



PLANNING COMMISSION STAFF REPORT UDC Text Amendment

FROM: Dan Olson, City Planner

TO: Planning Commission (for April 10 meeting)

DATE: April 4, 2023

RE: PUBLIC HEARING. UDC text amendment request from Amarok LLC to amend requirements for electric fences (Application Number 2023 - 04)

A. BACKGROUND

Staff has received a text amendment request from Amarok LLC, a maker of electric security fences based in Columbia, South Columbia. Currently electric fences are not allowed in Crystal, but the applicant is asking to amend the UDC to allow that fence type. City staff is recommending denial of the text amendment and this was made known to the applicant prior to the application submittal.

Notice of the April 10 public hearing was published in the Sun Post on March 30 and posted to all Crystal neighborhoods on Nextdoor.

Attachments:

- A. Text amendment request and rationale from applicant
- B. Product brochure from applicant
- C. Current zoning map showing Commercial, Industrial and Airport districts

B. PROPOSED AMENDMENT

Ten-foot tall electric fences. The city received a request from Amarak to allow ten-foot tall electric fences for all properties in the Commercial, Industrial and Airport zoning districts (attachment A). Currently electric fences are not allowed in Crystal. The following is a summary of the applicant's request:

- Zoning districts. There is a lack of clarity in the applicant's proposed text about where 10' tall electric fences would be allowed:
 - The applicant is requesting that electric fences be allowed on all properties that are zoned Commercial, Industrial and Airport. The city's zoning map is attachment C to show the large numbers of properties that are included in those districts.
 - The text submitted by the applicant also states that electric fences shall be allowed on "any property not zoned *exclusively* (emphasis mine) for residential use". Since all three of the city's residential districts allow non-residential uses, this text could be interpreted two ways:
 - Since the city's residential districts allow non-residential uses, electric fences would be allowed on all residentially-zoned properties; or
 - Electric fences are allowed in residential districts, but only for non-residential uses such as schools, religious institutions, and commercial uses.

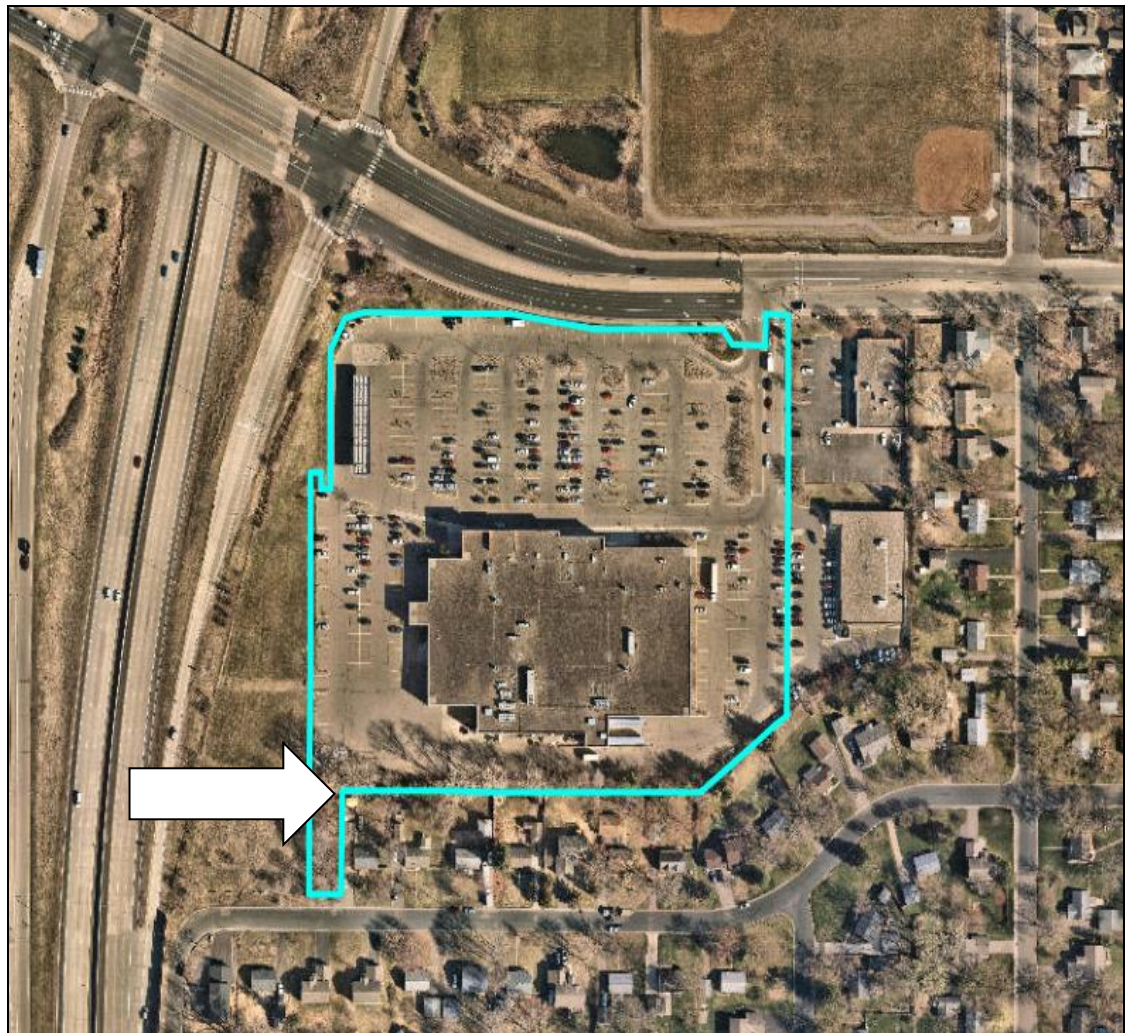
With either interpretation, electric fences would be allowed for properties beyond the Commercial, Industrial and Airport districts.

- Fence height. The text amendment would require a minimum electric fence height of at least 10 feet, but the fence could be taller if the perimeter fence is taller than 8 feet. Currently the maximum non-electric fence height in non-residential districts is 8.5 feet.
- Additional fence required. The proposed amendment would require an additional perimeter fence in front of the electric fence with a minimum height of 5 feet.
- Unclear electric code requirements. The applicant references requirements from the Electrotechnical Commission Standards (IEC) that would apply to electric fences in Crystal. The city's electrical inspector reviewed these regulations and is unclear if they, or any other electric code, would apply to the applicant's fence. For example, the text states that the "energizer for electric fences must be driven by a commercial storage battery not to exceed 12 volts DC". The electrical inspector is not convinced that an electric fencing system enclosing a large property could be powered by a 12-volt battery (for comparison, a typical home thermostat has 24 volts). As such, it is difficult to determine what electrical code requirements would apply to such a fence.

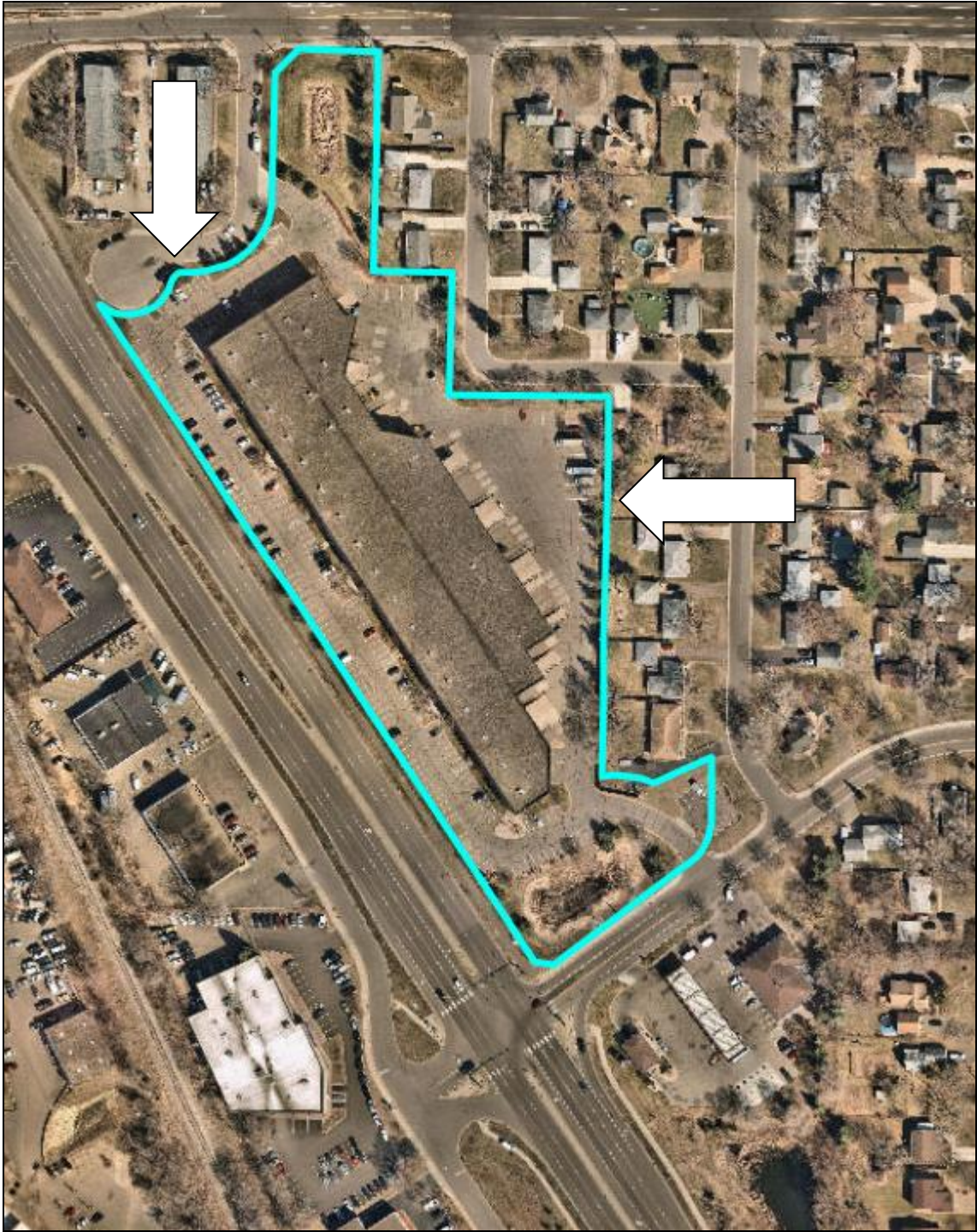
STAFF RECOMMENDATION

Staff recommends denial of the proposed fence amendment, with the following findings:

1. **Electric fences would be allowed in large areas of the city.** The applicant has requested that electric fences be allowed in the city's three commercial districts which contains hundreds of properties. As noted previously, the text amendment would also be interpreted to allow electric fences for at least some uses in residential districts. By way of example, staff offers three examples of where electric fences could be installed that would impact single-family residential (**arrows indicate locations for potential electric fences**).
 - a. **Cub Foods, 5301 – 36th Ave N.** The property is zoned Commercial, with single-family homes located along the southern boundary of the property where a future electric fence could be located.



b. **Office warehouse, 5500 Lakeland Ave N.** The property is zoned Industrial, with single-family homes located along the eastern boundary of the property and multi-family apartments on the northern boundary. Electric fences could be located along both boundaries.



c. **Liquor store, 5120 – 56th Avenue N.** The property is zoned Commercial, with single-family homes located on both sides of the property where future electric fences could be located.



2. **Unclear electric code requirements.** As noted above, city staff is not able to determine if the electrical code requirements cited by the applicant in their text amendment would apply to the applicant's fence.
3. **Commercial area aesthetics.** Past surveys of Crystal residents have consistently demonstrated a desire for commercial and industrial areas that are more aesthetically pleasing. Allowing for the possibility of electric fences is inconsistent with achieving that goal.
4. **Storage in building.** Property owners wanting to protect valuable assets have the option of storing those assets within a building rather than storing them outdoors with an electric fence.
5. **Lawful non-conforming uses.** Once 10-foot tall electric fences are installed in Crystal, it is virtually impossible to have those fences removed even if the ordinance is later changed to prohibit them. They would become permanent fixtures of the community.
6. **Prohibited by other cities.** The city is not alone in prohibiting electric fences, as seen in the table on the next page.

City	Electric fences allowed	If allowed, process to follow
Golden Valley	No	
New Hope	No	
Robbinsdale	No	
St. Louis Park	No	
Plymouth	Yes	Property owner must receive approval of an interim use permit which allows the fence to be installed for a set period of time
Roseville	No	
Brooklyn Center	No	
Brooklyn Park	No	
Richfield	No	
Maple Grove	Yes	Fences are allowed as part of a farmstead. For non-farmstead properties, property owner must receive approval of a conditional use permit (CUP)

C. REQUESTED ACTION

The Planning Commission is asked to make a recommendation to the City Council to either deny or approve the proposed UDC text amendment to allow ten-foot tall electric fences. Staff recommends denial of the amendment.

The following is the proposed schedule for adopting the text amendment:

- April 18 Council considers first reading of ordinance
- May 2 If Council approves the ordinance amendment on first reading, Council considers second reading and adoption. If the Council does not approve the first reading, the text amendment application is denied.
- May 11 If Council approves the ordinance on second reading, summary of ordinance published
- June 10 If ordinance adopted by Council, effective date of ordinance

1. Zoning Map or Text Amendment Narrative

Submit a separate narrative document which answers or addresses the following questions about the proposed zoning map or text amendment.

For a zoning text amendment:

a) Provide the specific section of city code that you would like amended.

520.09 Fences and Retaining Walls

520.09 Subd 1. (3) (iv) ADD

520.09 Subd 1. (3) (c) (1) – changes to wording with addition of (A)

b) Provide the specific language to be added or amended.

Proposed language in red below for 520.09 Subd 1. (3) (iv) Wording in red
Proposed language in red below in 520.09 Subd 1. (3) (c) (1) Wording in red

520.09 Subd 1. (3)

(3) Fences in non-residential districts. Fences in non-residential districts, including the TCPD district, shall comply with the following:

(i) For interior lots, fences shall not be taller than 4.5 feet in the front yard and 8.5 feet in the side or rear yard; and

(ii) For corner lots, fence height is determined in the same manner as for corner residential lots (see Figures 17 and 18), except that the maximum height shall be 8.5 feet where a 6.5 feet fence is allowed.

(iii) Fence height in front or corner side yards may exceed 4.5 feet in height up to a maximum of 8.5 feet if the fence is used as screening as allowed in the Crystal city code, subsection 520.13. HOWEVER

(iv) Fence height on any lot in C, I, AP district where a battery charged electric fence is installed as per section 520.09 Subd 1 (3)(c)(1)(A), the perimeter fence height will be minimum 5' on front, side and rear yards. The battery charged fence (installed inside (behind) Perimeter Fence will be installed to a height of 10' (ten) or 2' (two) feet taller than existing perimeter fence.

(3) Fences in non-residential districts.

(c) Design and maintenance requirements.

(1) Barbed wire, razor wire, concertina, dannert, and above-ground electrical fences are prohibited except that battery charged electric security fences will be permitted in C, I, and AP districts when installed in accordance with the regulations as listed below. In the TC-PD district electrical fences and chain-link fences are prohibited.

A. The construction and use of electric fences shall be allowed in the city only as provided in this section, subject to the following standards:

1. IEC Standard 60335-2-76: Unless otherwise specified herein, electric fences shall be constructed or installed in conformance with the specifications set forth in International Electrotechnical Commission (IEC) Standard No. 60335-2-76.

2. Electrification:

(a) The energizer for electric fences must be driven by a commercial storage battery not to exceed 12 volts DC. The storage battery is charged primarily by a solar panel. However, the solar panel may be augmented by a commercial trickle charger.

(b) The electric charge produced by the fence upon contact shall not exceed energizer characteristics set forth in paragraph 22.108 and depicted in Figure 102 of IEC Standard No. 60335-2-76.

3. Perimeter fence or wall:

(a) No electric fence shall be installed or used unless it is completely behind/inside a non-electrical fence or wall that is not less than five feet.

4. Location: Electric fences shall be permitted on any property not zoned exclusively for residential use.

5. Height: Electric fences shall have a height of 10 feet (or 2 feet higher than the perimeter fence whichever is higher).

6. Warning signs: Electric fences shall be clearly identified with warning signs that read: "Warning-Electric Fence" at intervals of not greater than thirty feet.

7. Electric fences shall be governed and regulated under burglar alarm regulations and permitted as such.

B. It shall be unlawful for any person to install, maintain or operate an electric fence in violation of this section.

c) Discuss how the amended text more adequately fulfills the purposes of the unified development code (City code section 500.03)

The city code when amended as above allows for business owners to install a security system on the interior (behind) and existing perimeter fence to protect their properties and business. The ability to secure a business property and assets is a valuable tool when working to attract business to the city as well as employment for residents. There is no change to the existing use and no new use is being proposed. Therefore, there will be no impact on streets, highways, and pavement type.

The security fence will in no way adversely affect the surrounding area. Rather, to the contrary, the security fence enhances the vicinity by effectively deterring crime. Lower crime equals higher property values and safer residents, which in turn increase revenue to the city. Appellant

affirms there will be no effect, whatsoever, on the use of adjacent properties. The system is virtually invisible to passing vehicular traffic so there is no impact on aesthetics in the area.

The city maintains control over the districts where the battery charged 10' system is installed with the battery charged fences being allowed in districts, C, I, AP but not in any residential or TC-PD. The City of Crystal will have a record of the location of the system in the city. The city of Crystal will have an alarm permit/registration on file and or a fence permit submitted and approved to install the system. This also allows the City of Crystal to earn revenue through allowing permitting that would have otherwise been denied, and allowing local business owners to keep their businesses safe and remain based in the city of Crystal employing local residents, and paying local property and business taxes.

This amendment allows for business safety, city revenue and the city maintaining control over where and how the system is installed in the City of Crystal. We cannot imagine that the city would turn down this request to allow the system as outlined in the text amendment in the districts listed.



TYPICAL CUSTOMERS

- Trucking & Logistics
- Distribution
- Metal Recycling
- Landscaping
- Collision & Automotive Repair
- Auto Auctions & Dismantlers
- Equipment Rental
- Truck Sales & Service

ABOUT US

We are a perimeter security solution for businesses located on commercial, manufacturing, and industrial sites whose needs include the **protection of outdoor assets**.

There are **4 STRATEGIC SEGMENTS** in our response to common critical tactics

5,900+ Installations
1,500+ Jurisdictions

1. DETER

Deterrence begins at the perimeter with **physical infrastructure and multi-lingual warning signs**, discouraging a criminal from attempting a breach at all.

Deterrence is a psychological battle, and when EGD wins, **crime is stopped before it happens**.

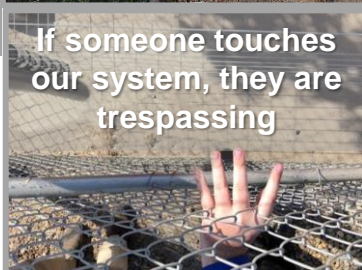


2. DEFEND

Stop unauthorized entry!

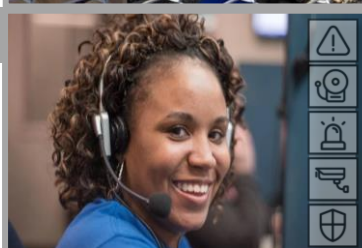
Physical Deterrent

Built **ONLY** inside the existing non-electrified perimeter barrier



3. DETECT

Audible & monitored alarm system which activates when trespass is detected. System includes remote access to arm/disarm.



4. DEPLOY

If an activated alarm is **confirmed to be a trespasser**, responders are then contacted and deployed to examine



MEDICALLY SAFE

Pulses: every **1.3 seconds**

Duration: less than **0.0003 seconds**

"The pulses emitted from AMAROK's electric fences, while unpleasant, are not dangerous."



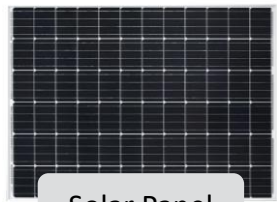
Mark Kroll, PhD

Internationally recognized authority on electrical injury

Served on committees for ANSI standards, IEC standards, and ASTM standards

Adjunct Professor of Biomedical Engineering at the U of Minnesota and Cal Poly, San Luis Obispo

HOW IT WORKS: CORE COMPONENTS



Solar Panel



Battery
(does not exceed
12V DC)



Energizer



Alarm Panel,
Keypad &
Cell Unit



Electric Security
System

**AMAROK owns and maintains
the security system**

INTERNATIONALLY APPROVED

We meet standards set by the
International Electrotechnical
Commission (IEC 60335-2-76) and
ASTM (F3296-19)



International
Electrotechnical
Commission



GREEN SECURITY

The system is powered by
12-volt battery that is
recharged by a solar panel,
which is effective as well as
environmentally friendly

- Great addition to **green strategy**
- Not affected by power failures
- Not connected to mains power

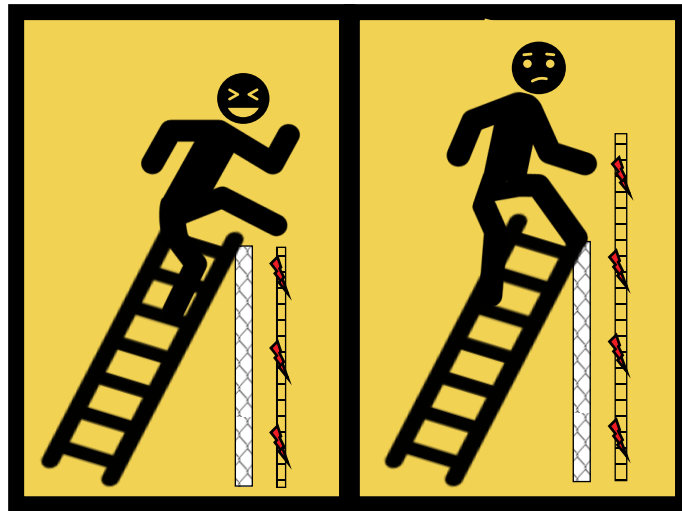


We are certified compliant by
a USA Nationally Recognized
Testing Laboratory

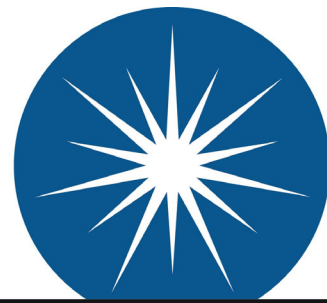
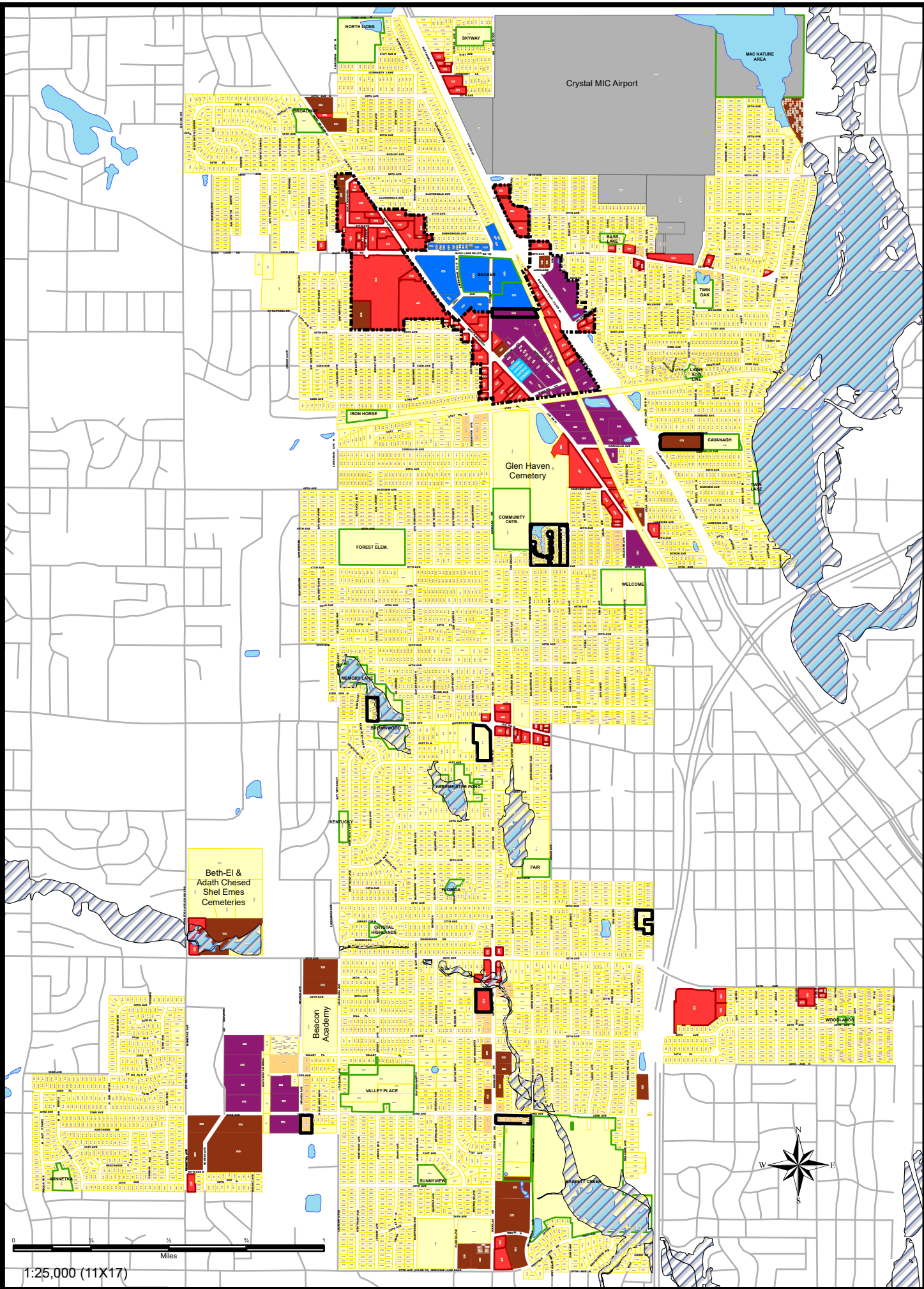
“Nationally Recognized Testing Laboratories (NRTL) are
third-party organizations recognized by OSHA
(Occupational Safety and Health Administration) as having
the capability to provide product safety testing and
certification services...”

NRTL certified means “...the product met the requirements
of an appropriate consensus-based product safety
standard either by successfully testing the product itself, or
by verifying that a contract laboratory has done so...”

FAQ: WHY MUST OUR FENCE BE TALLER?







CITY of CRYSTAL

Official Zoning Map

BASE ZONING DISTRICTS:

- R1 - LOW DENSITY RESIDENTIAL
- R2 - MEDIUM DENSITY RESIDENTIAL
- R3 - HIGH DENSITY RESIDENTIAL
- C - COMMERCIAL
- TC - TOWN CENTER
- I - INDUSTRIAL
- AP - AIRPORT DISTRICT

OVERLAY DISTRICTS:

- Planned Development Districts (PD)
- Town Center Planned Development (TC-PD)
- Properties Rezoned to TC-PD
- Floodplain Overlay District
- City Park Land
- Water Bodies

Approved Amendments: Official Zoning Map		
Ordinance No.	Adopted by City Council	Comments
2019-01	April 2, 2019	Re-Zoned to PD (3733 Vera Cruz Ave N)
2019-04	September 3, 2019	Creation of TC and TC-PD Districts
2020-01	February 4, 2020	Re-Zoned to PD (3501 Douglas Dr N)
2020-05	November 17, 2020	Re-Zoned to PD (4141 Douglas Dr N)
2022-02	June 7, 2022	Re-Zoned to R1 (4824 56th Ave N)
2022-05	September 6, 2022	Re-Zoned to TC-PD (5240 West Broadway Ave)

Disclaimer:
 The Official Zoning Map is subject to change by action of the Crystal City Council.
 Any disagreement(s) or inconsistencies between this map and an ordinance adopted
 by the city council, the ordinance shall prevail.

Official Zoning District Map, Crystal, Minnesota
 We the undersigned certify that this is the Official Zoning Map,
 adopted by Crystal City Council on January 2nd, 2018

01-02-18
 Date

Jim Adams
 Jim Adams, Mayor

01-02-18
 Date

Chrissy Serras
 Chrissy Serras, City Clerk