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**SUBJECT:** Healdsburg's USPS fleet electrification, 160 Foss Creek Cir, Healdsburg, CA 95448

### **INTRODUCTION**

Consistent with Healdsburg's ongoing goal to reduce Greenhouse Gas emissions, Healdsburg has studied specific service criteria and benefits related to electrifying the USPS fleet operated out of Healdsburg California. The City's intent with providing this information is to begin further discussion through which Healdsburg could accelerate the USPS fleet electrification and present a functional and cost-effective example for future USPS fleet electrifications throughout California.

One of fleet electrifications obstacles is the cost and effort required to upgrade existing utility services and customer electrical panels. As exists, Healdsburg's Post Office's service is capable of a 135 kilo Volt-Amp (kVA) peak demand with an existing estimated peak demand of only 50 kVA. This creates an existing unused capacity of 85 kVA that can support EV charging stations.

The 85 kVA usable capacity represents the combined demand of roughly eleven level-2 EV charging stations. The 2024 Ford E-Transit Parcel van, recently sourced by the USPS, has a battery capacity of 89 kWh which equates to a full charging time of eight to ten-hours depending on miles driven per day. During normal operating hours, this is sufficient time to fully charge each parcel delivery van nightly. In review of aerial photos, eleven charging stations could support the conversion of roughly 80% to 90% of the existing Healdsburg USPS fleet. As a rural post office, this location may choose to maintain a few fossil fuel vehicles for longer routes but is not a reason to delay some level of conversion.

Transitioning the post office's main fuel source to electric will result in an annual fuel cost savings of roughly \$60,000 per year. This is largely due to the lower cost of energy provided by the City's, not-for-profit, publicly owned utility.

The above-mentioned existing usable electric capacity and significant cost savings put Healdsburg's post office in a strong and leading position for fleet electrification. Further, the lower cost to electrify fleets within Healdsburg presents a strong starting point and demonstration project for future electrification throughout California.

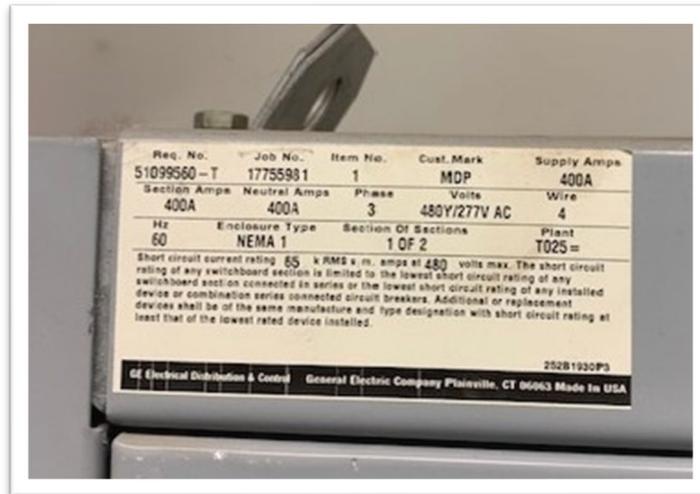
**BACKGROUND**

As the City of Healdsburg owns and operates a publicly owned, not-for profit, electric utility the City’s electric rates are roughly one-half the cost of the adjacent for-profit service provider. Additionally, as a locally governed utility, the city has direct control over the prioritizing of work and customer programs that incentivize fleet electrification. These are key elements necessary for successful and rapid adoption of electric vehicles.

**EXISTING UTILITY SERVICE AND CUSTOMER PANEL**

Utility services can be a limiting factor to convert away from fossil fuels. In review of the Healdsburg post office’s existing utility service, the facility is served by a utility transformer and service wires capable of up to 135 kVA at 480-volts. The transformer source feed has additional capacity should a larger transformer and/or service wires be desired.

Pictured below is the nameplate for the Post Office’s existing main service panel. The panel is rated for 400amps at 480V or a peak nameplate capacity of 332 kVA. The National Electrical Code (NEC) and California Electrical Code (CEC), for safety reasons, further limit the rating of the panel by 80% resulting in a usable capacity of 266 kVA. With the existing peak demand of 50 kVA, and under CEC article 220.87, the panel has an existing unused capacity of roughly 200 kVA (266 kVA usable capacity less the existing peak demand of 50 kVA times 125%). Since the customer service panel exceeds the utility’s existing service capacity, the utility service is the limiting factor but still provides 85 kVA for fleet electrification.



**FLEET ELECTRIFICATION COST SAVINGS**

The existing and unused capacity of 85 KVA can support up to 11 level-2 EV charging ports. The existing site contains adequate parking to reconfigure the parking lot to add charging stations while maintaining the functionality of the loading docks. Assuming a peak daily mileage of 1,000 miles, the conversion of 11 parcel vans to electric, would reduce fossil fuel consumption by 21,000 gallons per year at an annual cost of \$103,000. The energy costs associated with eleven electric parcel vans would lower annual fuel cost to \$43,000 resulting in a net fuel cost savings of \$60,000 each year.