FIRE DETECTION SYSTEM

**From Middlebury-Weybridge BHO 1445(33)

xx. DESCRIPTION. This work shall consist of furnishing and installing a linear heat and fire detection system for the Towns of Middlebury and Weybridge at the Pulp Mill Covered Bridge that will automatically alert the Towns of Middlebury and Weybridge Fire Departments, or other contact designated by the Towns of Middlebury and Weybridge, as directed by the Engineer.

The system shall provide full coverage of the bridge and approach span, and include fire panels, conduit for underground connection to telephone and electrical services, and other required appurtenances.

xx. GENERAL REQUIREMENTS. The Contractor shall design, furnish, install, test, and place into full operating condition a complete, 24 V DC closed-circuit, electrically supervised, linear heat and fire detection system, including but not limited to all control and communication equipment, power supplies, signal initiating devices, notification appliances, connection to the Towns of Middlebury and Weybridge fire alarm circuit, conduit, wire, fittings, and all other accessories required to provide a complete and operable control system which meets the Town of Middlebury and Weybridge requirements for materials, function, access, and maintenance. The linear heat detector shall be rated for a 190 degree trigger and a maximum ambient temperature of 150 degrees, and the fire panel locations shall be approved by the Engineer and the Towns of Middlebury and Weybridge.

It is the responsibility of the Contractor to visit the site, become acquainted with existing conditions, and determine the required quantities of devices and specific optimum locations.

All equipment, devices, cables, etc., shall be listed by Underwriters Laboratories and/or approved by Factory Mutual for use in Fire Protective Signaling Systems and comply with all state and local codes.

Installation and testing shall be made in accordance with the applicable provisions of the latest edition of the National Fire Protection Association (NFPA) standards.

xx. QUALIFICATIONS. The Contractor shall supply proof that the fire alarm system manufacturer has furnished the necessary equipment and has been in the business of installing linear heat detection, alarm, and control systems for at least three (3) years and shall provide documentation indicating recent covered bridge projects where the supplier was responsible for providing the complete installation of fire detection, alarm, and control systems. The system supplier shall have a service organization capable of providing a service technician to the Towns of Middlebury and Weybridge.

xx. SUBMITTALS. The Contractor shall deliver a complete set of reproducible, as-built drawings and four (4) copies of the

drawings to the Engineer upon completion of the installation of the system, and a minimum of one week prior to the demonstration test.

xx. TESTING. The Contractor shall notify the Engineer, in writing, when the system is ready for the demonstration test. The system shall be considered ready for the demonstration test only after all preliminary tests have been made by the Contractor and the Manufacturer's technical representative, and all deficiencies have been found and corrected. In addition, two (2) copies of a report, prepared by the Contractor and the Manufacturer's technical representative and signed by them, attesting that the system is in completely satisfactory and operable condition, must be submitted to the Engineer before the Engineer will agree to the scheduling of the demonstration test.

xx. TRAINING. Prior to final acceptance of the fire alarm system, the Contractor and the supplier shall provide operation training to Towns of Middlebury and Weybridge personnel. Training shall include an overview of the system and the devices connected to it, emergency procedures (including alarm, trouble, and supervisory condition procedures), control panel operation, and safety requirements.

Prior to final acceptance of the fire alarm system, the Contractor shall provide four (4) complete sets of maintenance instruction manuals to the Towns of Middlebury and Weybridge. Maintenance instructions shall be complete, easy to read, and understandable.

xx. GUARANTEE. The Contractor shall guarantee all new equipment and new wiring free from defects in workmanship and inherent mechanical and electrical defects for a period of one (1) year from date of the final acceptance. During that period, the Contractor shall replace any defective materials or equipment provided by him/her under the contract without additional expense.

xx. CERTIFICATION. The final system shall receive an Underwriters Laboratories Field Certification from an alarm service company authorized to issue Underwriters Laboratories certificates.

xx. METHOD OF MEASUREMENT. The quantity of Special Provision (Fire Detection System) to be measured for payment will be on a lump sum basis in the complete and accepted work.

xx. BASIS OF PAYMENT. The accepted quantity of Special Provision (Fire Detection System) will be paid for at the Contract lump sum price. Payment will be full compensation for performing the work specified including design, construction, and testing; providing and installing linear heat detectors and fire panel; programming; and furnishing all materials, labor, tools, equipment, and incidentals necessary to complete the work.

Excavation and backfill for the installation of conduit will not be paid for separately, but will be considered incidental to Contract item 900.645 Special Provision (Fire Detection System).

Conduit, wiring, and devices, and required labor for connection to utilities, will not be paid for separately, but will be considered incidental to Contract item 900.645 Special Provision (Fire Detection System).

Payment will be made under:

Pay Item	Pay Unit
900.645 Special Provision (Fire Detection System)	Lump Sum