

Point Type

- + [Icons]
- Axis
- Segmentation
- Column
- Wall
- Door/Window Opening
- Beam
- Slab
- Steel Structure
  - Steel/Composite Column(C)
  - Steel/Composite Beam(B)
  - Steel/Composite Slab(S)
  - Steel Column(UC)
  - Steel Beam(UB)
  - Plate(P)
- Staircase
- Finishes
- Prefabrication
- Foundation
- Excavation
- Others
- Custom Element
- Custom Quantity



# Section 3

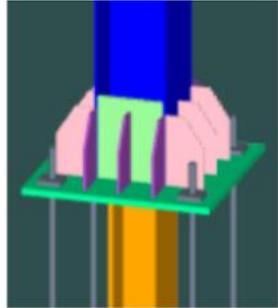
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## Steel Connection

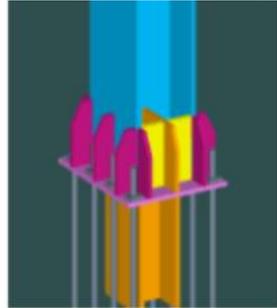


# A. Steel Connection – Generate Detail

- Column Base

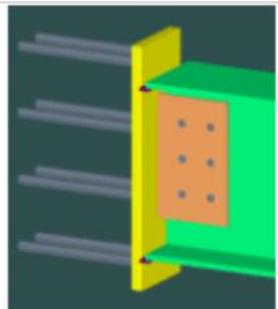


H-Column Column Base-1



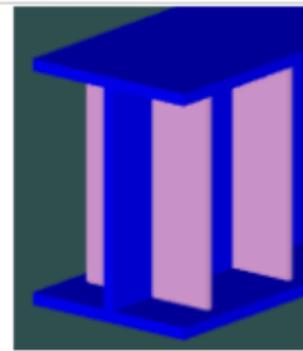
H-Column Column Base-2

- Beam End



H-Beam End Anchorage

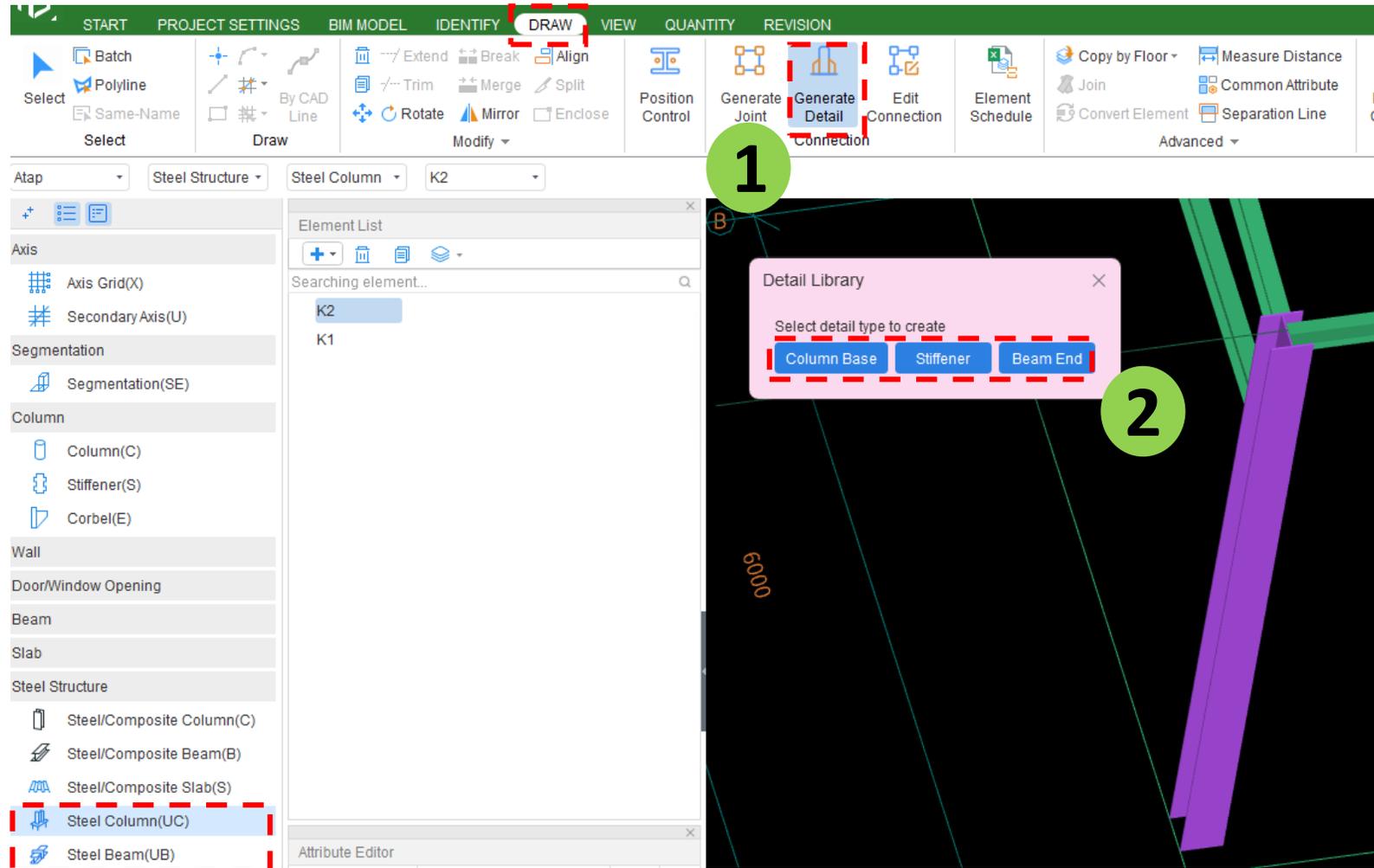
- Stiffener



H-Beam Stiffener

# Generate Detail

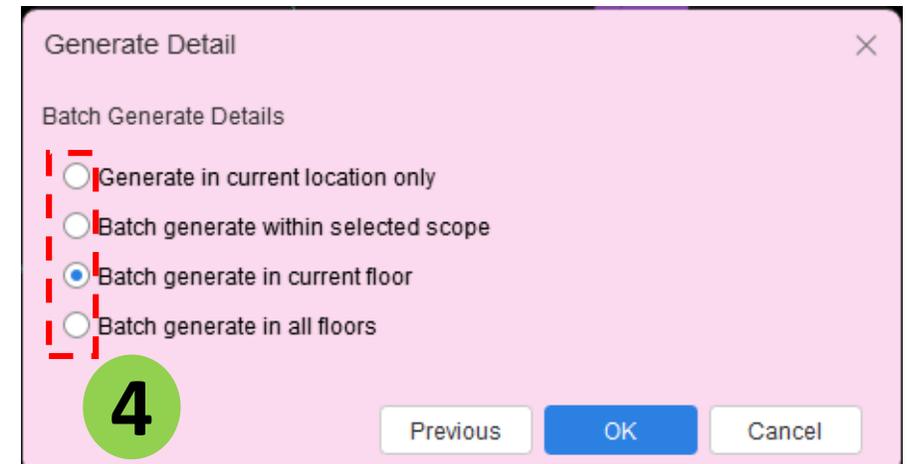
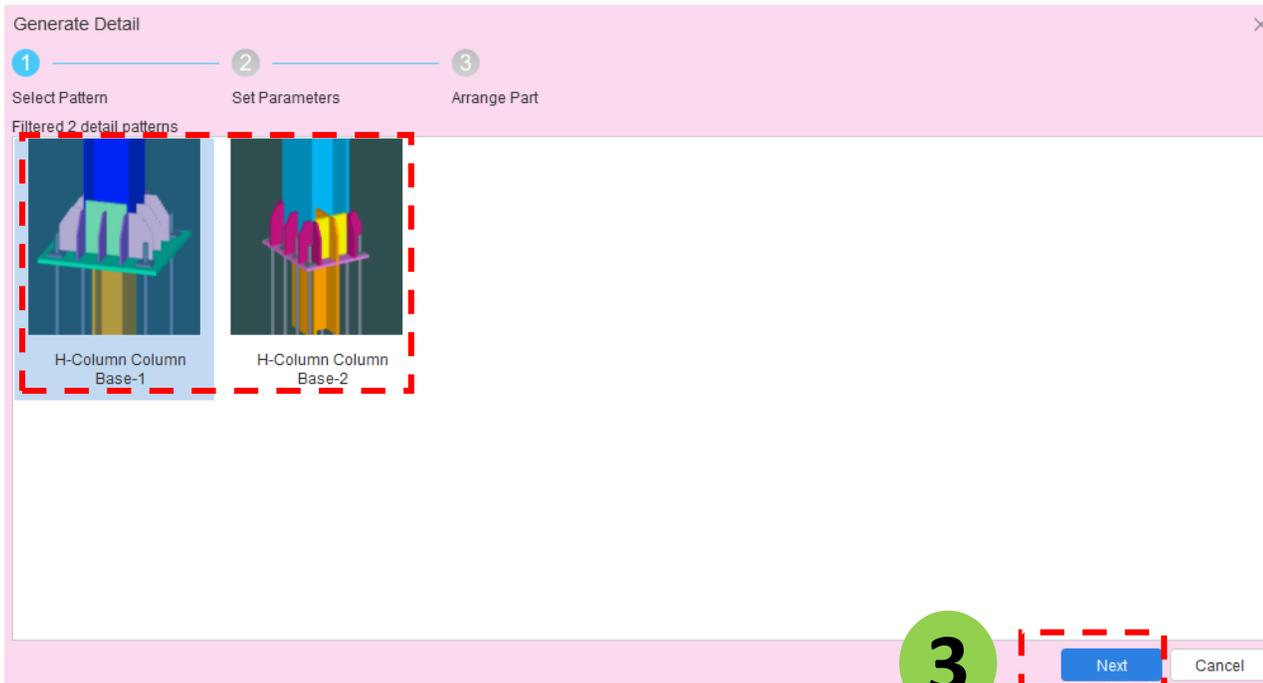
- **Step 1:** Go to Steel Column/Steel Beam Elements → in Draw menu → Generate Detail
- **Step 2:** Choose Detail Type to Create → Select entity → Right Click to Confirm



Continue →

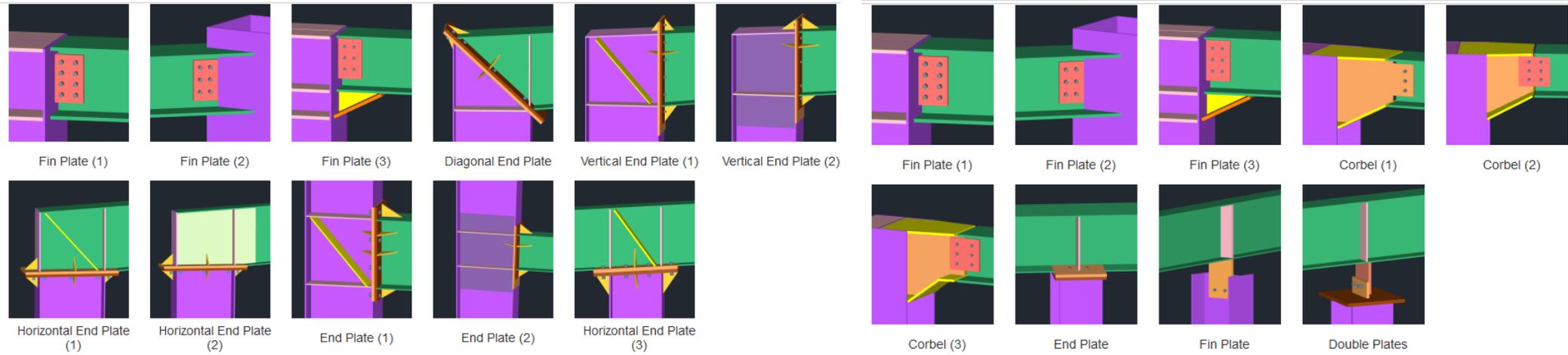
# Generate Detail

- Step 3: Choose Detail Pattern & adjust to match CAD detail → Next
- Step 4: Choose location to generate the detail

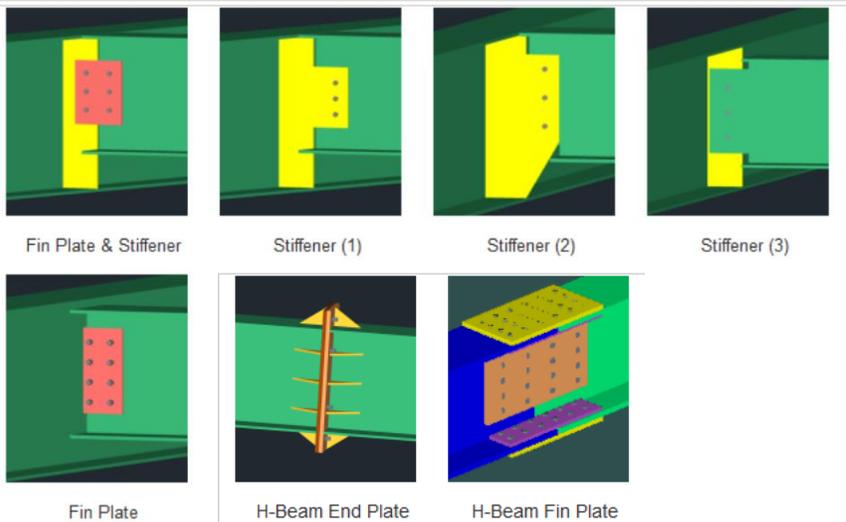


# B. Steel Connection – Generate Joint

- Column to Beam

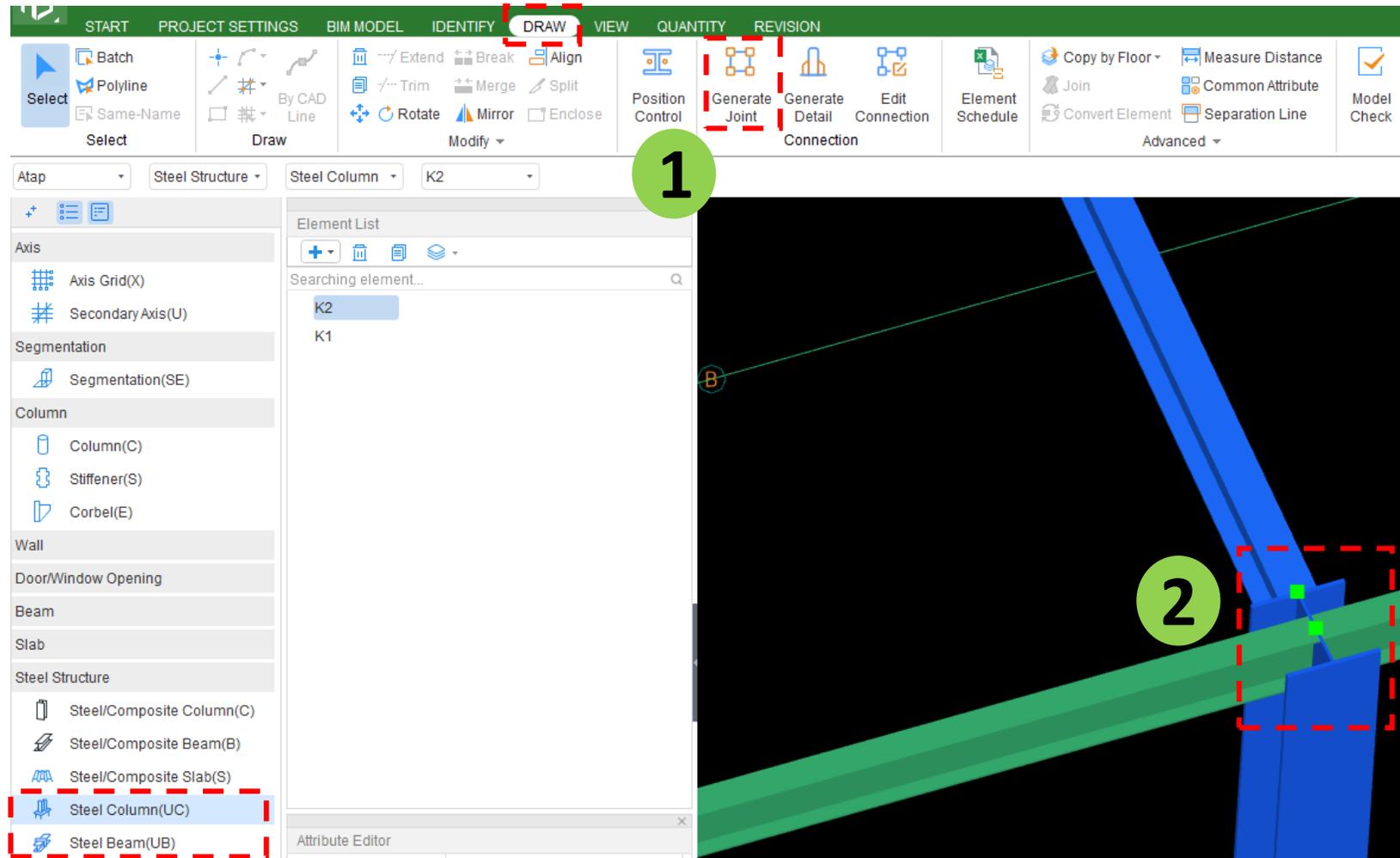


- Beam to Beam



# Generate Joint

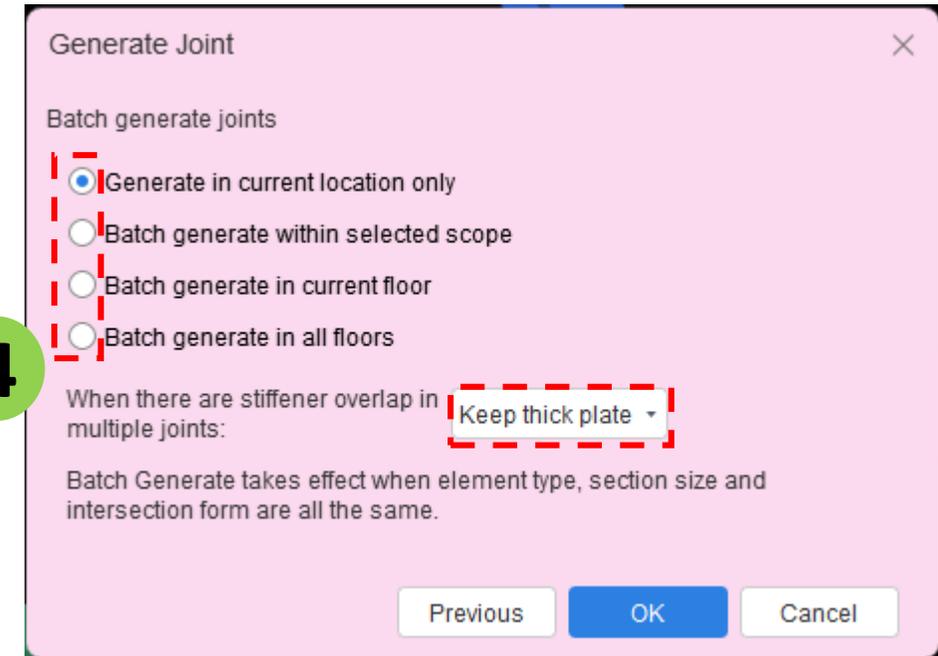
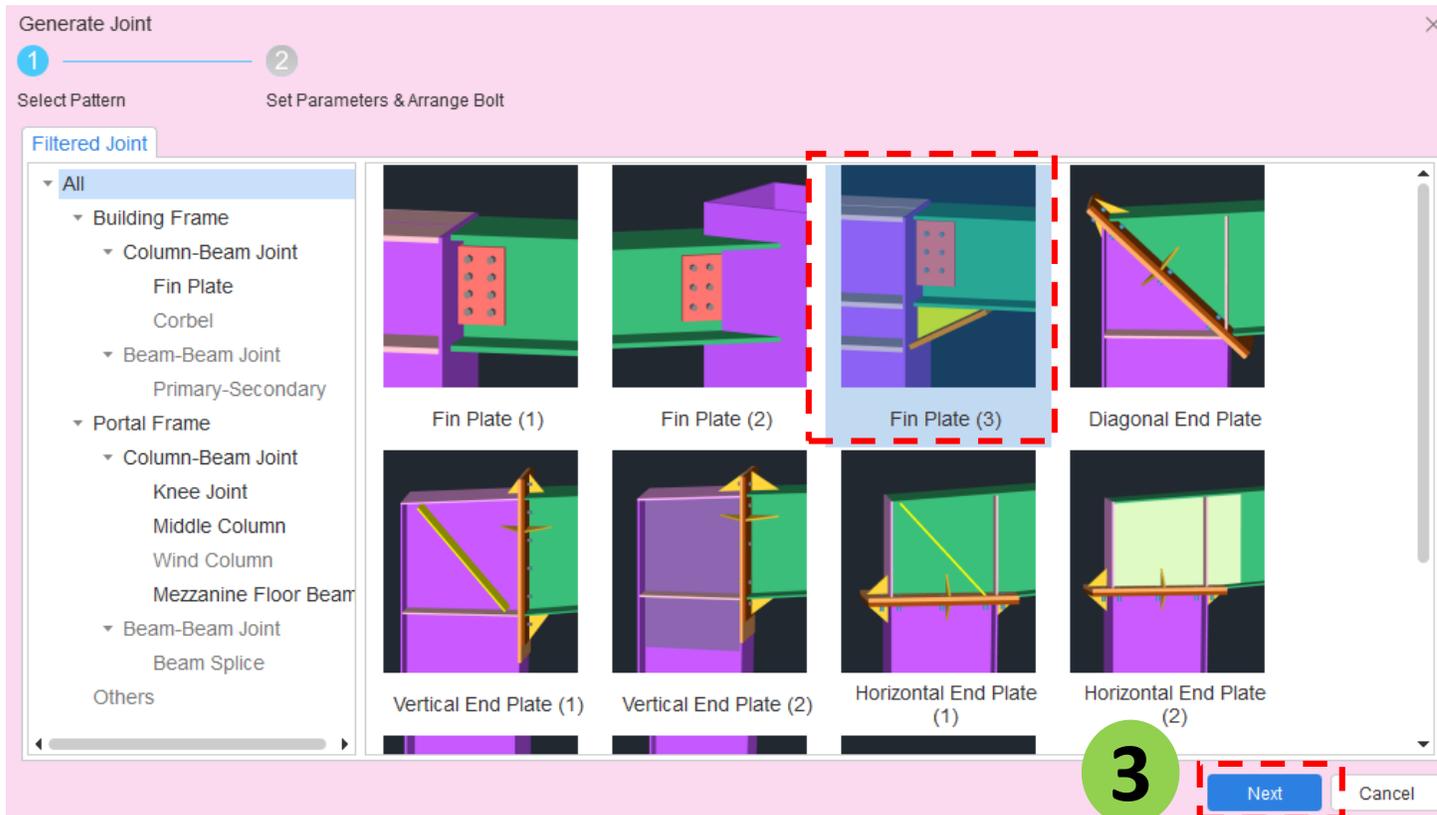
- Step 1: Go to Steel Column/Steel Beam Elements → in Draw menu → Generate Joint
- Step 2: Select 2 entities → Right Click to Confirm



Continue →

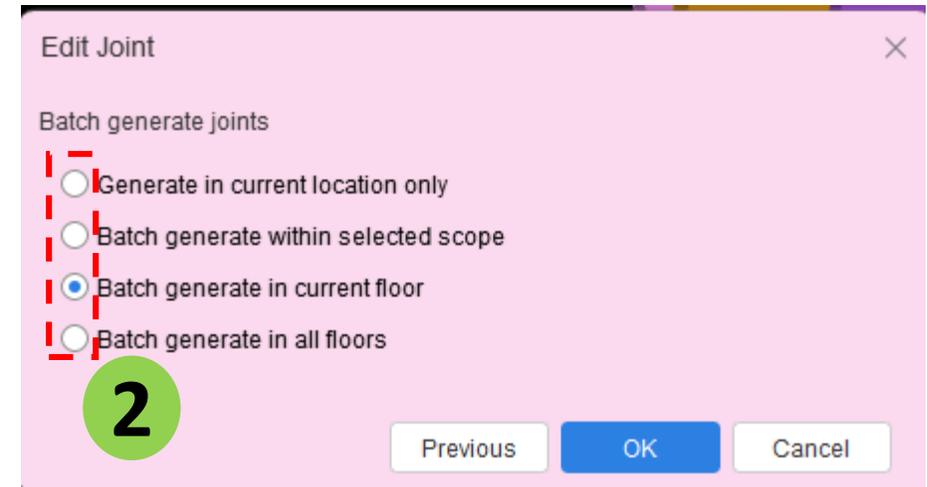
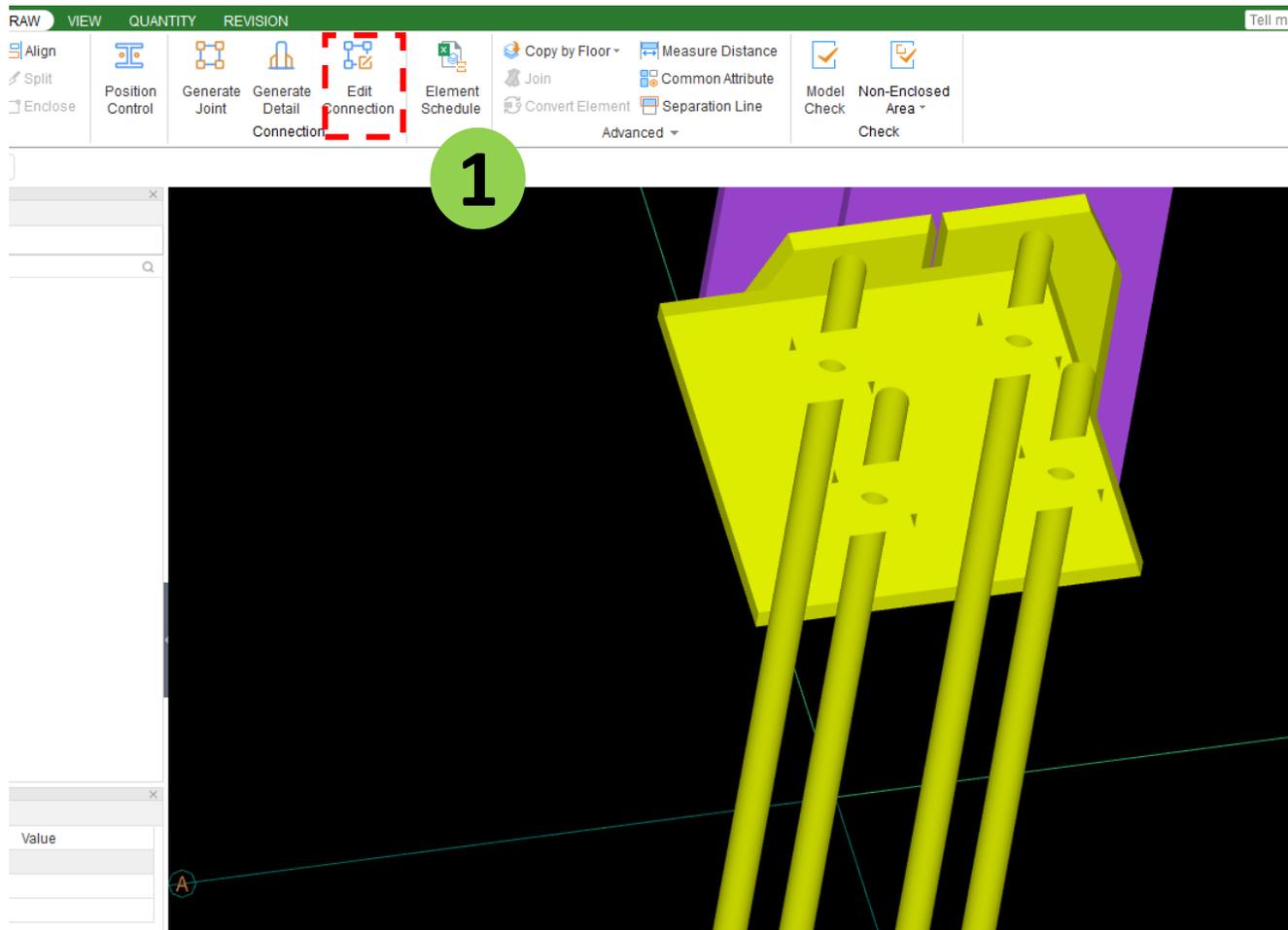
# Generate Joint

- Step 3: Choose Joint Pattern & adjust to match CAD detail → Next
- Step 4: Choose location to generate the Joint



# Edit Detail & Joint Connection

- Step 1: Choose Detail → Click Edit Connection
- Step 2: Choose location to edit the detail



# Steel Plate Element

## By Line

Support specifying points consecutively, right click to

Classification Condition				Quantity		
Floor	Name	Spec	Thickness	Weight of plates(kg)	Area of plates(m2)	
1	Ground Floor	Plate-Line	20*300	-	18.369	0.262
2	Total			18.369	0.262	

## By Area

Specify another corner point of rectangle, right click to

Classification Condition				Quantity	
Floor	Name	Spec	Thickness	Weight of plates(kg)	Area of plates(m2)
1	Ground Floor	Plate-Area	20	18.369	0.262
2	Total			18.369	0.262

# Steel Plate Element

## Parametric

Plate Library

Section Spec: Right Pentagon-1

250 150 100 100 t=20

OK Cancel

Element List

Searching element...

Plate-Area

Attribute Editor

Attribute	Value	Add
Common Attribute		
Name	Plate-Area	<input type="checkbox"/>
Category	Plate	<input type="checkbox"/>
Thicknes...	20	<input type="checkbox"/>
Density o...	7850.000	<input type="checkbox"/>
Material	ASTM A36	<input type="checkbox"/>
Associat...		<input type="checkbox"/>
Bottom E...	Floor_Top_Elevation	<input type="checkbox"/>
Entity Obj...	Normal Object	<input type="checkbox"/>
Associat...		<input type="checkbox"/>

Specify first corner point, or select element en

Classification Condition				Quantity	
Floor	Name	Spec	Thickness	Weight of plates(kg)	Area of plates(m2)
1	Ground Floor	Plate-Area	Right Pentagon-1250*150*100*100	11.383	0.168
2	Total			11.383	0.168

# Quantity of Steel Structure

Notes:

Which quantity to extract for STEEL STRUCTURE

Quantity you need	Quantity to extract from Glodon
Gross Steel (kg)	Original Weight of Steel
Net Steel (kg)	Actual Weight of Steel
Plate (kg)	Total Weight of Plates
Bolts (pcs)	Number of Bolts

	Quantity Name	Quantity Expression	Quantity	Unit
1	Original weight of steel column	$94.00 \times \text{Theoretical weight} \times 5.512 \times \text{Original height of steel column}$	518.128	kg
2	Actual weight of steel column	$94.00 \times \text{Theoretical weight} \times 5.496 \times \text{Actual/Converted length of structural steel}$	516.624	kg
3	Original surface area of steel column	$1.749 \times \text{Theoretical surface area} \times 5.512 \times \text{Original height of steel column}$	9.640	m2
4	Actual surface area of steel column	$9.640 \times \text{Original surface area of steel column} - 0.028 \times \text{Deduct connections}$	9.613	m2
5	Original height of steel column		5.512	m
6	Weight of plates(8mm)	$0.102 \times \text{Area} \times 0.008 \times \text{Thickness} \times 7850.000 \times \text{Density of steel}$	6.406	kg
7	Weight of plates(16mm)	$0.123 \times \text{Area} \times 0.016 \times \text{Thickness} \times 7850.000 \times \text{Density of steel}$	15.386	kg
8	Total weight of plates	$6.406 + 15.386$	21.792	kg
9	Surface area of plates(8mm)	$0.110 + 0.110$	0.219	m2
10	Surface area of plates(16mm)	$0.267$	0.267	m2
11	Number of anchor bolts		4	pc

# Steel Connection Report

- Quantity Summary (Column 1) ✓ ▲
- Quantity Summary (Column 2) ✓
- Quantity Summary (Door/Window) ✓
- Quantity Summary (Column 1) ✓ ▲
- Quantity Summary (Column 2) ✓
- Quantity Summary (Column 1) ✓ ▲
- Quantity Summary (Column 2) ✓
- Quantity Summary (Column 1) ✓ ▲
- Quantity Summary (Column 2) ✓
- Quantity Summary (Door/Window) ✓
- Quantity Summary (Wall Finish) ✓
- Quantity Summary (P-Structure) ✓
- Quantity Summary (P-Finishes) ✓
- ▼ Quantity Measurement Worksheet + New
  - Quantity Measurement Worksheet (Expres...)
  - Quantity Measurement Worksheet (Wall) ✓
- ▼ Index Summary Analysis
  - Single-Unit Concrete Index Table
  - Project Overall Index Table
  - Concrete Grade Index Table
  - Steel Ratio Index Table
- ▼ Steel Structure Detail
  - Structural Steel Summary
  - Plate Summary
  - Bolt Summary
  - Anchor Bolt Summary



### Anchor Bolt Summary

Project Name: Steel Struct Connection Compile Date:

Associated Element	Associated Structural Steel Spec	Anchor Bolt Part	Spec	Material	Number	Weight (kg)		
Steel Column	WF792*300*14*22	Anchor Rod	D30	ASTM A36	8	6.381		
				Subtotal	8	6.381		
			Subtotal	8	6.381			
		Anchor Bolt Cover Plate	20*60*60	ASTM A36	ASTM A36	8	0.565	
					Subtotal	8	0.565	
			Subtotal	8	0.565			
		Anchor Bolt Anchor Plate	20*60*60	ASTM A36	ASTM A36	8	0.565	
					Subtotal	8	0.565	
			Subtotal	8	0.565			
		Subtotal					24	7.512
		Subtotal					24	7.512
				Anchor Rod	D30	ASTM A36	8	6.381
Subtotal	8					6.381		
Subtotal	8			6.381				
		Anchor Bolt Cover	0,0,0	ASTM A36	8	0		
				Subtotal	8	0		