PRODUCTION OF A CONSTRUCTION DRAWING SET
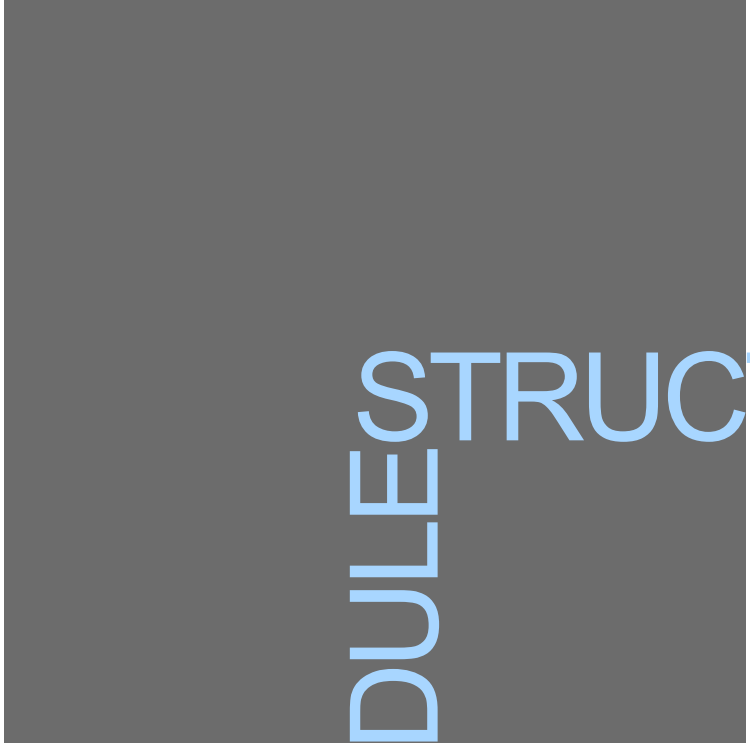
ARCAD

ARCHITECTURAL
CONSTRUCTION
DOCUMENT
DEVELOPMENT

www.arcad.on.ca

PRODUCTION OF A CONSTRUCTION DRAWING SET

Module 1

Planning

Module 2

Cover Sheet
Site Plan
Floor+Roof+RCP
Plans

Module 3

Building Elevations
Building Sections
Detailed Floor Plans
Interior Elevations

Module 4

Stairs/Ramps
Wall Sections
Details
Schedules
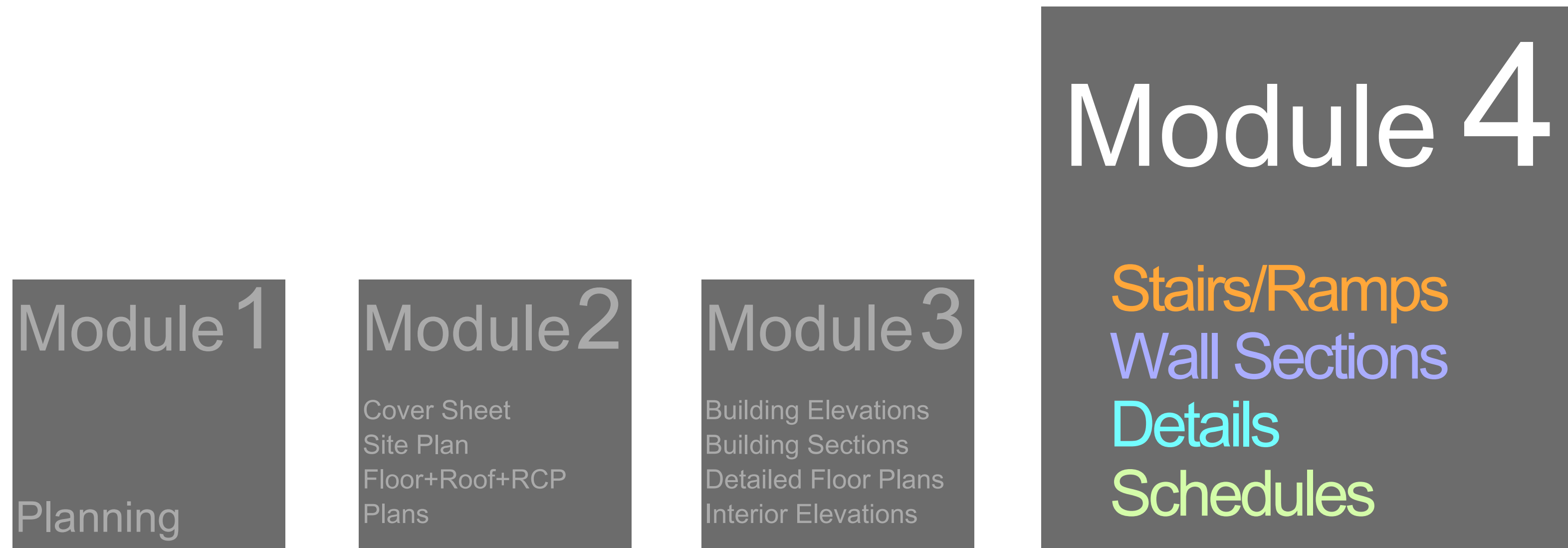
view all series at www.arcad.on.ca/training

MODULE STRUCTURE

1. Introduction, drawing types for the module
2. Content of each drawing type, building up process
3. Common errors and omissions with possible solutions
4. Check list as a tool to review the work
5. Bibliography as a guide to research more in depth

CONSTRUCTION DOCUMENTS DRAWINGS SERIES	A8 WALL SECTIONS	A5 DETAILED FLOOR PLANS	A2 FLOOR + ROOF +RCP PLANS
A10 SCHEDULES	A7 STAIRS RAMPS	A4 BUILDING SECTIONS	A1 SITE PLAN
A9 DETAILS	A6 INTERIOR ELEVATIONS	A3 BUILDING ELEVATIONS	A0 COVER SHEET

Scales:

1/4"=1'-0"   1:50
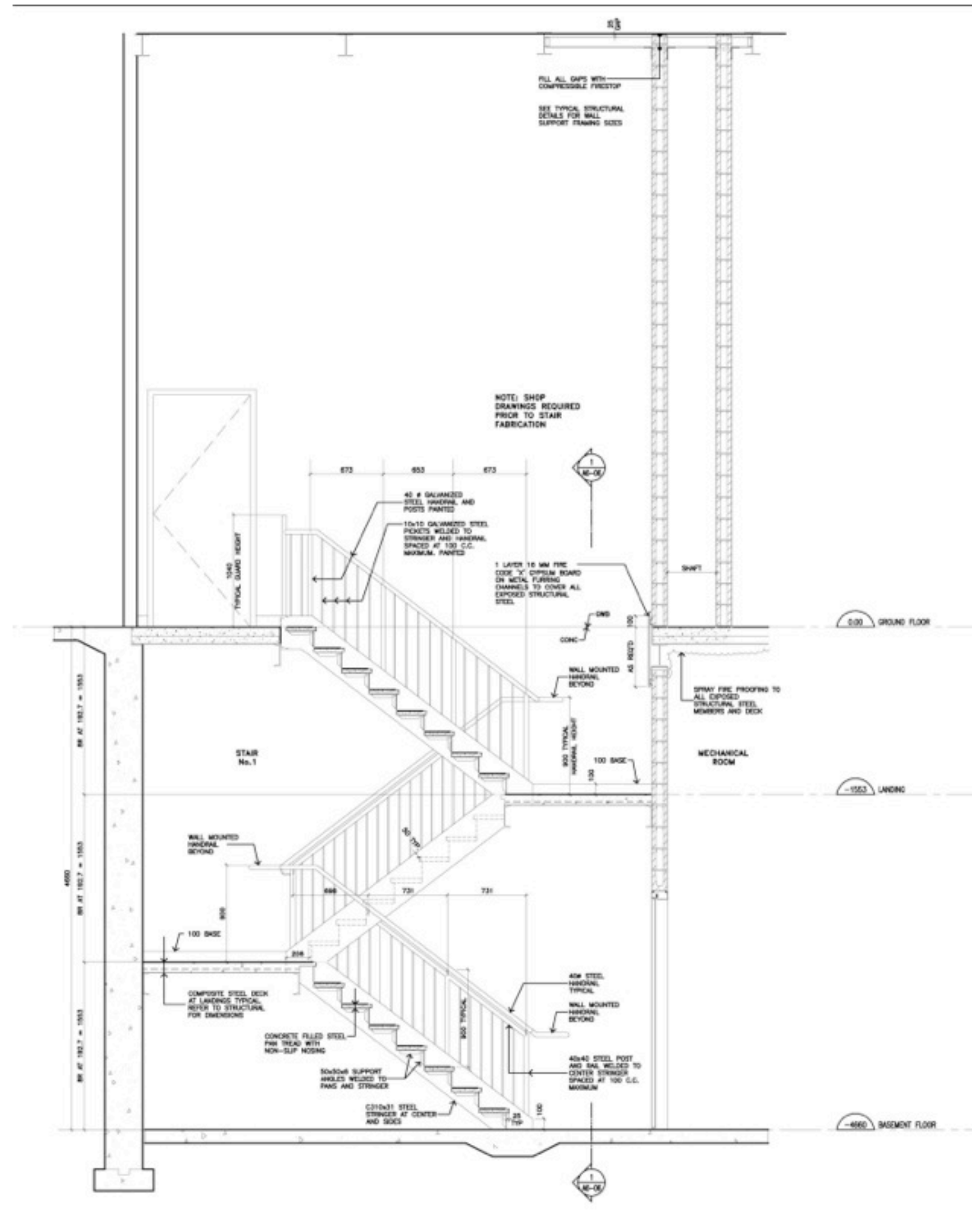
1-1/2"=1'-0"   1:10

3"=1'-0"   1:5

- **Grid** lines with reference symbols, Elevation Floor **Levels**

- **Widths,** Lengths, Landings, Clearance to doors, **Handrails.** Continuous on both sides of stairway and extended horizontally beyond top and bottom of stairway,

- Uniform run/rise in any one flight, Maximum **vertical rise of flights between floor,** Minimum headroom clearance maintained

- **Guards height,** limited opening sizes through guards designed to prevent climbing

- **Dimensions.** Tread, riser, Horizontal, Vertical, Landings, Height of handrails

- **Annotations**

- **Cross Reference**

A7 STAIRS/RAMPS
PLANS.SECTIONS.DETAILS

scale

1/4"=1'-0"   1:50   1-1/2"=1'-0"   1:10   3"=1'-0"   1:5

Oo**P**s

SMART

- Stair does not meet the code

- Handrail does not work at turns

- Handrail height is confused with guardrail height at landings

- Up and down arrows are missing or wrong

- Review **building code** to make sure stair is designed accordingly

- Make sure the **calculations** are correct for the railing height at turns

- **Review** building code for railing and guardrails height, make sure notation is correct for each condition

- Show **consistent** arrows head and label for stair direction.

A7 STAIRS/RAMPS
PLANS.SECTIONS.DETAILS

- ☐ **Grid** and grid dimensions
- ☐ Elevation floor **levels,** confirm all runs work according floor to floor height as well head room
- ☐ Confirm stairs meet code, **Widths,** Lengths, Landings, Clearance to doors, coordinate with building sections for finished floor level
- ☐ **Handrails.** Continuous on both sides of stairway and extended horizontally beyond top and bottom of stairway
- ☐ Uniform run/rise in any one flight, Maximum **vertical rise of flights between floor,** Minimum headroom clearance maintained
- ☐ **Guards height,** limited opening sizes through guards, designed to prevent climbing, coordinate

with **structural** for supports and anchors

- ☐ Detailed **dimensions,** Tread, riser, Horizontal, Vertical, Landings, Height of handrails
- ☐ **Annotations**
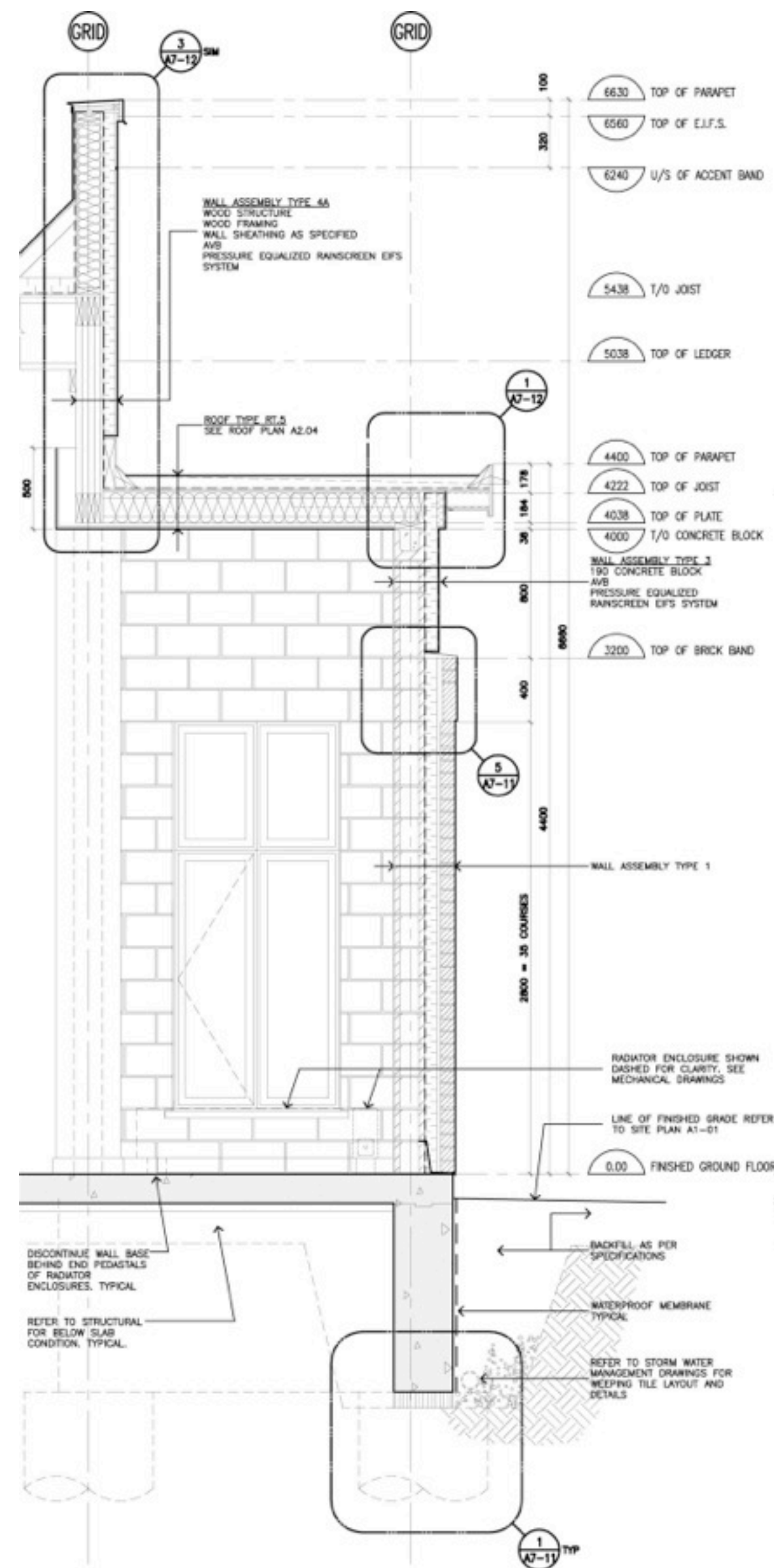- ☐ **Cross references** to sections and details

Download at www.arcad.on.ca/training

A7 STAIRS/RAMPS
PLANS.SECTIONS.DETAILS

Scales:

3/4"=1'-0"   1:20

1/2"=1'-0"   1:25

A8 WALL SECTIONS

- **Grid** lines with reference symbols, Elevation Floor **Levels**

- Structural elements, **Footing,** Backfill line, Foundation Drainage

- **Building Components** from Footing to Roof, Wall/Roof Assemblies

- Typical **Window** or Door condition

- **Mechanical**

- **Vertical dimensions**

- **Annotations,** Wall/Roof assemblies

- **Cross Reference**

A8 WALL SECTIONS

scale

3/4"=1'-0"   1:20   1/2"=1'-0"   1:25

OOPS

SMART

- Footings/drainage are missing or incorrect

- Coordinate with structural and mechanical to add accurate information

- Assemblies descriptions are not the same as specifications

- Coordinate with specifications to ensure descriptions are consistent.

- Coordinate between wall sections and details to assign information for each series to avoid repetition

- Assemblies descriptions are duplicated

A8 WALL SECTIONS

scale

3/4"=1'-0"   1:20   1/2"=1'-0"   1:25

CHECK LIST

- **Grid** and Grid dimensions
- Elevation floor **levels**
- Structural elements, Column line as required, **Footing,** Backfill line, Foundation Drainage
- **Building Components** from footing to roof. Wall/Roof assemblies. Indicate location /Material of air/Vapour barriers
- Typical **Window** or Door condition
- Vertical **Dimensions** and Column line dimensioned to wall face
- **Annotations**, Wall/Roof type assemblies. Check specification descriptions and coordinate drawings to match

- **Cross references** to details. Ensure wall sections cover all building conditions and cross references to details are complete and correct

A8 WALL SECTIONS

scale
3/4"=1'-0"   1:20   1/2"=1'-0"   1:25

Scales:

Full Size	1:1
Half Size	1:2
3"=1'-0"	1:5
1-1/2"=1'-0"	1:10
1"=1'-0"	1:12

A9 DETAILS
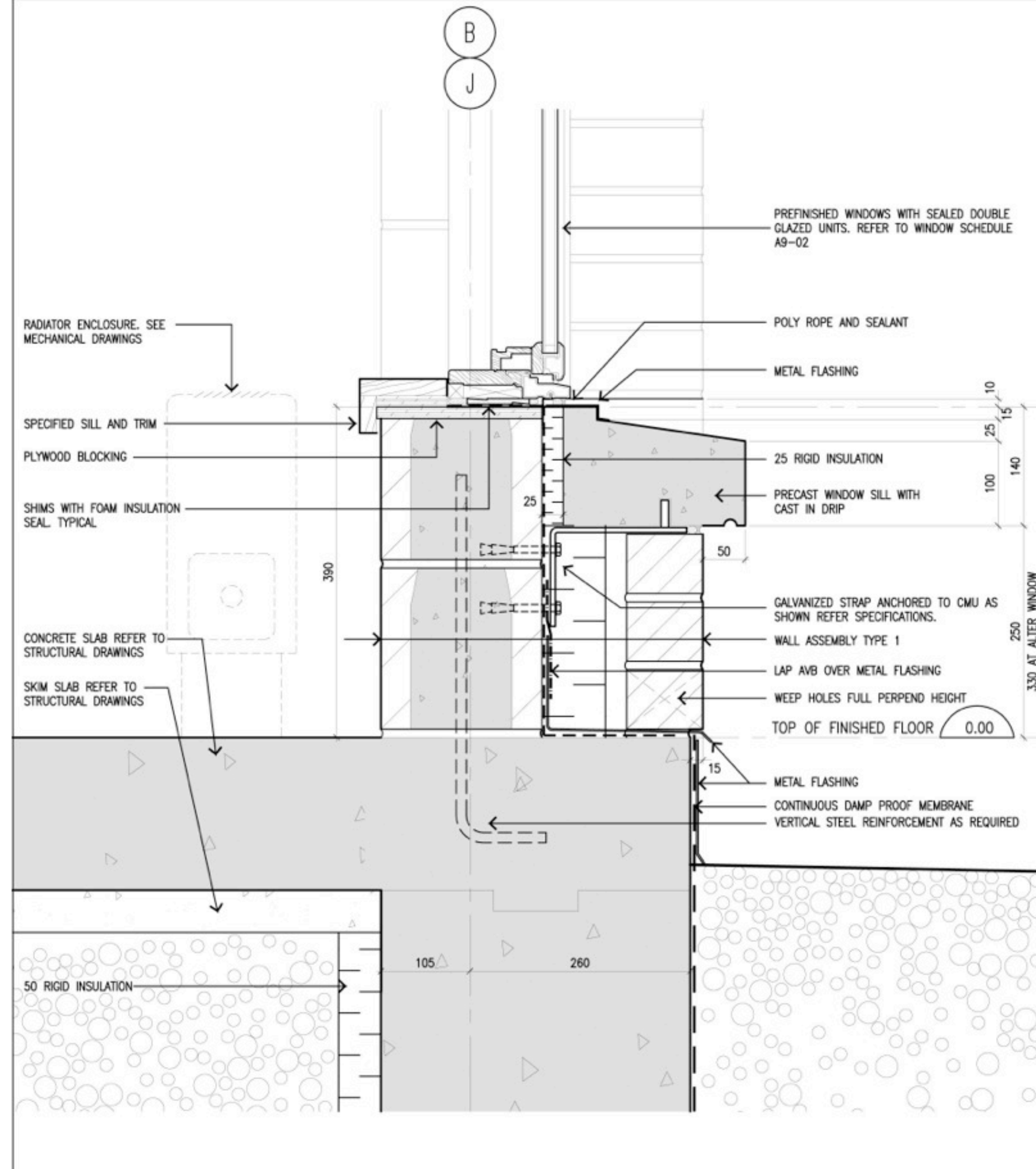
- **Grid** lines with reference symbols, Elevation Floor Levels

- **Structural Elements,** Foundation as Required

- **Wall assembly** Showing Mounting and Supporting Components

- **Windows**/Doors with type description

- Background **Projection Lines**

- **Mechanical** and Other Equipment

- Vertical **Dimensions** for Section details or Horizontal Dimensions for Plan details

- **Annotations**

www.arcad.on.ca

A9 DETAILS

scale

Full Size   1:1   Hal f Size   1:2   3"=1'-0"   1:5   1-1/2"=1'-0"   1:10   1"=1'-0"   1:12

OOPS

SMART

- Descriptions are repeated

- Coordinate within the details sheet to avoid repeating information. Details with same description should refer to the first detail on the sheet which has the information

- Check specifications descriptions and coordinate drawings to match

- Descriptions are not the same as specifications

- Details are duplicated

- Coordinate details selection and details sheets to ensure all building conditions are covered but not repeated.

A9 DETAILS

CHECK LIST

- **Grid** and Grid dimensions
- Elevation floor **levels** for section details
- **Structural** elements as required, Columns, Beams or Foundation according to the detail type
- **Wall assembly** showing mounting and supporting components, Air/Vapour barriers
- Background **projection lines**
- **Mechanical** and other equipment
- **Dimensions** not already shown on plans/elevations/building sections, Vertical Dimensions for section details or Horizontal dimensions for plan details
- **Annotations,** Typical assemblies, through-wall flashings, Air/Vapour barriers. Check specification descriptions and coordinate drawings to match.

Download at www.arcad.on.ca/training

A9 DETAILS

- Abbreviations and Hardware Legend
- Door/Window Types
- Door/Window Frames
- Door/Window Schedule

www.arcad.on.ca

A10 SCHEDULES

scale

Full Size   1:1   As noted

OOPS

SMART

- Abbreviations are missing

- Incomplete door/window frame details

- **Coordinate** with specification to ensure all abbreviations are added and correct

- **Check** all door/windows conditions and make sure details cover all of them.

A10 SCHEDULES

scale

Full Size   1:1   As noted

CHECK LIST

- ☐ • Wall types if not shown on floor plans
- ☐ • Roof types if not shown on roof plan
- ☐ • Door types, frames and schedule
- ☐ • Window types, frames and schedule
- ☐ • Hardware, confirm all numbers and names are included. Coordinate with specifications to match
- ☐ • Room Finishes
- ☐ • Any other schedule as required
- ☐ • Abbreviations list. Coordinate list with specifications to match

Download at www.arcad.on.ca/training

A10 SCHEDULES

scale

Full Size   1:1   As noted

CANADIAN HANDBOOK OF
PRACTICE FOR ARCHITECTS

ARCAD STANDARDS, CUSTOMIZATION
AND WORKING DRAWINGS
www.arcad.on.ca

LARKIN ARCHITECT LIMITED (DESIGN)

POWERS OF TEN
www.powersof10.com

GOOGLE MAPS

bibliography

ARCAD

www.arcad.on.ca

ARCHITECTURAL
CONSTRUCTION
DOCUMENT
DEVELOPMENT

Educational series: Free download PDF version of this presentation at www.arcad.on.ca/training

MAY 2012

This series is intended to clarify architectural working drawings production and development and the slides represent a compressed summary of the complete version of a working drawing set. For a more detailed guide, a review of the Canadian Handbook of Practice for Architects is highly recommended.