

8.1 Drawing Standard

8.1.1 Introduction

This drawing standard applies to all building drawings being prepared for the University of Calgary (UCalgary) by external consultants or vendors and internal staff despite drafting software. It includes recommendations for a general classification of drawing types and office practices. These standards are to be followed, unless otherwise approved by the University Architect or University Engineer. If you have any questions regarding this standard, please contact cad.bimadmin@ucalgary.ca.

Software specific standards are described in other sections.

8.1.2 Annotation Settings

8.1.2.1 Text

Calibri is the standard font in UCalgary documentation. Regular Calibri font is used for general annotation in the drawings. Other versions of Calibri are able to be used in the title block or within symbols.

Style/Type	Use	Font	Font Style	Plotted Text Size	Width Factor
1-UC-Calibri	Annotation	Calibri	Regular	2.2 mm	1.0
1-UC-Calibri-Bold	Title block	Calibri	Bold	Various	1.0
1-UC-Calibri Light	Title block	Calibri Light	Regular	Various	1.0

8.1.2.2 Dimension

Below are the critical settings in AutoCAD. Other software should follow the same settings.

Style: 1-UC-M
 Text style: 1-UC-Calibri
 Text height: 2.2
 CAD text color: 93 (a line weight of 0.25)
 Arrowheads: Architectural tick
 Arrow size: 1.5

8.1.3 Drawing Title Block Requirement

UCalgary does not provide a standard title block. External consultants are asked to determine the sheet size and use their own title blocks, but they are required to incorporate the specific requirements as noted below in section 8.1.3.1 through to 8.1.3.5 preferably at the title panel.

8.1.3.1 UCalgary Logo

UCalgary provides the logo files in image (.jpg) and AutoCAD (.dwg) formats. Additional formats may be available upon request.

8.1.3.2 UCalgary Project Name and Number

Prior to commencing work, project teams shall be assigned the project name and number (BAS/IMP/CRO) by the UCalgary Project Management Office (PMO) or appointed project manager.

8.1.3.3 Building Name and Building Number

Refer to UCalgary building address website for the list of building names and numbers <https://ucalgary.ca/facilities/buildings/building-list>.

Use the building name instead of the abbreviation.

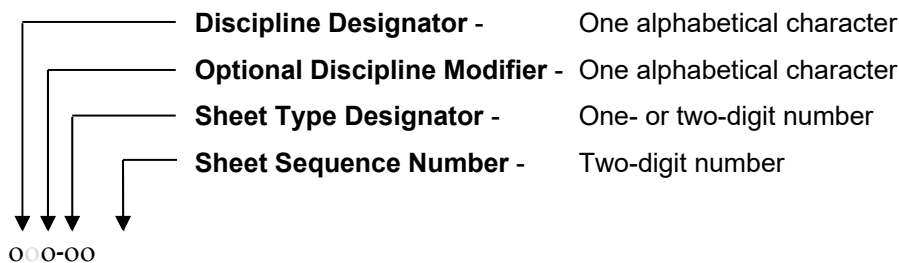
8.1.3.4 Key Plan

A small key plan should always be placed in the title block showing at a glance the portion of the project covered by a particular drawing sheet. The key plan should appear on each relevant drawing sheet with the same orientation.

8.1.3.5 Date Format

The date format is yyyy-mm-dd.

8.1.4 Sheet Numbering Format



The sheet numbering format is adapted from NCS: US National CAD Standard V6.

8.1.4.1 Discipline Designator and Optional Modifier

The discipline designator identifies the construction discipline that the sheet covers - architectural and interior (A), structural (S), mechanical (M), electrical (E), landscape (L), etc.

The discipline modifier is an optional designator in the following scenarios:

- Large or complex projects can make use of the second character to help sub-divide each discipline further. For example, use AD for all demolition sheets.
- If there are multiple buildings within the overall project, use the user-defined modifier to denote buildings. For example, use AA, AB and AC for building #1, building #2 and building #3. All disciplines should coordinate building designation to avoid confusion.
- Use of modifier is to be consistent for the entire project. It may be used as building identifiers OR discipline modifiers but NOT both.

8.1.4.2 Sheet Type Designator

Sheet type designator organizes drawings of a single discipline (plans, sections, details, schedules, etc.).

It is not necessary to use all the sheet types for a project or within a discipline.

The use of sheet type designators does not preclude combining different types of drawings on the same sheet for simplicity. For instance, it is acceptable to combine different types of drawings on the same sheet on small projects. If combined, the drawing title needs to include all drawing types.

8.1.4.3 Sheet Sequence Number

Sheet sequence number identifies each sheet in a series of the same discipline and sheet type.

Sequence numbering starts with 01; sheet number 00 is not permitted except for the cover sheet, which either shows as A0-00 or has no sheet number. Sequence numbers do not have to be sequential so that space may be left within the set for future insertion of sheets.

Arrange plan drawings from lower levels to upper levels, e.g. level B1, 1, 2 and etc. It may be desirable to replicate the floor number within each discipline. This makes sheets A2-02, M2-02, E2-02 for second floor plan for each discipline. This system may become cumbersome when basement, parkade or mezzanine plans are involved. Evaluate each project carefully before deciding to implement this option.

For small renovation projects, “group” demolition and renovation of the same area together.

8.1.4.4 Sheet Type Assignment and Example Sheet Numbers

Type	Sheet Type Description	Remarks	Example of A Small Reno Project
Discipline: Architectural and Interiors (A)			
A0	General information	Cover sheet, drawing list, abbreviations, key plans, general notes and legends, construction types (wall, floor, roof, etc.), building code analysis, fire safety plan, etc.	A0-00 Cover Sheet A0-01 Fire Separation Plans
A1	Site information	Site survey, site plan and details	A1-01 Site Plan and Details
A2	Floor and roof plans		A2-01 Level 1 Demolition Plan A2-02 Level 1 Plan
A3	Slab plans		NA
A4	Access flooring plans		NA
A5	Reflected ceiling plans		A5-01 Level 1 Reflected Ceiling Demolition Plan A5-02 Level 1 Reflected Ceiling Plan
A6	Building elevations		NA
A7	Building sections		NA
A8	Wall sections		NA



Type	Sheet Type Description	Remarks	Example of A Small Reno Project
A9	Exterior plan details		NA
A10	Exterior section details		NA
A11	Interior enlarged plans, reflected ceiling plans, elevations, sections and details	Vertical circulation (stair, elevator, escalator), washroom, suite, kitchen, etc.	A11-01 Enlarged Washroom Plans and Elevations A11-02 Enlarged Stair Plans and Sections
A12	Millwork plans, elevations, sections and details		A12-01 Millwork Plans and Elevations A12-02 Millwork Sections and Details
A13	Casework plans, elevations, sections and details		NA
A14	Finish plans		A14-01 Level 1 Finish Demolition Plan A14-02 Level 1 Finish Plan
A15	Furniture plans		A15-01 Level 1 Furniture Plan
A16	Window and door schedules and types		A16-01 Window and Door Schedules and Details
Discipline: Structural (S)			
S0	General information	Cover sheet, drawing list, general notes, typical details	S0-00 General Information S0-01 Typical Details
S1	Plans and schedules		S1-01 Level 1 Demolition Plan S1-02 Level 1 Plan S1-10 Column and Beam Schedules
S2	Elevations	Bracing, windows, parapets, overall building elevations	S2-01 Elevations
S3	Sections and details	Sub-structure: foundations, vaults, tunnels Super-structure: framing	S3-01 Foundation Sections and Details S3-02 Framing Sections and Details
S4	Stairs cores, shafts, shear walls		S4-01 Core, Stair & Shear Wall Plans S4-02 Concrete Wall, Zone & Header Schedule
Discipline: Mechanical (M)			
M0	General information	Cover sheet, drawing list, site plan, drawing legend	M0-00 Cover Sheet
M1	Drainage plans		NA
M2	Plumbing plans		M2-01 Level 1 Plumbing Demolition Plan M2-02 Level 1 Plumbing Plan M2-03 Roof Plumbing Plan
M3	Fire protection plans		NA
M4	Ventilation plans		M4-01 Level 1 Ventilation Demolition Plan M4-02 Level 1 Ventilation Plan M4-03 Roof Ventilation Plan



Type	Sheet Type Description	Remarks	Example of A Small Reno Project
M5	Heating and cooling plans		M5-01 Level 1 Heating and Cooling Plan
M6	Enlarged plans and sections		M6-01 Enlarged Plans M6-02 Mechanical Sections
M7	Mechanical details		M7-01 Mechanical Details M7-02 Mechanical Details
M8	Schematics and riser diagram		M8-01 Heating, Cooling and Ventilation Schematics M8-02 Riser Diagrams
M9	Mechanical schedules	Different groups are permitted to be placed on the same sheet.	M9-01 Specifications and Schedules
M10	Mechanical specifications		NA
Discipline: Electrical (E)			
E0	General information	Drawing schedule, legend, key plan, electrical details e.g. receptacle details, door security details, lighting control schematics, room blow up, etc.	E0-00 Cover Sheet
E1	Lighting plans	Show lighting fixture schedule on lighting plan where space allowed for small project	E1-01 Level 1 Lighting Demolition Plan E1-02 Level 1 Lighting Plan
E2	Power plans	Include fire alarm system in power. Show panel schedule on power plan where space allowed for small project	E2-01 Level 1 Power Demolition Plan E2-02 Level 1 Power Plan
E3	Communication and system plans	Data and communication system; Security system and other LV system	E3-01 Level 1 Communication and system Demolition plan E3-02 Level 1 Communication and system plan
E4	Enlarged plans and elevations		NA
E5	Electrical details	Allow to have details in "General information" group for small project	NA
E6	Schematics and riser diagram	Fire alarm riser, security riser, etc.	E6-01 Electrical Schematic
E7	Electrical schedules	Panel schedules, mechanical schedules, kitchen equipment schedule, lighting fixture schedule (if not on lighting plan)	E7-01 Electrical Schedule and Specification
E8	Electrical specifications		NA



Type	Sheet Type Description	Remarks	Example of A Small Reno Project
Discipline: Landscape (L)			
L0	General information	General notes, typical details, schedules	
L1	Site plan, plans, elevations, sections and details		
Discipline: Civil Engineering and Site Work (C)			
C0	General information	General notes, typical details, schedules	
C1	Plans, sections and details		

8.1.5 Drawing List Matrix

For large projects with multiple tender packages, a drawing list matrix is required on the general information sheet (normally A0-00). Every single officially issued drawing number and drawing name needs to be listed on the left column(s) of the matrix. All drawing packages shall be shown on the top roll. Indicate a drawing within a specific package with “X” or other graphic representation.

8.1.6 Measurement Units and Recommended Scales

All drawings should be drafted at full scale in metric units.

The recommended scales for various types of drawings are given in the following table.

Where drawings at different scales occur on the same sheet, the scale for each drawing should be stated immediately below its particular title. The title block scale designation should be “AS NOTED”.

All drawings are to be accompanied by a reference scale bar. This way reproductions that are made to fit another sheet size are still readable.

Type of Drawing	Scale Guide
Campus maps and key plans	1:5000; 1:2500; 1:1000
Site plans	1:1000; 1:500; 1:250
Floor plans, elevations and building sections	1:100; 1:50
Wall sections, construction details	1:20; 1:10; 1:5

8.1.7 Plan Orientation

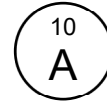
All plans should be drawn with the same orientation. Preferably, project north should point to the top or alternatively to the right-hand side of the drawing sheet.

All plans should be drawn with a North Arrow.



8.1.8 Structural Grid

UCalgary’s grid bubbles contain both building numbers and grid numbers. In the example on the right, 10 stands for building number 10, and A is grid A.



For existing buildings, adopt legacy drawing grid numbering system.

The grids of new constructions must use numerals from left to right and letters from bottom up. Set project 0,0 origin at the intersection of grid 1 and A.

8.1.9 Floor Level Naming Convention

The following floor naming convention applies to new construction projects.

Level Name	Remark	Not An Acceptable Name
Substructure		
Basement	If there is only one basement level	Level 0
Basement 1	If there are multiple basement levels	
Parkade	If there is only one parking level	Parking Level
Parkade 1	If there are multiple parking levels	Parkade Level 1
Superstructure		
Level 1		Main Floor, First (1 st) Floor, Ground Floor
Level 2		First (1 st) Floor, Second (2 nd) Floor
Level 3		Third (3 rd) Floor
Mechanical Level		Mechanical Floor, Penthouse
Roof Level	Top of steel deck or roof slab	Roof, Roof Deck
Parapet		



Revision History

Revision Date	Version	Description
Dec 2018	1.0	Baseline version
August 10, 2023	1.0	Added Revision History table to end of document and reset to Version 1.0.