

TECHNICAL SPECIAL PROVISION

FOR

**ELECTRICAL POWER SERVICE TRANSFORMER**

FINANCIAL PROJECT NO'S.: 437493-1-52-01 and 437501-1-52-01

ORANGE AND LAKE COUNTY'S

The official record of this Technical Special Provision is the electronic file signed and sealed under rule 61G 15-23.004, F.A.C.

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## T639 – ELECTRICAL POWER SERVICE TRANSFORMER

### T639-1 Description.

Furnish and install Electrical Power Service Transformer for ITS field devices in accordance with the Contract Documents.

### T639-2 Materials.

**T639-2.1 General:** Distribution transformers will be dry type, two winding power transformers. All units will be manufactured in accordance with ANSI C89.2, NEMA ST 20, NEMA TR-27, UL 506, and IEEE Standard 259, as applicable. All products used for installation of dry type transformer will be designed, manufactured and installed to facilitate a minimum useful life of 20 years.

**T639-2.2 Enclosure (Cabinet):** Use an enclosure conforming to NEMA Standards for Type 3R, made of galvanized steel, aluminum, stainless steel or other materials approved by the Engineer.

**T639-2.3 Electrical Rating:** Transformers will be 120, 240, 480, 600, 120/240, 240/480 single phase, primary or secondary, as shown in the plans. Voltage ratings will be provided with a minimum of (five) 5% taps below and (five) 5% tap above nominal voltage.

**T639-2.4 Temperature classifications:** Transformers will be utilized 105, 150, or 185 degree C insulation systems. The transformer will utilize an insulation system that has been properly temperature classified in accordance with UL 506 and NEMA ST 20.

**T639-2.5 Load rating:** Transformers will be capable of operating continuously at 100 percent of nameplate rating in an ambient temperature not exceeding 40° C. Transformers 5 KVA and above will be capable of meeting overload requirements per ANSI C57.96 with normal life maintained.

**T639-2.6 Sound rating:** Sound levels will not exceed following:

Transformer Rating (KVA)	Maximum Sound Level Decibels per ANSI C89
0-9	40
10-50	45
51-150	50
150-300	55
301-500	60

### T639-3 Installation Requirements.

#### T639-3.1 General:

Follow installation procedures recommended by NEC and National Electrical Safety Code (NESC).

Ground mount transformer unit will be set level on the pad and secure to the pad with bolts. Pole mount transformer is required to be fastened securely to the pole.

**T639-3.2 Testing:** Each transformer will be given the following production tests:

Applied and, induced over potential, no load losses, polarity, and voltage ratio.

**T639-4 Warranty.**

The manufacturer will warranty all components against defects in materials and workmanship for five years from the date of final acceptance by the Engineer. The warranty will cover all parts and onsite labor required for troubleshooting and repair.

Contractor hereby assigns to the Department any and all manufacturers' or other sellers' warranties that come with any products, material or supplies which are incorporated into or are consumed in the project in any way. To the extent that any such warranties do not extend to subsequent purchasers or owners or such warranties contain a limitation on assignment, Contractor agrees that Contractor purchased the products, materials and supplies on behalf of the Department with the intent that the Department be the intended recipient of any warranties. All documents associated with or describing any such warranties will be delivered to the Department along with the other project final acceptance documents and will be deemed to be a part of the required final acceptance documentation. Contractor will not take any action or fail to act in any way which voids any such warranties. All subcontracts will contain a similar provision which requires subcontractors to assign any such warranties to the Department.

**T639-5 Method of Measurement.**

The quantity to be paid will be the plan quantity for each Electrical Power Transformer furnished, installed and accepted.

**T639-6 Basis of Payment**

Price and payment will be full compensation for all work specified in this Technical Special Provision.

Payment will be made under:

Item No. 639-6-1 Electrical Power Service Transformer – each.