

1.0 **GENERAL**

1.1 **Related UBC Guidelines**

- .1 Division 26, Section 26 27 13 Metering
- .2 Division 33, Section 33 10 00 Water Utilities - 2.4; Section 33 51 00 Natural Gas Distribution - 2.4; and Section 33 63 00 Steam Energy Distribution - 2.5

1.2 **Coordination Requirements**

- .1 Coordinate with UBC Facilities.
- .2 *Coordinate with* UBC Energy and Water Services.
- .3 Obtain details of space requirements, access, location and provision of associated services such as electrical, BMS, telecommunications wiring from UBC Building Operations – Technical Services.

2.0 **MATERIALS AND DESIGN REQUIREMENTS**

- .1 The project shall bear all costs associated with installation of meters.
- .2 Site-level meters:
 - 1. This point and all sub-bullets for UBC Vancouver Only All site-level meters, unless otherwise specified, shall be supplied by UBC Energy and Water Services – at the project cost, coordinate with UBC EWS for costs and lead times.
 - .1 All other meters shall be supplied by the project.
- .3 All UBC owned and non UBC owned buildings and all irrigation systems constructed on UBC property shall have meters installed on all services, for example:
 - 1. Water
 - 2. District Energy System (DES)
 - 3. Gas
 - 4. Electricity
- .4 Main building water and gas meters shall be compatible for remote monitoring and be wired directly to the main building electrical meter. The Division 26 contractor shall be responsible to install all pathways and wiring for remote monitoring of these meters. Refer to Section 26 27 13 and standard drawing E4-6 for wiring methods.
- .5 Only sub-meters not directly connected to main services shall be integrated into the BMS system.
- .6 DES meters shall be network connected for remote monitoring only. The Division 20 contractor shall provide all necessary communication equipment to ensure effective remote monitoring is achieved. Refer to Section 23 21 05 and standard drawings E4-6c.
- .7 All UBC buildings shall have the following services metered:
 - 1. Water: All buildings
 - 2. Gas: All buildings
 - 3. Electricity: All buildings
 - 4. *District Energy: All Buildings*

- .8 Standard of acceptance of mechanical meters shall be as follows:
 - 1. Water: Neptune Tru/Flo meter with Tricon/S register at 0.1m³ per pulse
 - 2. Gas: Dresser D800
 - 3. District Energy: Kamstrup Multical 603 with BACnet module

- .9 Electrical Meters
 - 1. Refer to Division 26.

*****END OF SECTION*****