

1.0 **GENERAL**

1.1 **UBC Energy & Water Services Jurisdiction**

- .1 UBC Energy & Water Services (EWS) is responsible for design, operation, maintenance, and overall stewardship for each of the following underground utility services:
 - .1 Section 33 10 00 Water Utilities
 - .2 Section 33 51 00 Natural Gas Distribution
 - .3 Section 33 63 00 Steam Energy Distribution
 - .4 Section 33 49 00 Storm Drainage
 - .5 Section 33 30 00 Sanitary Sewerage Utilities
 - .6 Section 33 71 00 Electrical Utility Transmission and Distribution
 - .7 Section 33 61 00 District Hot Water Energy Distribution
- .2 The demarcation point of service defining UBC Energy & Water Services' responsibility is included in the respective sections as listed above.

1.2 **UBC Energy & Water Services Contact Information**

- .1 Engineering & Utilities:

6130 Agronomy Rd,
Vancouver, BC V6T 1Z3
Phone: (604) 822-9445
Fax: (604) 822-8833

Energy Conservation & Innovation:
2260 West Mall
Vancouver, BC V6T 1Z4
Phone: (604) 822-5301
- .2 Key Positions in Utilities include:
 - .1 Director, Engineering and Utilities
 - .2 Senior Manager, Electrical Utilities
 - .3 Senior Manager, Mechanical Utilities
 - .4 Mechanical Utilities Engineer
 - .5 Lead Trades: Head Electrician, Head Plumber, Head Steamfitter, Head Utilities Maintenance Engineer.

1.3 **Designer and Contractor Responsibility**

- .1 UBC Technical Guidelines establishes the minimum acceptable standards for the supply and installation of the underground utility services to the buildings on the campus. This is not a design manual. The designer is responsible to ensure that the standards stipulated herein are consistent with the project requirements and are adequate for the project design criteria. The designer shall define the project requirements in the project specification as part of the project tender document.
- .2 Where comments in UBC Technical Guidelines is interpreted to conflict with the industry Standards, Acts and Codes, the compliance with the Standards, Acts and Codes shall prevail and the designer shall bring these conflicts in writing to the attention of the responsible manager at UBC Energy & Water Services.

- .3 The consultant and/or contractor shall provide drawings in accordance with the Technical Guidelines. Within 60 days from backfill, the consultant and/or contractor shall provide a set of Red Line drawings to UBC Energy & Water Services. Upon completion of installation of any new or modified underground utility services and prior to a final walkthrough before hand over to owner, Record drawings of underground utility services shall be provided to *Infrastructure Development, Records*. Record drawings shall show utility service and/or infrastructure details as constructed including, for example, pipe or infrastructure facility size, material, invert and rim elevations, etc. Service profiles shall be provided in congested areas indicating location of all services. See Section 01 78 39 Project Record Documents for details. Upon completion, CCTV inspections must also be provided to UBC Energy & Water Services (see specifications 33 82 01 and 33 01 30.41 at <https://energy.ubc.ca/community-services/contractors-developers/>).
- .4 UBC Energy & Water Services has created checklists intended to guide projects through the steps and procedures required to successfully coordinate with UBC EWS and obtain approval for various construction activities/stages. The forms should be completed and submitted to UBC EWS prior to final completion and acceptance of the project. Note that these forms ONLY addresses coordination with mechanical utilities (water, sanitary, storm and gas) and District Energy. Coordination required for electrical utilities is not outlined in these forms and should be addressed separately. The forms (UBC Mech Construction Checklist and UBC DES Construction Checklist), along with other required connection and activation application forms for contractors and consultants can be downloaded here: <https://energy.ubc.ca/community-services/contractors-developers/>.

2.0 UBC ENERGY & WATER SERVICES (EWS) DEVELOPMENT SUPPORT SERVICES

2.1 General

- .1 Table 2.1.1 outlines the utility requirements assessment in the project approval process for core UBC buildings. Support services and development requirements are defined in terms of UBC Board of Governors approval status.

Table 2.1.1
Utility Requirements Assessment
in the Project Approval Process for Core UBC Buildings

Timing	Utility Planning and Design Work	Product	Lead Responsibility
Prior to Exec 2	As part of the siting process complete an engineering requirements assessment <ul style="list-style-type: none"> - Run the master servicing model - Complete GIS overlay analysis to identify all utilities requiring move or protection 	Engineering and Services Requirement Document (based on general floorspace)	Campus & Community Planning - May refer to EWS for comment, but always provided for information

Timing	Utility Planning and Design Work	Product	Lead Responsibility
Prior to Exec 3/ Board 1	Utilities Concept Design	Engineering Sketch and Costing* (to be included in project design brief) * to include site plan and possible services connection locations *Project Manager / applicant to provide costing	Campus & Community Planning - Include EWS and project managers in working session to prepare concept design - Variances from Engineering and Services Requirements document must be approved by Managing Director, Building Operations & Associate VP, Campus & Community Planning.
Prior to Board 2	Utilities Schematic Design No later than halfway through the development of schematic design, an integrated design discussion should be held with Campus & Community Planning, EWS and Building Operations representatives	Engineering design drawings* * prepared by applicant team * must be part of Development Permit (DP) Application submission Preliminary service connection application information to be provided	Campus & Community Planning - Design drawings submitted through DP application circulated to EWS and Campus & Community Planning UA/Eng Services for comment in 10 working days - Campus & Community Planning to verify model analysis
Post Board 2	Drawing Review against Technical Guidelines	Service Connection Application with drawings and variance requests from either Engineering Services Requirements document or Technical Guidelines	Technical Guidelines variances approved by Managing Director, Building Operations and Managing Director, Infrastructure Development
Prior to Development Permit Issuance		Development Permit with Engineering Requirements Document attached	Campus & Community Planning for Development Permit

Timing	Utility Planning and Design Work	Product	Lead Responsibility
<p>Engineering Clearance for Building and Streets and Landscape Permits*</p> <p>*Building permits address all onsite engineering works and services; Streets and Landscape permits address all offsite engineering works and services</p>	<p>Vancouver Coastal Health (VCH) Water Connection Permit</p> <p>Review of service connection design for Building Permit and / or Streets and Landscape Permit Applications</p>	<p>Permit from VCH</p> <p>Final Service Connection clearance for either:</p> <p>Staged Building Permit – Excavation / Shoring, Foundation and/ or Full (addresses onsite works and services)</p> <p>or</p> <p>Streets and Landscape Permits (addresses offsite works and services and public realm projects)</p>	<p>Applicants secure permit (or EWS for UBC utility infrastructure projects)</p> <p>EWS to provide Service Connection clearance to Campus & Community Planning</p> <p>EWS to provide Service Connection clearance to Campus & Community Planning</p>
<p>As part of Building Permit process</p>	<p>Site visit prior to backfill of below-grade works and services</p>	<p>Record drawings based on digitized red-line construction drawings, submitted to Infrastructure Development, Records by project manager (set of red line drawings to be provided within 60 days of backfill)</p> <p>Survey of inverts to check compliance with design (completed prior to walk-through)</p> <p>Photos of installation and sewer CCTV inspection reports submitted to Infrastructure Development, Records by project manager</p>	<p>EWS for walk-through of installation and review of red line construction drawings</p> <p>Working Group and Steering Committee for problem solving</p> <p>Final loading data for utilities to be provided by applicant (to Campus & Community Planning and EWS)</p>

2.2 Underground Utility Record Drawings

- .1 Record drawings for all underground utility services must be obtained from Infrastructure Development, Records (Telephone: 604-822-9570).

2.3 Field Inspections

- .1 To verify or complement record drawing information, UBC Energy & Water Services will provide trades staff support to assist in verifying locations, condition, and features of existing underground utility services. Trades staff will be supported by UBC Energy & Water Services engineering and technical professionals.

- .2 Written requests (facsimile or email) shall be submitted as follows:
 - .1 For electrical service contact Senior Manager, Electrical Utilities.
 - .2 For gas, district hot water, water, sanitary, or storm contact Senior Manager, Mechanical Utilities.
- .3 UBC Energy & Water Services charges a \$300 fixed fee per utility service per site. For example, field inspections for water, electrical, sanitary sewer, and storm sewer underground utility services for a new development would cost \$1,200.

2.4 Shutdowns

- .1 UBC Energy & Water Services has sole authority and responsibility to perform shutdowns (or cross connections) of the systems within its jurisdiction. The cost for a service shutdown is based on time and materials, paid by the project.

2.5 Utility Service Connection Permits

- .1 A service connection permit is required for any connection to a utility service as defined in the following Sections in Division 33:
 - .1 Section 33 10 00 Water Utilities
 - .2 Section 33 51 00 Natural Gas Distribution
 - .3 Section 33 63 00 Steam Energy Distribution
 - .4 Section 33 49 00 Storm Drainage
 - .5 Section 33 30 00 Sanitary Sewerage Utilities
 - .6 Section 33 71 00 Electrical Utility Transmission and Distribution
 - .7 Section 33 61 00 District Hot Water Energy Distribution
- .2 The Service Connection Application must be completed and submitted to UBC Energy & Water Services per the instructions on the form. Refer to Energy & Water Services Forms at: <https://energy.ubc.ca/community-services/contractors-developers/>.
- .3 The Service Activation Request must also be submitted to UBC Energy & Water Services prior to any energization of systems. Refer to above link for *Activation* Request form.
- .4 Additional permits from the provincial Electric Safety Branch, Gas Safety Branch, Boiler Safety Branch, Plumbing permits (UBC C&CP) and the Construction Permit from Vancouver Coastal Health, are the responsibility of the project team.

2.6 Development Permit Approval by UBC Energy & Water Services

- .1 The Director, Engineering and Utilities, of UBC Energy & Water Services has sole authority to authorize underground utility service aspects of any development. Sign off of development permits by UBC Energy & Water Services is coordinated by Campus and Community Planning.

END OF SECTION