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MEMO

To: Mayor and Council Members
From: Donald Kom, Director of Electric Services
Date: December 6, 2024
Subject: Council Referral – Street Lights

At the January 31, 2023 City Council meeting, the Council requested a memo from staff regarding the current night lighting policy, the types of fixtures in use, and the reasons for utilizing them.

The Electric Services Department manages the street lighting system for the City. The street lighting system is designed to meet the City's Outdoor Lighting Code (Ames Municipal Code – Sec. 29.411). Guidelines established by the Illuminating Engineering Society (ANSI/IES RP-8) are utilized when designing street lighting plans for new installations. These guidelines include minimum recommended lighting levels for various pedestrian and vehicular activities on different roadway classifications (e.g., local, collector, major, etc.).

Over the last 10-15 years, LED lamps have become the industry standard due to their energy efficiency and ability to produce better lumen output when compared to other lighting technologies. Ames Electric currently installs LED lamps with a 3000k “warm” color temperature in residential neighborhoods. These lamps more closely replicate the color of older sodium vapor lamps, but are slightly less efficient at producing light. LED lamps with a 4000k “white” color temperature are installed on roadways near commercial areas. These lamps are more efficient at producing light, but can appear more “harsh” or contrasting at night. Standard streetlights are now designed to minimize or eliminate uplighting, which is a major contributor to night sky light pollution. The LED fixtures have been selected to meet the lighting need for the appropriate application and to minimize the variety of light fixtures that must be kept in inventory for replacement.

There are still some street light fixtures with older lighting technologies still in service. A number of these are in areas such as the downtown, where ornamental light fixtures are installed and no suitable LED lamps have yet been identified to replace the original lamp technology. Those will be replaced as time allows. Approximately 80% of Ames streetlights have been replaced by LED fixtures to-date.