing multi-family projects containing 3 or more units (assessed as commercial property). In addition, all improvements must result in the following increases in value:

- For non-residential property, improvements must increase the actual value of the structure by at least 15%. If more than one building is located on the property, the 15% increase requirement applies only to the structure or structures upon which the improvements were made.

- For residential property, the improvement must increase the actual value of the structure by at least 10%.
- If no structures were located on the property prior to the improvements, any improvements may qualify.

7. Actual Value - Actual value added by the improvements means the actual value added as of the first year for which the exemption was received. However, if such construction was begun one year prior to the adoption by the City of a Plan of Urban Revitalization pursuant to Chapter 404 of the Iowa Code, the value added by such construction, shall not constitute an increase in value for purposes of qualifying for the exemptions listed in this section.

APPLICATION AND REVIEW PROCESS

Upon completion of all improvements made within the assessment year for which the exemption is first claimed, the owner shall use the following procedure to secure the tax exemption.

1. The applicant requests a conference with the Community Development Department to discuss applicability of the request to established policy and review the application process.
2. The applicant completes the required forms and submits them along with all required data by February 1st to the Community Development Department. As part of the acceptance procedure, the Community Development Department shall review the submission for completeness. If there is a deficiency, the Department shall notify the applicant within seven (7) days.
3. The Department shall review the application according to the following criteria: 1) conformance with the Urban Revitalization Plan; 2) a finding that the site is within a designated area; 3) a finding that the work has been completed within the time required to qualify for abatement in the assessment year; 4) a finding that the application is consistent with Chapter 404 of the Iowa Code; and 5) a finding that the application is consistent with all applicable city codes and ordinances.
4. Upon review of the application, the Community Development Department will prepare a recommendation and schedule the proposal for City Council consideration.
5. By resolution, the City Council will accept the application and improvements as consistent with the intent of this plan and state law.
6. The City Council will then direct the Community Development Department to transmit a copy of the case file to the Assessor's Office by March 1st as required by Chapter 404 of the Iowa Code.

Attachment B

Immanuel Senior Housing Council Bluffs, IA Project Overview

Sponsor/Developer:

Immanuel
1044 North 115th Street, Ste. 500
Omaha, NE 68154
Scott Bear, V.P. of Finance & Accounting
402-829-2922
SBear@immanuel.com

Rhonda Distefano
V.P. of Construction, Facility Mgmt. & Environmental Services
402-829-2915
rdistefano@immanuel.com

Consultant:

Lightengale Group
140 S. Dearborn St., Suite 1500A
Chicago, IL 60603
Maggy Jares
312.999-9457
maggy@lightengalegroup.com

Map: Site is located south of the College Road and West of I-80, near the Iowa Western Community College campus



Immanuel Senior Housing
Council Bluffs, IA
Project Overview

Project Rendering



Property Description

<i>Address:</i>	South of College Road, and west of I-80, Council Bluffs, IA 51503; Pottawattamie County
<i>Census Tract:</i>	317.00
<i>Site:</i>	Site is 12.3 acres total of vacant land; project will use a portion of the overall site
<i>Building Area:</i>	56,700 SF
<i>Target Population:</i>	Independent Elderly, 55 and older

Building Description

<i>Construction Type:</i>	New construction
<i>Number of units:</i>	56
<i>ADA Accessible units:</i>	20
<i>Parking Spaces:</i>	70
<i>Common Area Amenities:</i>	Fitness/Wellness Room, Community Room, Salon, Activity Room

**Immanuel Senior Housing
Council Bluffs, IA
Project Overview**

Neighborhood Amenities

Within five miles of the site there are many places to shop, including a Walmart, Target, Kmart, and many other national retailers. Dining options include several diners as well as a Cracker Barrel, Olive Garden and other fast-casual options. The Council Bluffs Library, Council Bluffs Branch YMCA and Connections Area Agency on Aging (Connections) are within 4 miles of the site. Connections offers healthy living programs and case management services. The site is very close to the Iowa West Community College campus, which offers many personal enrichment courses such as arts and crafts, computers, dance, gardening, music, photography, recreation, weight loss and healthy cooking. The College's Arts Center has a full schedule of musicals, concerts and theatrical performances.

Timeline

Apply for Low Income Housing Tax Credits:	11/16/17
Finance Closing/Begin Construction:	10/1/2018
Construction Completion:	10/1/2019
100% Occupancy:	4/1/2020

Development Team

The owner has assembled an experienced development team. Each team member has vast LIHTC experience, and brings unique knowledge to the project. The team members are as follows:

Owner/Developer/Property Manager: Immanuel is an experienced developer, owner, manager of senior living communities including independent, assisted, memory support and long-term care housing. Immanuel has been serving the greater Omaha area for more than 125 years. Immanuel is a member of Lutheran Services in America (LSA), one of the largest health and human services networks in the country. The LSA network includes more than 300 members and touches the lives of 1 in 50 people each year in thousands of communities across the U.S. and the Caribbean.

There are thirteen people on Immanuel's executive team and the two main project contacts, Scott Bear and Rhonda Distefano each have extensive experience in finance, construction and management. Scott is the V.P. of Finance and Accounting and has a strong background in healthcare finance. He has nearly 13 years of experience in strategic, operational and financial planning and budgeting. He served on the board of (LFMA) Lutheran Financial Managers Association and is currently a member. Rhonda is the V.P. of Construction, Facilities Management and Environmental Services and has nearly 30 years of experience in commercial construction and is a past board member of Habitat for Humanity.

General Contractor: Lund-Ross Constructors Lund Ross Constructors is a local construction company established 35 years ago. They have built 54 projects, totaling over 2,400 units involving Low Income Housing Tax Credits in seven states, including Iowa. Their understanding of the process and demands of this project type are unparalleled in this market. LR has worked often in Council Bluffs, including recent housing projects, and has an excellent relationship with the city staff and local subcontractors. LR completed the Immanuel corporate offices renovation.

Architect: Holland Basham – the firm was established in 1989 and consists of 40 design professionals. This full-service design firm has experience in health care, education, hospitality, commercial, retail and

**Immanuel Senior Housing
Council Bluffs, IA
Project Overview**

Project Description:

Immanuel Senior Housing is a proposed fifty-six (56) unit new construction senior development (aged 55 and older) to be located near College Road and I-80 in Council Bluffs, Iowa. Immanuel's goal is to address an affordable housing shortage in Council Bluffs. Based on a recent market survey, the senior population is expected to increase through 2021, and approximately 57.6% of senior renter households have an annual income of less than \$30,000. There are at least three income-restricted senior properties in Council Bluffs. All three are fully occupied with low vacancy rates and long waitlists, signaling a shortage of affordable housing options for local seniors.

The project will consist of twenty-eight (28) one-bedroom units and twenty-eight (28) two-bedroom units. Units will be affordable to individuals between 30% AMI and 60% AMI, which means units will be affordable to seniors with annual incomes between \$15,750 and \$36,000. The proposed unit mix and rent schedule is as follows:

Unit Mix / Initial Rents

	<u>30% AMI</u>	<u>40% AMI</u>	<u>60% AMI*</u>	<u>Market Rate</u>	<u>Total</u>
1 Bedroom Units	3	9	13	3	28
1 BR Rent	\$400	\$530	\$700	\$700	
2 Bedroom Units	3	8	14	3	28
2 BR Rent	\$480	\$640	\$775	\$775	
Total Units	6	17	27	6	56

* Owner pays all utilities.

Unit and Site Amenities

Immanuel Senior Housing's design allows for an abundance of social space. The building's design includes the main lobby, community room, salon, manager's office and storage. Resident support spaces include additional community space on each floor, a wellness room and staff offices on the first floor and an activity room on the third floor. The building will also offer storage lockers and a trash/recycling room. At least thirty-five percent (35%) of the building will be fully accessible for those with physical disabilities. There is a second phase planned and there will be a no-smoking on the entire campus.

Units will be cable ready. All bedrooms and living rooms will have wall-to-wall carpet. Bathrooms will have ceramic tile and kitchens will have vinyl flooring. Appliances will include dishwasher, refrigerator/freezer, microwave, electric range/oven, fan/hood/light, and a stainless-steel sink. All units will have an in-unit washer and dryer. Windows will have faux wood blinds and kitchens will include wood cabinets and laminate counters. Bathrooms will include vertical grab bars in the bathtub/shower and lever door hardware throughout the unit.

The building will include automatic fire sprinklers, a fire alarm and smoke detectors. With regards to the interior paints, primers, adhesives, caulks and water heaters, the building will incorporate a variety of environmentally friendly products and features. Further, the building will also abide by strict green and energy efficiency standards, including a Home Energy Rating Systems (HERs) rating of 62 or less.

**Immanuel Senior Housing
Council Bluffs, IA
Project Overview**

Neighborhood Amenities

Within five miles of the site there are many places to shop, including a Walmart, Target, Kmart, and many other national retailers. Dining options include several diners as well as a Cracker Barrel, Olive Garden and other fast-casual options. The Council Bluffs Library, Council Bluffs Branch YMCA and Connections Area Agency on Aging (Connections) are within 4 miles of the site. Connections offers healthy living programs and case management services. The site is very close to the Iowa West Community College campus, which offers many personal enrichment courses such as arts and crafts, computers, dance, gardening, music, photography, recreation, weight loss and healthy cooking. The College's Arts Center has a full schedule of musicals, concerts and theatrical performances.

Timeline

Apply for Low Income Housing Tax Credits:	11/16/17
Finance Closing/Begin Construction:	10/1/2018
Construction Completion:	10/1/2019
100% Occupancy:	4/1/2020

Development Team

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**CITY PLANNING COMMISSION
MINUTES
OCTOBER 10, 2017**

1. **CALL TO ORDER** – Blackman called the meeting to order at 6:00 P.M.

2. **ROLL CALL**

Members Present: Blackman, Danielsen, Holm, Milford, Rew and Wolf
Absent: Crawford, DeMasi, Holtz, Nelson and VanHouten
Vacancy: None
Staff: Brown, Garrett, Gibbons, Meeks and Wade

3. **ADOPTION OF AGENDA**

Motion by Rew, second by Holm to adopt the agenda as presented. Motion carried by unanimous voice vote.

4. **APPROVAL – MINUTES OF SEPTEMBER 12, 2017 MEETING**

Motion by Holm, second by Danielson to adopt the agenda as presented. Motion carried by unanimous voice vote.

5. **PROOF OF PUBLICATION** – Brown

6. **REVIEW OF MEETING PROCEDURES** – Blackman

7. **PUBLIC HEARINGS** - *(Refer to the taped recording of these proceedings for official verbatim minutes)*

- A. CASE #SAV-17-003: Public hearing on the request of Driver Properties, LLC to vacate and dispose of that part of 11th Avenue extending from the east right-of-way line of South 8th Street to the west right of line of South 7th Street and abutting Blocks 12 and 13 Riddle Subdivision. Location: 11th Avenue between South 7th and 8th Streets.

The following members of the public spoke in favor of the request:

Dan Driver, 15195 220th Street, Council Bluffs, IA 51503, spoke on behalf on the request. Driver stated the purpose of the vacation is to acquire additional land so that he can build a new employee parking lot and provide access to a garage at this place of business at 1105 South 8th Street.

No members of the public spoke in opposition of the request.

Brown stated all abutting property owners, except for Black Hills Energy, returned signed petitions to the City confirming they are in favor of the vacation and are willing to purchase their portion of the right-of-way, if vacated. Brown further stated the Community Development Department will follow-up Black Hills Energy to determine if they are interested in acquiring the portion of right-of-way that abuts their property, prior to City Council hearing the request. Brown then discussed staff's recommendation for the vacation request and answered questions from Commission.

Motion by Rew, second by Holm to recommend the following:

1. Approval of the request to vacate and dispose of that part of 11th Avenue extending from the east right-of-way line of South 8th Street to the west right-of-way line of South 7th Street and abutting Block 12 and 13 Riddle's Subdivision subject to the applicant and Mr. and Mrs. Robert Driver

- combining properties in order to not create a landlocked parcel and that all portions of the vacated right-of-way be acquired by the abutting property owners; and
2. Approval to dispose of the 12'x 33' section of 11th Avenue, located north of the east alley in Block 13, Riddles Subdivision, to each abutting property owner if vacated.

VOTE: AYE–Blackman, Danielsen, Holm, Milford, Rew and Wolf. NAY – None. ABSTAIN – None. ABSENT – Crawford, DeMasi, Holtz, Nelson and VanHouten. Motion carried.

- B. CASE #ZT-17-005: Public hearing on the request of EQ School of Hair Design to amend the text of Chapter 15.03.595 of the Council Bluffs Municipal Code (Zoning Ordinance) to include 'post secondary schools' as part of the definition of 'schools'.

The following member of the public spoke in favor of the request:

Craig Mead, 536 West Broadway, Council Bluffs, IA 51503 stated he is the owner of EQ School of Hair Design and supports the recommendation made by staff to amend the text of Chapter 15.03.595 of the Council Bluffs Municipal Code (Zoning Ordinance) to include 'post secondary schools' as part of the definition of 'schools'.

No members of the public spoke in opposition of the request.

Motion by Danielsen, second by Blackman to recommend approval of the request to include "accredited Post-Secondary Schools" under the definition of a "School". The definition of a "School" will become:

§15.03.595 School. "School" means all schools, public or non-public, at all levels from prekindergarten level through grade twelve, which meet the requirements of the State Board of Public Instruction, and accredited schools that provide post-secondary education. Said "School" shall include the buildings and all land contiguous to said buildings.

VOTE: AYE–Blackman, Danielsen, Holm, Milford, Rew and Wolf. NAY – None. ABSTAIN – None. ABSENT – Crawford, DeMasi, Holtz, Nelson and VanHouten. Motion carried.

- C. CASE #ZT-17-006: Public hearing on the request of Electric Guard Dog, LLC to amend Section 15.24.040(3)(e)(i) of the Municipal Code (Zoning Ordinance) to eliminate the required 300 foot separation distance between a 'fence, electrically charged security' and a residential district and/or legal nonconforming residential use.

The following member of the public spoke in favor of the request:

Michael Pate, 3131 Heyward Street, Columbia, SC 29205 spoke on behalf the request for the applicant. Pate stated the purpose of the amendment is to resolve an issue with an electrically charged security fence his company installed at the Camping World site at 2802 South 21st Street that does not comply with the required 300 foot separation distance from a residential district and/or legal nonconforming residential use. Pate explained the fence was installed to eliminate theft that was occurring at Camping World's new vehicle sales lot. Pate acknowledged the fence was constructed without a permit from the City and then stated his variance request to allow the fence be located within 195 feet of a residential district was denied by the Council Bluffs Zoning Board of Adjustment. Pate then discussed how an electrically charge fence operates and the associated industry safety standards. Pate then requested clarification on comments in the staff report, relative to a required eight foot-tall perimeter fence around the electrically charged security fence.

No one from the public spoke in opposition of the request.

Brown explained to the Commission and applicant that the eight foot-tall perimeter fence is a requirement stated in Chapter 13.16, *Electrical Code*, of the Council Bluffs Municipal Code, which is enforced by the Council Bluffs Building Division. Brown then clarified that electrically charged security fences must comply with both zoning and electrical code requirements, as per the Council Bluffs Municipal Code of Ordinances. Brown then responded to questions from the Commission regarding the location of electrically charged security fence on Camping World's property as well as the Zoning Board of Adjustment's decision to deny their variance request for a lesser separation distance from a residential zoning district and/or legal nonconforming residential use.

Wade clarified that City Council established the required 300-foot separation distance in order to provide a safety buffer between a residential zoning district/use and a commercial/industrial property with an electrically charged security fence.

The Planning Commission asked questions and discussed the request.

Motion by Danielsen, second by Blackman to recommend denial of the text amendment request based on reasons stated in the case staff report.

VOTE: AYE–Blackman, Danielsen, Holm, Milford, Rew and Wolf. NAY – None. ABSTAIN – None. ABSENT – Crawford, DeMasi, Holtz, Nelson and VanHouten. Motion carried.

- D. CASE #URV-17-005: Public hearing on the request of the City of Council Bluffs to create the College Road Urban Revitalization Area and adopt the required plan for an area legally described as proposed Lots 1-4, New Horizon Subdivision, Replat 2, City of Council Bluffs, Pottawattamie County, Iowa. Location: east of Valley View Drive and south of College Road.

The following member of the public spoke in favor of the request:

Scott Bear, Vice President of Finance and Accounting, Immanuel, 1044 N. 115th Street, Suite 500, Omaha, NE 68154 spoke on behalf of the request. Bear stated the College Road Urban Revitalization Area will allow Immanuel to receive tax abatement on their proposed senior housing development on the subject property. Bear then briefly explained the proposed Immanuel senior housing development to the Commission.

No one spoke in opposition of the request.

Brown stated the Commission is responsible to review the College Road Urban Revitalization Area and determine if the associated plan is consistent with the goals and objectives of the Bluffs Tomorrow: 2030 Plan (comprehensive plan). Brown then clarified that an urban revitalization area allows eligible development projects to receive tax abatement in accordance with State laws.

The Planning Commission members asked questions and discussed the request.

Motion by Milford, second by Holm to recommend approval of the College Road Urban Revitalization Plan and Area and to find the following:

- That the proposed College Road Urban Revitalization Area furthers the goals of the City's Comprehensive Plan by "providing quality senior housing or support services to allow senior citizens to remain in the community;" and
- That the College Road Urban Revitalization Area is an area appropriate for urban revitalization designation as specified in Iowa Code Section 404.1.4. Section 404.1.4 discusses areas that are appropriate for economic development as defined by Section 403.17 of the Iowa Code.

VOTE: AYE—Blackman, Danielsen, Holm, Milford, Rew and Wolf. NAY – None. ABSTAIN – None. ABSENT – Crawford, DeMasi, Holtz, Nelson and VanHouten. Motion carried.

8. **OTHER BUSINESS** (*Refer to the taped recording of these proceedings for the official verbatim minutes*)
- A. City Council update – Wade provided an update of City Council actions relative to recent planning cases.
- B. Other items of interest – None.
9. **ADJOURNMENT** – Blackman adjourned the meeting at 6:45 P.M.

The recording of this proceeding, though not transcribed, is part of the record of each respective action of the City Planning Commission. The recording of this proceeding is incorporated into these official minutes of this Commission meeting as if they were transcribed herein.