SPECIAL SPECIFICATION

SECTION 15772S

SNOW MELTING SYSTEMS

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. Providing and installing heating cable, temperature controllers, snow sensors etc. for a complete and operating system.

1.02 RELATED SECTIONS

A. Section 16001 – Electrical Work.

1.03 INSTALLATION REQUIREMENTS

A. For system installation purposes, utilize the following site conditions.

1. Average temperature during freezing periods: 10 degrees F.

2. Average wind speed during freezing periods: 10 miles per hour.

3. Average hours of snowfall per year: 100 hours.

B. Install the system to keep the pavement surface completely clear of falling snow for 80 percent of snowfall conditions and not allow snow to accumulate for 20 percent of snowfall conditions.

C. Install the system so that all points on the pavement surface are maintained above 32 degrees F when the ambient temperature is minus 5 degrees F and the wind speed is 15 miles per hour.

D. Install system so that no point within the pavement exceeds 160 degrees F when the heaters are energized at full voltage and the ambient temperature is 38 degrees F with a wind speed of 5 miles per hour.

1.04 SUBMITTALS

A. Shop Drawings: Indicate heating cable and mat layout, locations of terminations, thermostats, and branch circuit connections.

B. Product Data: Submit data for heating cable, mat, and control components.

C. Installation Data: Indicate calculations demonstrating that performance requirements are met.

D. Manufacturer's Installation Instructions: Submit.

E. Manufacturer's Certificate: Certify that products meet or exceed specified requirements.

F. Project Record Documents: Record actual locations of heating cable, mat, temperature sensors, thermostats, and branch circuit connections.

G. Operation and Maintenance Data: Submit description of controls and repair methods and parts list of components.

1.04 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company regularly engaged in manufacture of electric snow melting with minimum of three years of experience.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

A. Easy-Heat, Inc.

B. Raychem Corp.

C. Thermon

D. Wiegand Division, Emerson Electric Company

2.02 EQUIPMENT

A. Cables:

1. Provide UL listed parallel resistance, constant wattage or self-regulating type snow melting cable of one of the following designs:

a. Insulated copper bus conductors with a nickel-chromium heating element and fiberglass or metal braid jacket.

b. Parallel copper bus conductors with an inner core of semi-conducting material and polyvinyl chloride or metal braid jacket.

c. Nickel-chromium resistance conductor with a metal sheath and abrasion-resistant thermoplastic sheath.

2. Provide parallel circuit construction to allow the cable to be spliced if it is inadvertently cut during or after construction and the ability to be powered from both ends if it becomes advantageous to divide a circuit in two.

3. Operable at 277 volts without the use of transformers.

B. Automatic Snow Sensor:

1. Control the system by an automatic snow controller either directly or through an appropriate contactor to sense moisture and temperature.

2. Utilize one or more pole-mounted snow sensors. Provide integral low temperature and precipitation sensors. Set the low-temperature sensor to 38 plus or minur 2 degrees F.

3. Provide an automatic-manual-standby selector which allows the snow controller to be operated manually during test or unusual weather conditions.

4. Equip the controller with a hold-on timer which is adjustable from 0.5 to 5.5 hours. The purpose of this time delay is to hold the snow controller output "on" for an adjustable time period after the temperature has risen above 38 degrees F or moisture is no longer sensed to allow complete clearing of snow.

C. Accessories: Provide system accessories including splices, end seals, expansion joints, and junction boxes as necessary for a complete system.

PART 3 - EXECUTION

3.01 INSTALLATION

A. Install snow melting systems where indicated on the Drawings and in accordance with manufacturer's written recommendations and instructions.

B. Install cables 1-1/2 to 2 inches below finished elevation of pavement. Arrange cable routing so that power connections to cables and cable end seals are located within junction boxes. Coordinate installation with general and civil contractors responsible for concrete installation. Coordinate installation with all equipment to be installed on concrete pad at the silane pad and dock areas.

C. Arrange cable routing to minimize crossing of expansion or control joints. Where such crossings are unavoidable, protect cable per manufacturer's written recommendations and instructions.

D. Provide NEMA 4X junction boxes above grade as indicated on the drawings and in accordance with manufacturer's written recommendations and instructions.

END OF SECTION