

3

CONTEXT



3.1 UBCO EXISTING CAMPUS INFRASTRUCTURE OVERVIEW

The current campus infrastructure systems reviewed as part of the *Whole Systems Infrastructure Plan* consist of:

- District Energy System used for heating and cooling by academic buildings
- Central Heating Plant used for heating of legacy academic buildings
- Natural gas distribution system
- Power distribution system
- Potable water distribution system
- Sewage water conveyance system

The infrastructure systems have been assessed to understand current operational challenges and feasible opportunities for upgrades to achieve UBCO’s long-term sustainability goals. Each system is described in more detail beginning in Sections 4-7).

Existing Campus Buildings

The UBCO campus has experienced a rapid development since the transition from Okanagan University College. Since 2005, campus floor space has nearly tripled, and since 2009, student enrollment has more than doubled.

The campus existing buildings are categorized based on phases of development and split between academic and residences, and are referred to as:

1. Legacy Buildings (older academic)— six buildings, built between 1992 and 2001
2. New Academic— five buildings, built in 2008 onwards
3. Residential buildings—18 buildings, built between 1992 and 2010

Refer to Figure 14 for a campus plan of existing buildings. Table 9 summarizes the name and acronym of each building, building type, year, type of structure, and area per building based.

Current Campus Data

Existing Campus: 105 ha
West Campus:
102 ha (excluded in scope)
Students: 8,400
Student Beds: 1,680
Current Academic: 83,000 m²
Current Residential:
50,000 m²

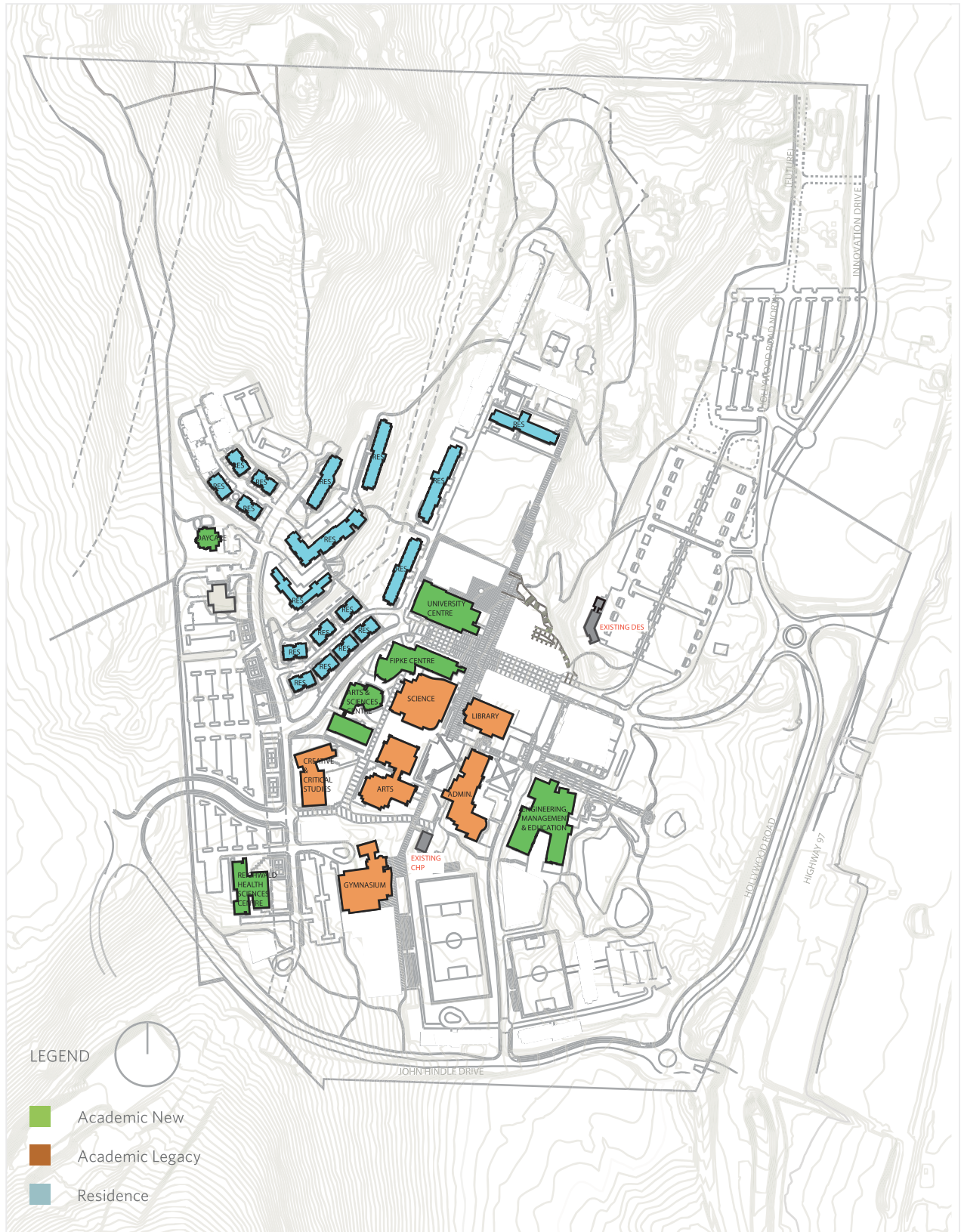


FIGURE 14: UBC CAMPUS PLAN OF EXISTING BUILDINGS.

TABLE 9: SUMMARY OF UBCO EXISTING BUILDING STOCK

BUILDING NAME	BUILDING SHORT	BUILDING TYPE	YEAR BUILT	STRUCTURE TYPE	AREA M ²	EUI KWH/M ²
Science	SCI	Academic (Legacy)	1992	Steel Frame	8,985	376
Arts	ART	Academic (Legacy)	1992	Steel Frame	9,667	334
Admin	ADM (SS)	Academic (Legacy)	1992	Steel Frame	5,792	444
Library	LIB	Academic (Legacy)	1992	Steel Frame	6,179	399
Gym	GYM	Academic (Legacy)	1994	Steel Frame	4,074	370
Fine Arts/Creative	FA (CCS)	Academic (Legacy)	2001	Steel Frame	4,797	294
Fipke	FIP	Academic (New)	2008	Steel Frame	6,725	368
Arts & Science 2	ASC (AS)	Academic (New)	2010	Concrete	7,801	340
University Center	UNC	Academic (New)	2009	Concrete	7,238	486
Engineering Management Education	EME	Academic (New)	2010	Concrete	16,520	361
Reichwald Health Sciences Centre	HSC (RHS)	Academic (New)	2011	Concrete	5,018	522
Monashee	MON	Residence	1992	Wood Frame	7,684	168
Similkameen	SIM	Residence	1992	Wood Frame	3,533	291
Kalmalka	KAL	Residence	2005	Wood Frame	4,835	130
Valhalla	VAL	Residence	2005	Wood Frame	4,797	142
Lower Cascades	CAS-A to CAS-G	Residence	2008	Wood Frame	8,144	88
Upper Cascades	CAS-I to CAS-K	Residence	2009	Wood Frame	4,670	123
Nicola	NIC	Residence	2009	Wood Frame	5,667	128
Cassiar	CSR (CAS)	Residence	2010	Wood Frame	3,951	141
Purcell	PUR	Residence	2010	Wood Frame	6,618	116
Central Heating Plant	CHP	Service	1992	Steel Frame	528	16,302
GEOBuilding	GEO (GEO 2)	Service	2007	Concrete	454	6,183

Section 4 on Energy and Carbon identifies observations on current system performance, and includes recommendations for building improvements through the lens of a whole system campus wide perspective. Individual building performance analysis was not part of this project.