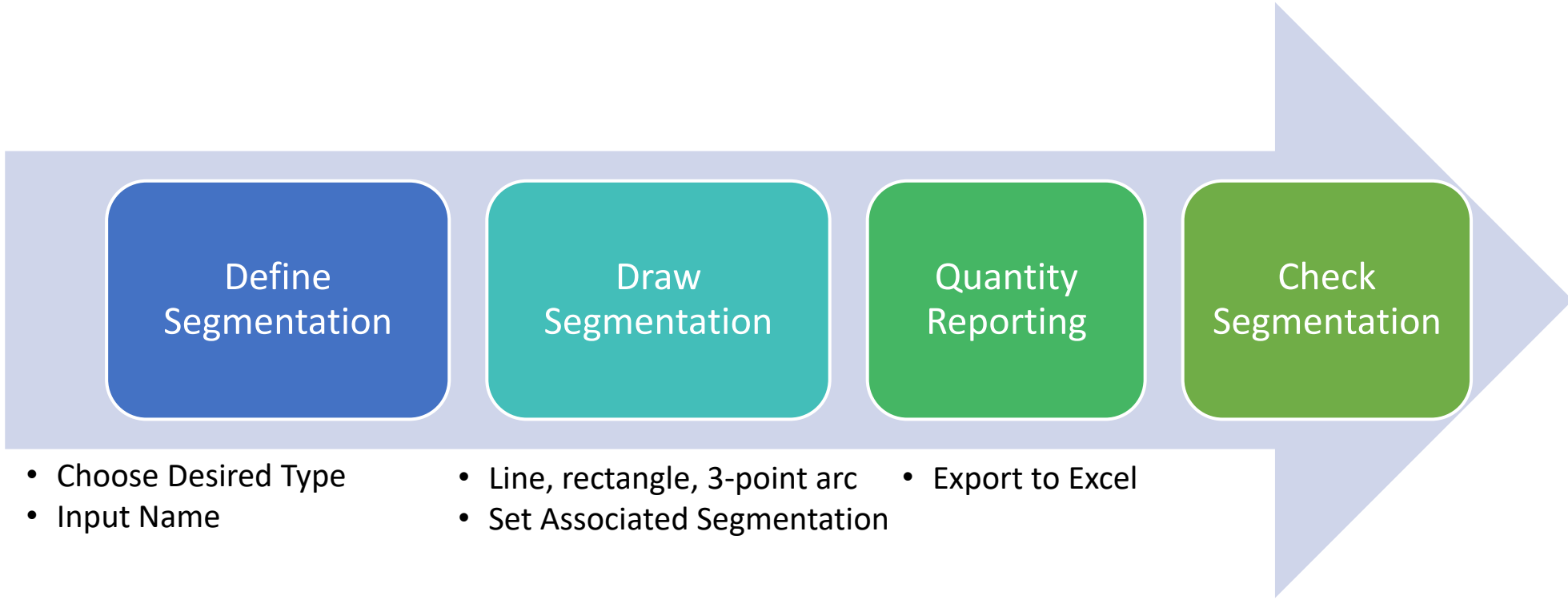
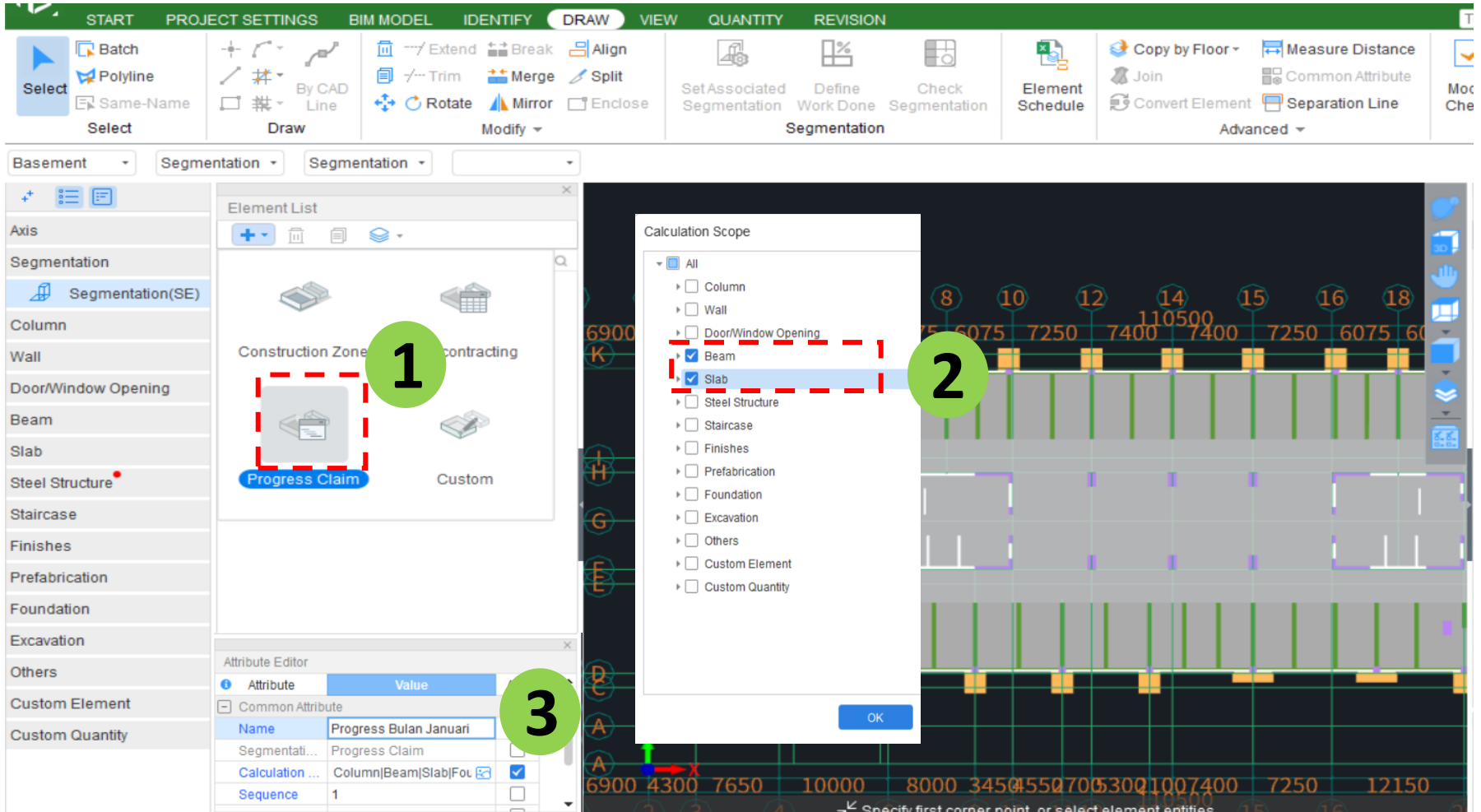

# Segmentation: Beam & Slab

# Segmentation Flow



# Define Segmentation

- Step 1: New Element List → Construction Zone/Subcontracting/Progress Claim/Custom
- Step 2: Choose Specific Element for the Scope
- Step 3: Input Name



# Draw Segmentation – Area

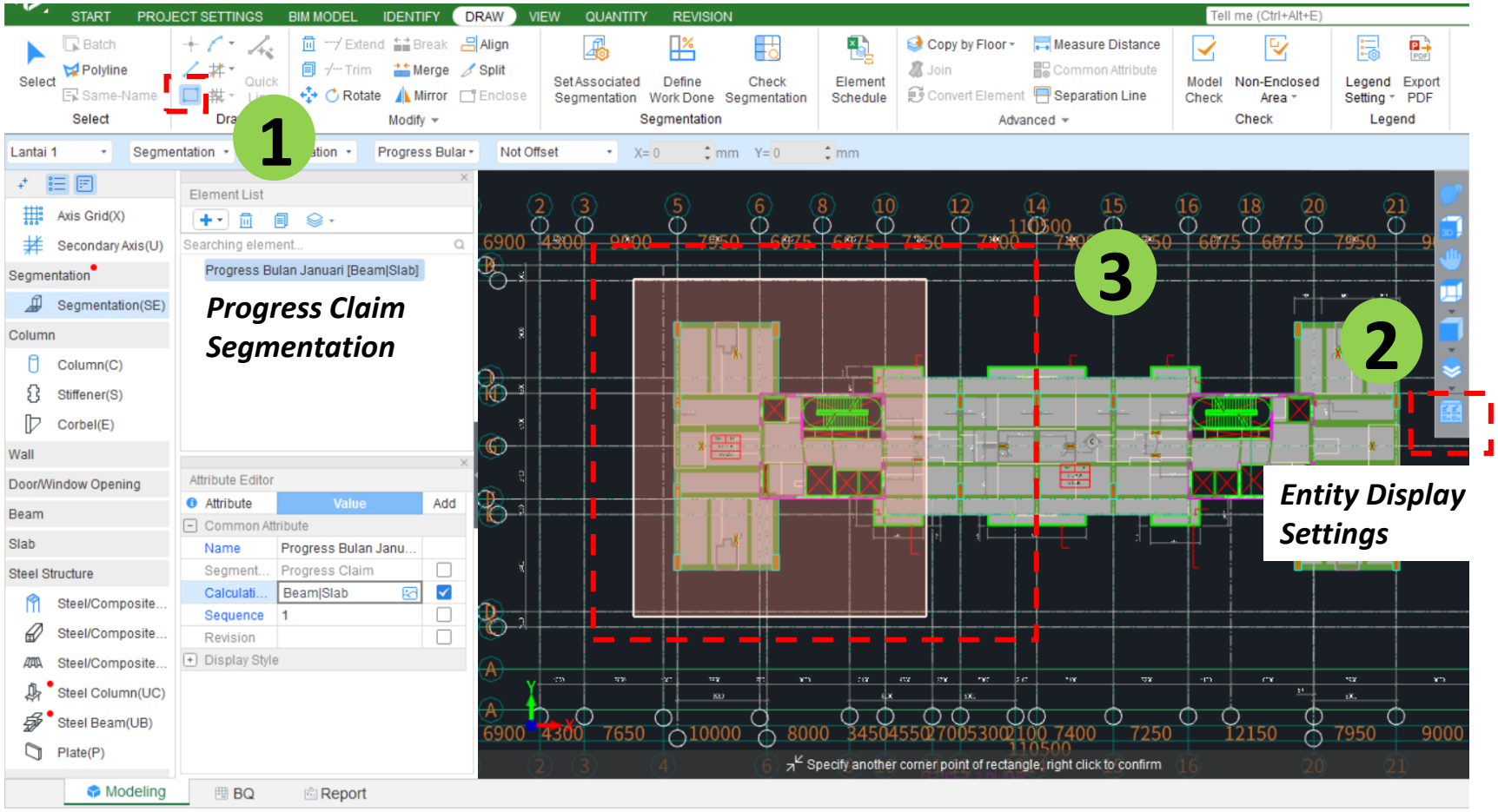
# Case: Beams and slabs are cast together

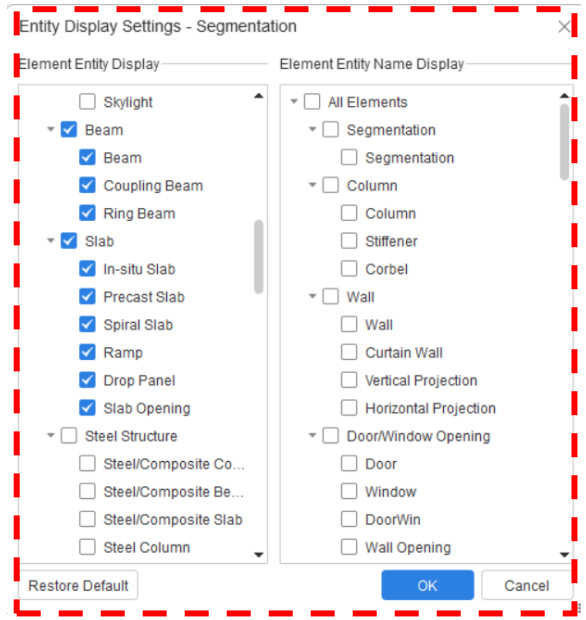

Most upper structure beams and slabs are cast together in a designated area. To obtain the quantities, we can create **segmentation** using the **rectangle** function.

**Entity Display Settings** can also be filtered to show only the necessary elements.

# Draw Segmentation – Area Method

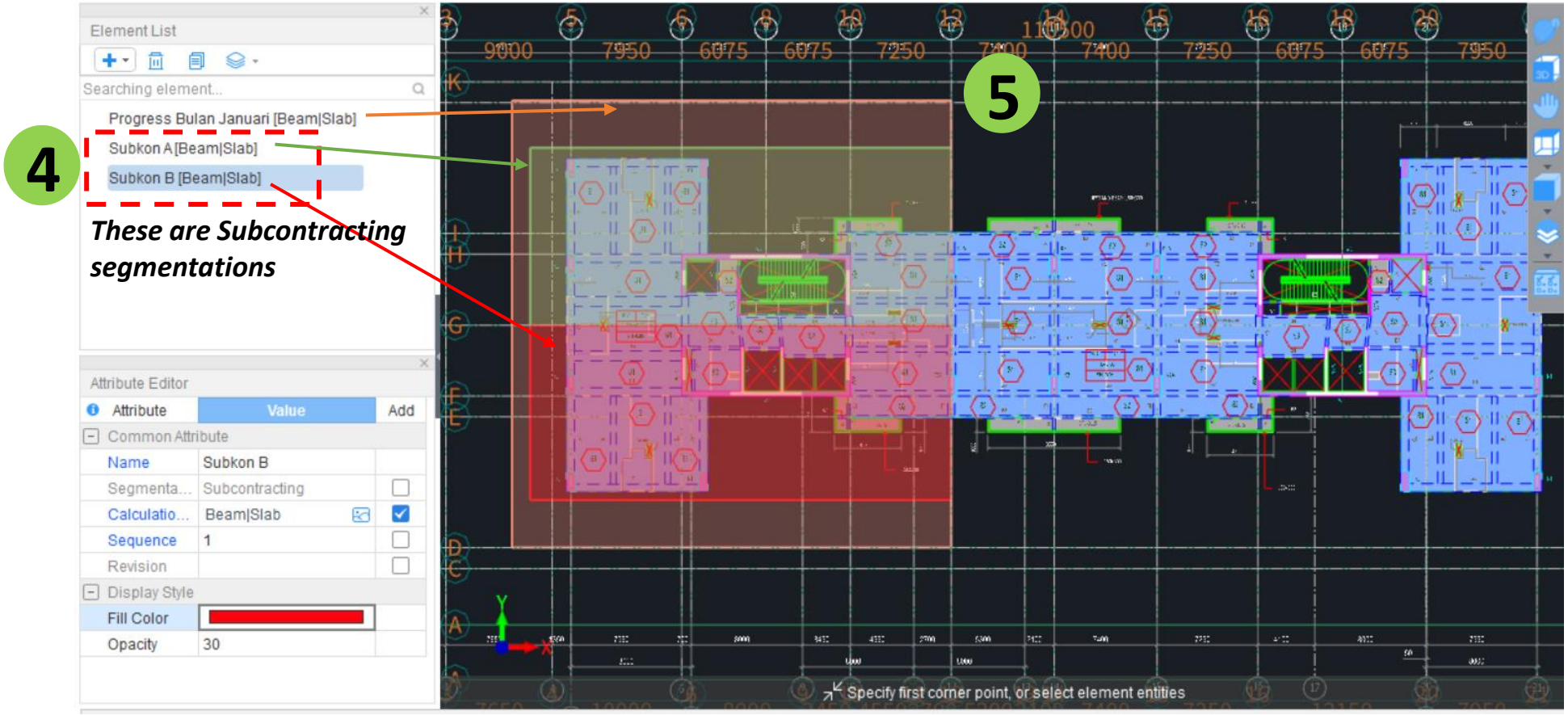
- Step 1: Choose Draw Mode → Line, rectangle, 3-point arc
- Step 2: Entity Display Settings
- Step 3: Draw Segmentation Area



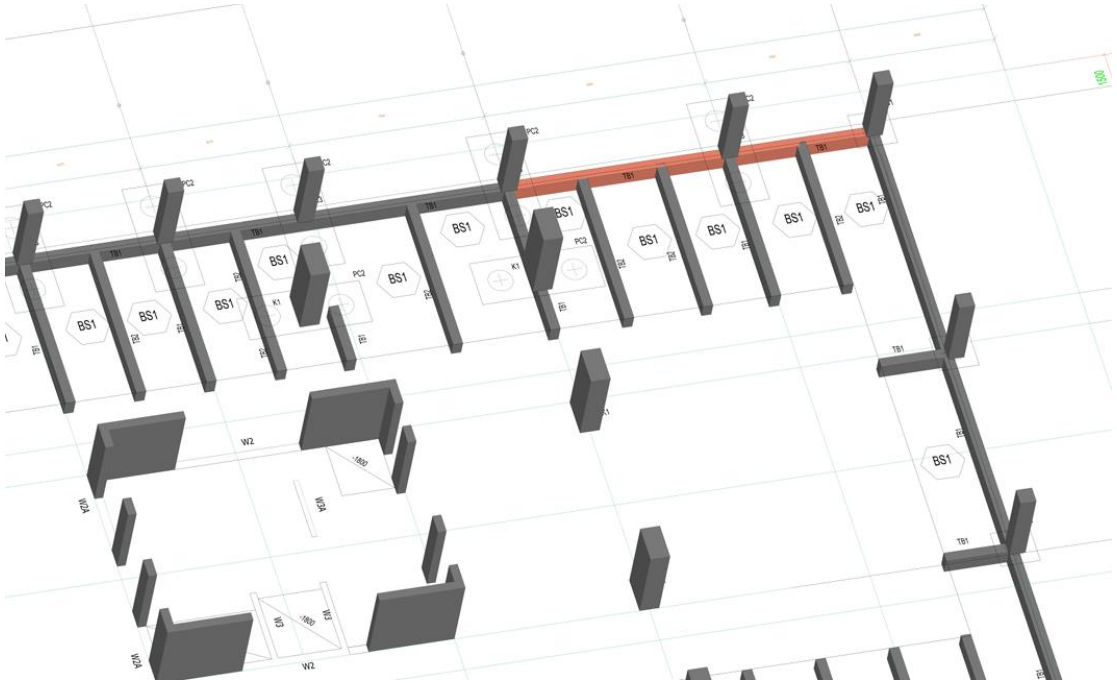
# Draw Segmentation – Mix with Other Segmentation

- Step 4: If there are further classifications, you can use additional **but different** segmentation, such as Sub-Contracting, etc.
- Step 5: Draw the zone inside the existing zone to obtain more detailed quantities.



# Draw Segmentation – Specific Axis or Element

# Case: Tie beam is constructed in stages following the axis



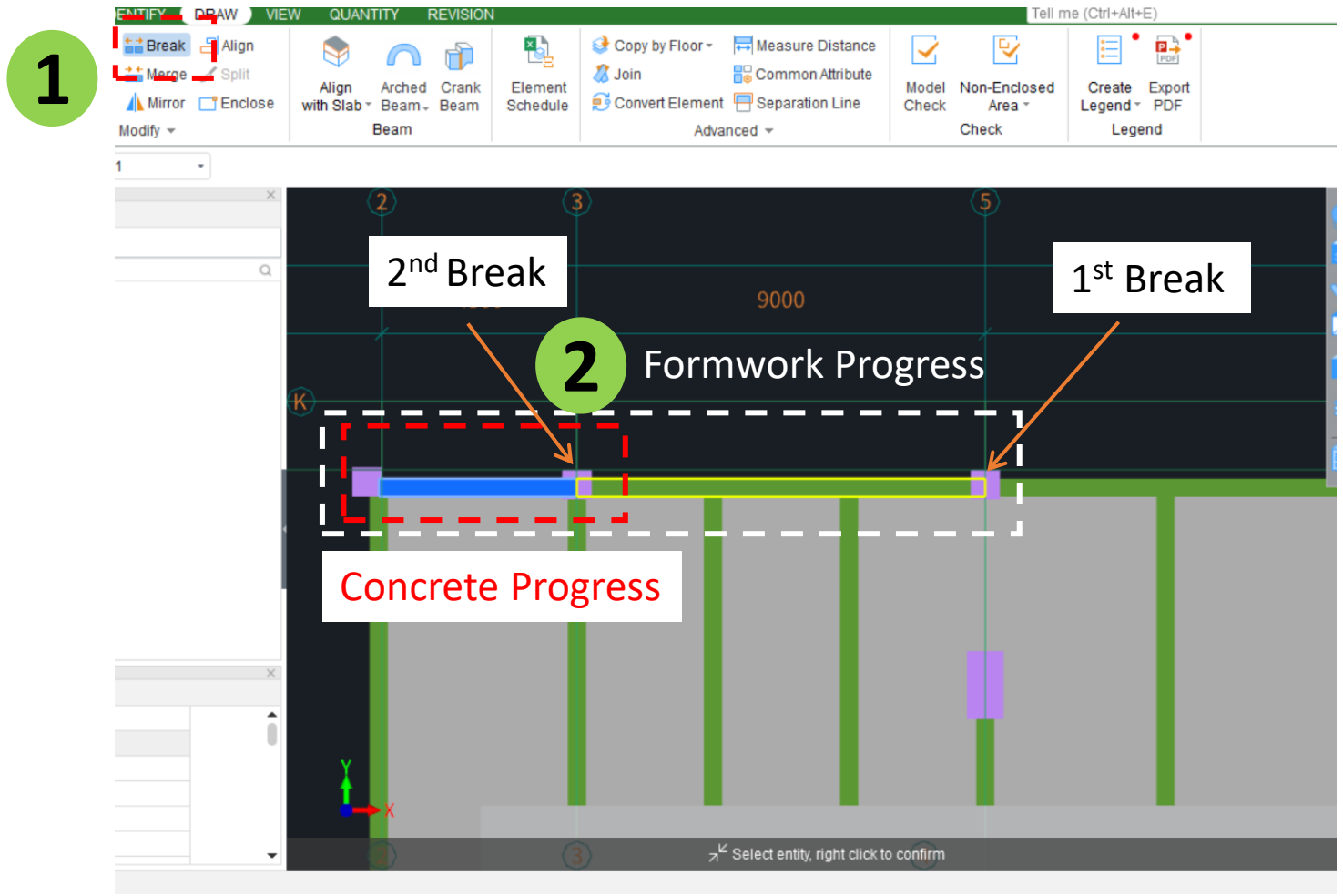

Horizontal elements, such as tie beams, are placed along a straight axis based on their type and constructed separately with slab.

If a segmentation area is drawn, it may overlap with other beams, leading to incorrect quantity allocation in progress claims.

The **Set Associated Segmentation** feature allows zones to be defined per entity, preventing overclaims caused by overlapping beam quantities. When combined with the **break** or **split** function, it enables more precise zone creation.

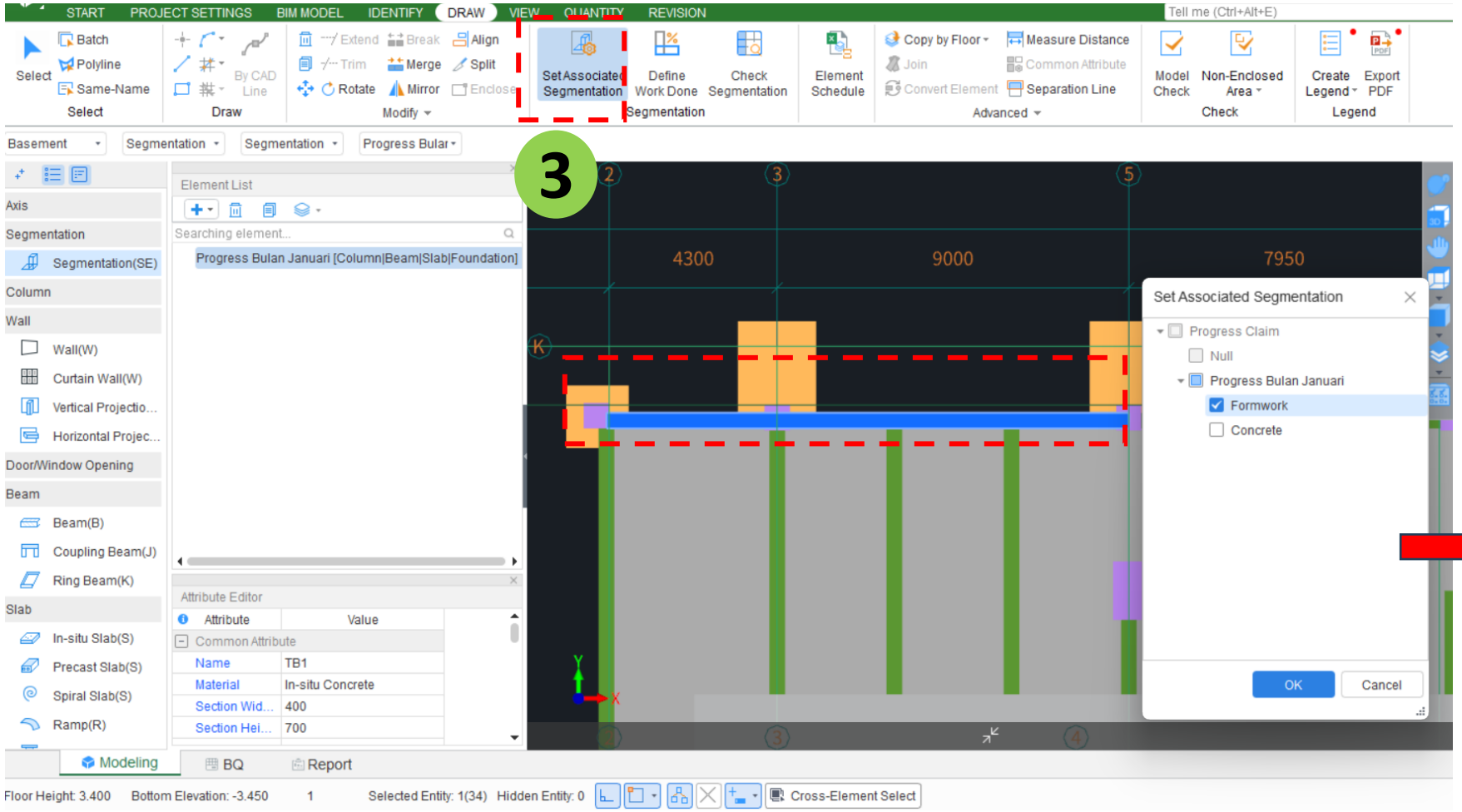
# Draw Segmentation – Specific Axis Method

- Step 1: Break or split to smaller parts based on their progress
- Step 2: If the formwork progress and concrete progress differ, break it down further

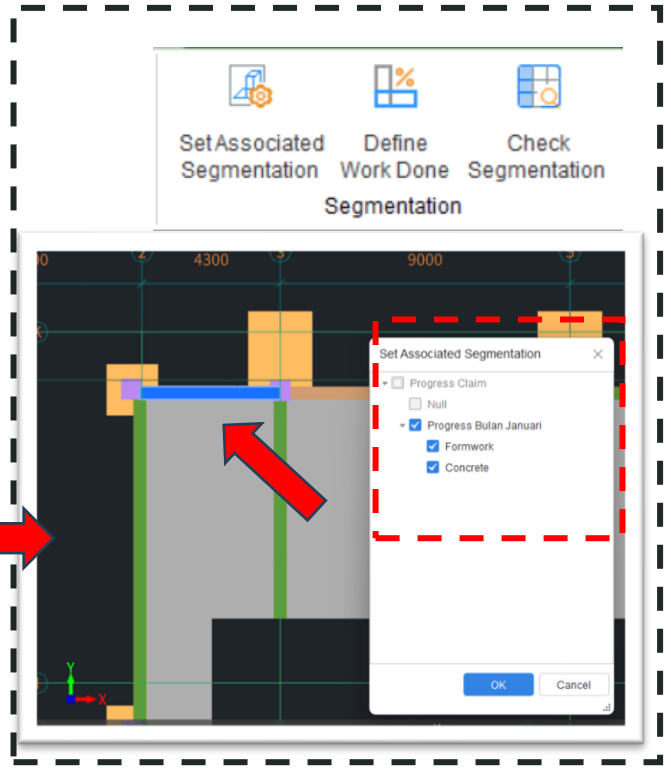


# Draw Segmentation – Specific Axis Method

- Step 3: Choose desired work; formwork or/and concrete for each entities




*Formwork progress and concrete progress differ*



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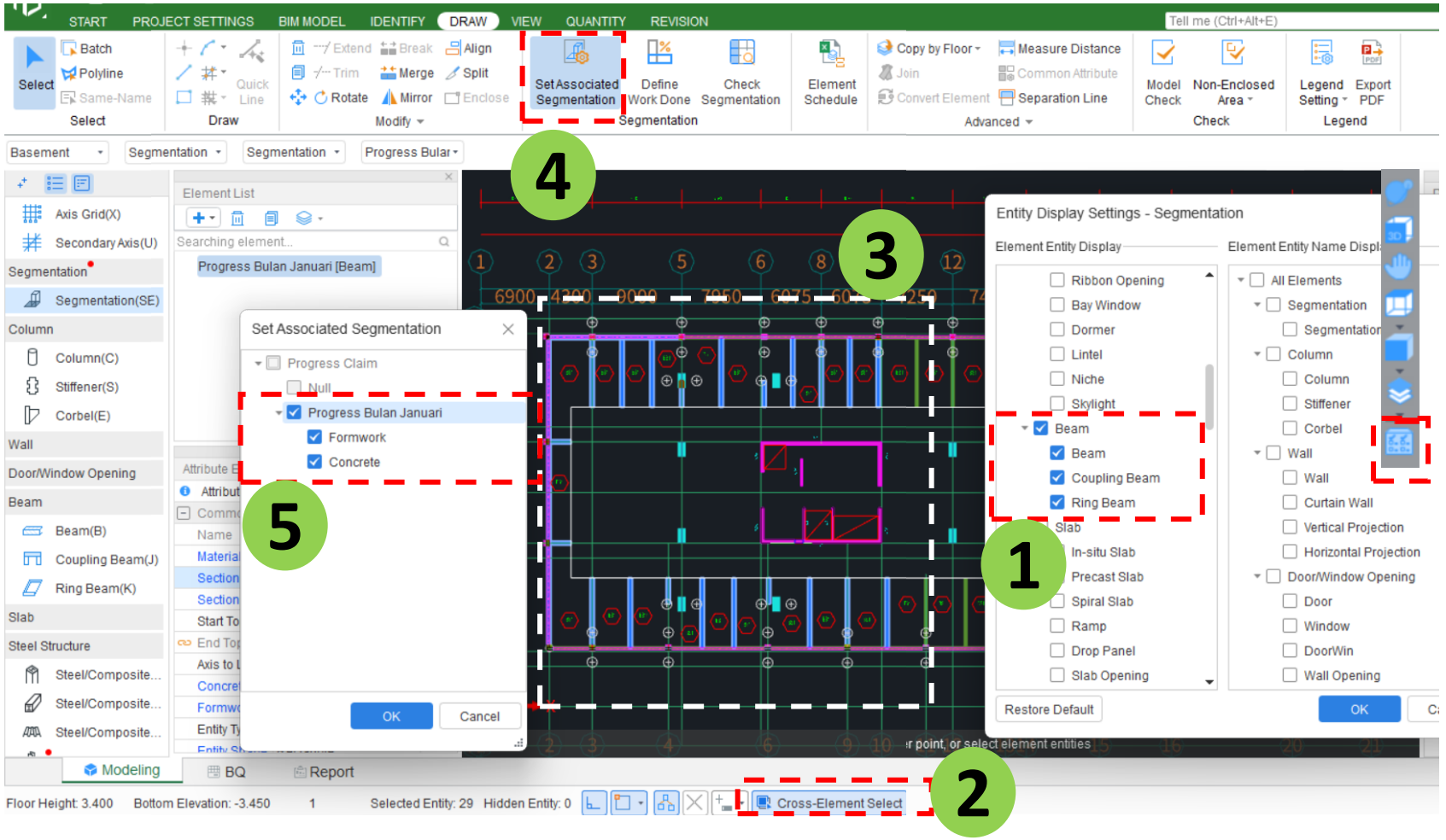
# *Alternative Method – Block Group of Beams*

- Step 1: Tick beam only on Display Settings
- Step 2: Turn on “Cross-Element Select”
- Step 3: Block all necessary beams
- Step 4: Set Associated Segmentation
- Step 5: Choose desired work




***Entity Display Settings***

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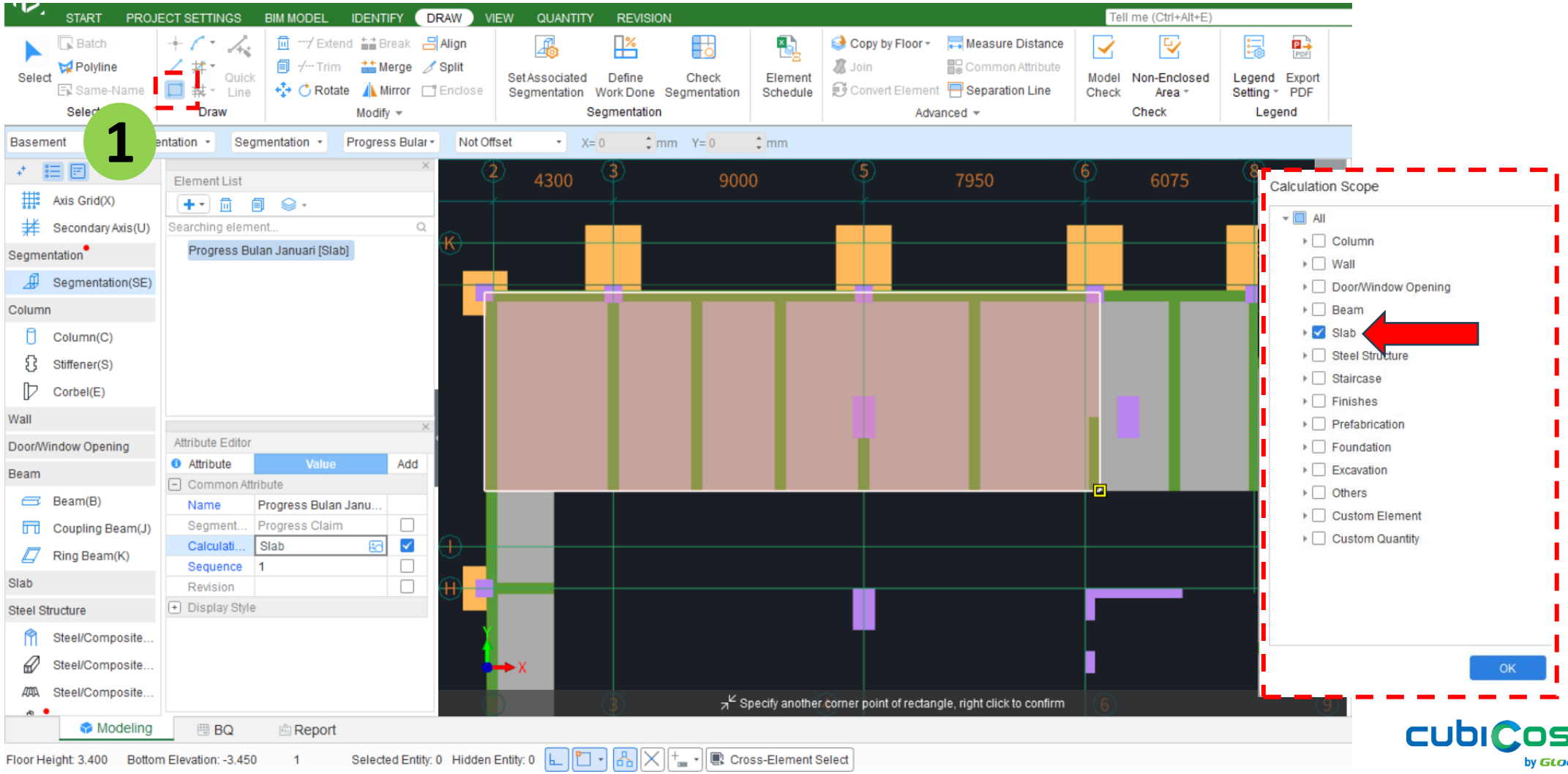
# *How about the Slab on Ground?*

- Step 1: Use the previous method→ Draw Segmentation Area. Make sure calculation scope has been adjusted.

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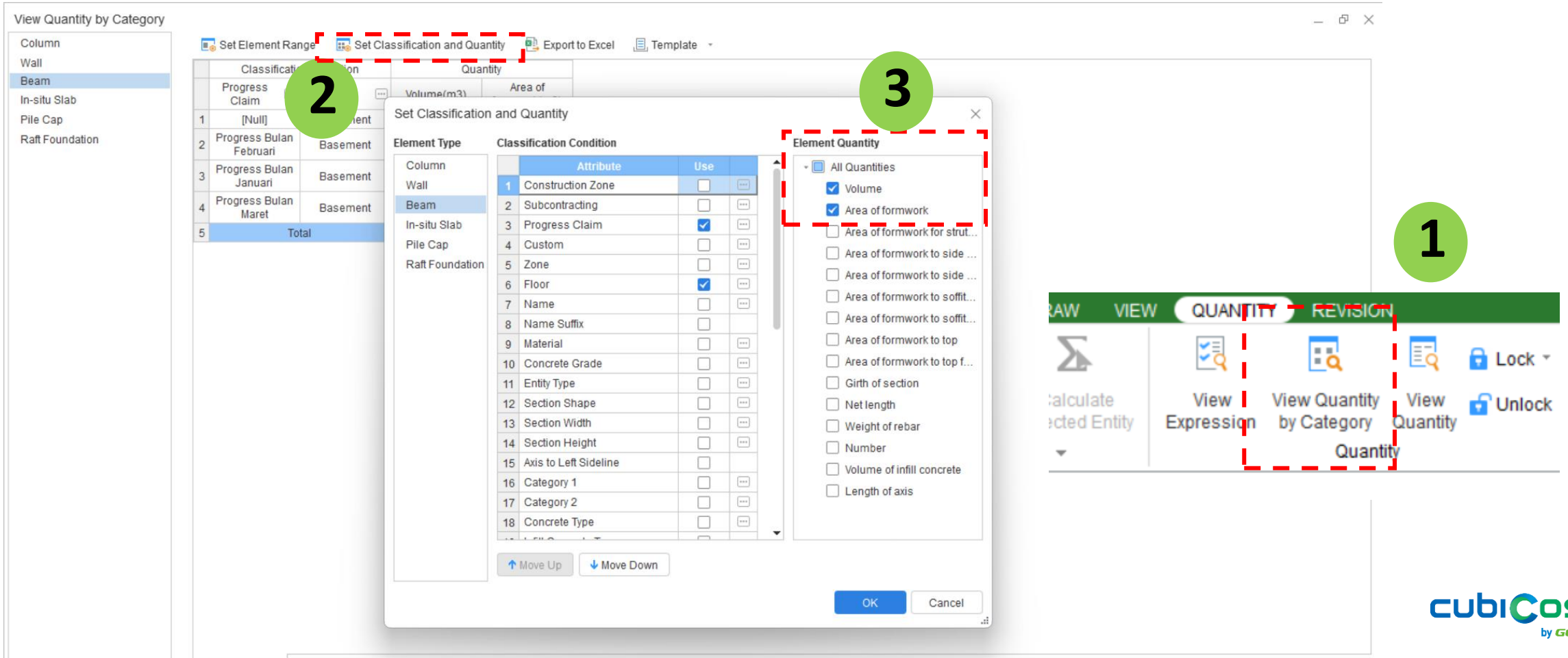
# Quantity Reporting

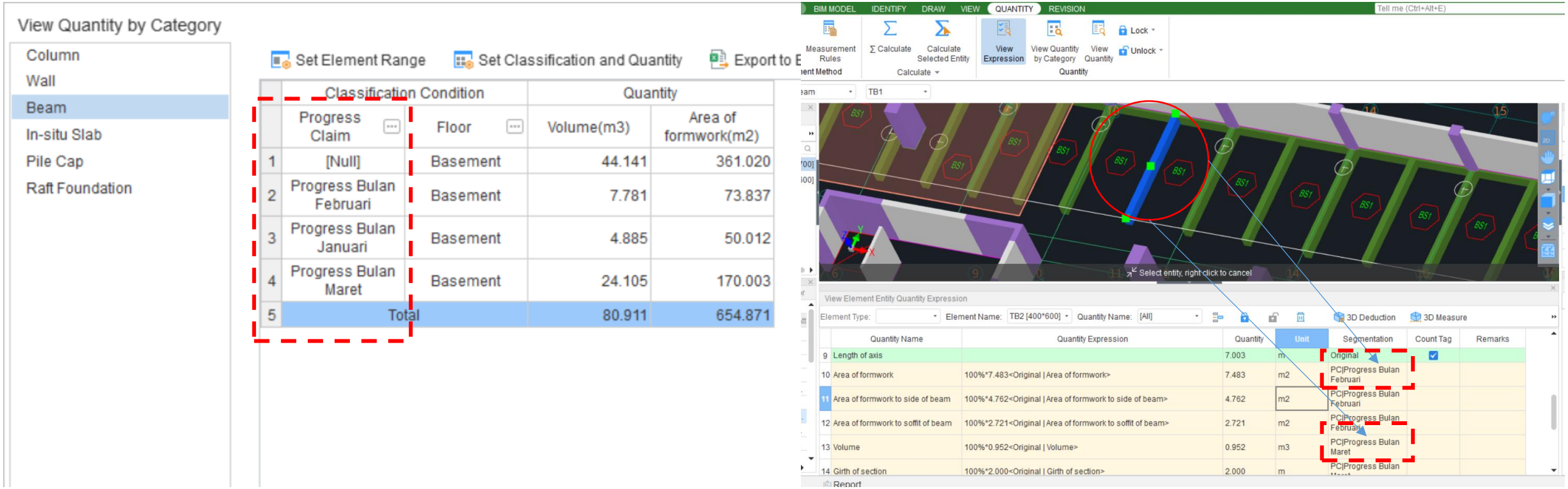
# Quantity Reporting

- Step 1: After Calculate, go to View Quantity by Category
- Step 2: Set Classification and Quantity → Tick the desired segmentation (ex: Progress Claim).
- Step 3: Element Quantity → Tick the necessary quantities



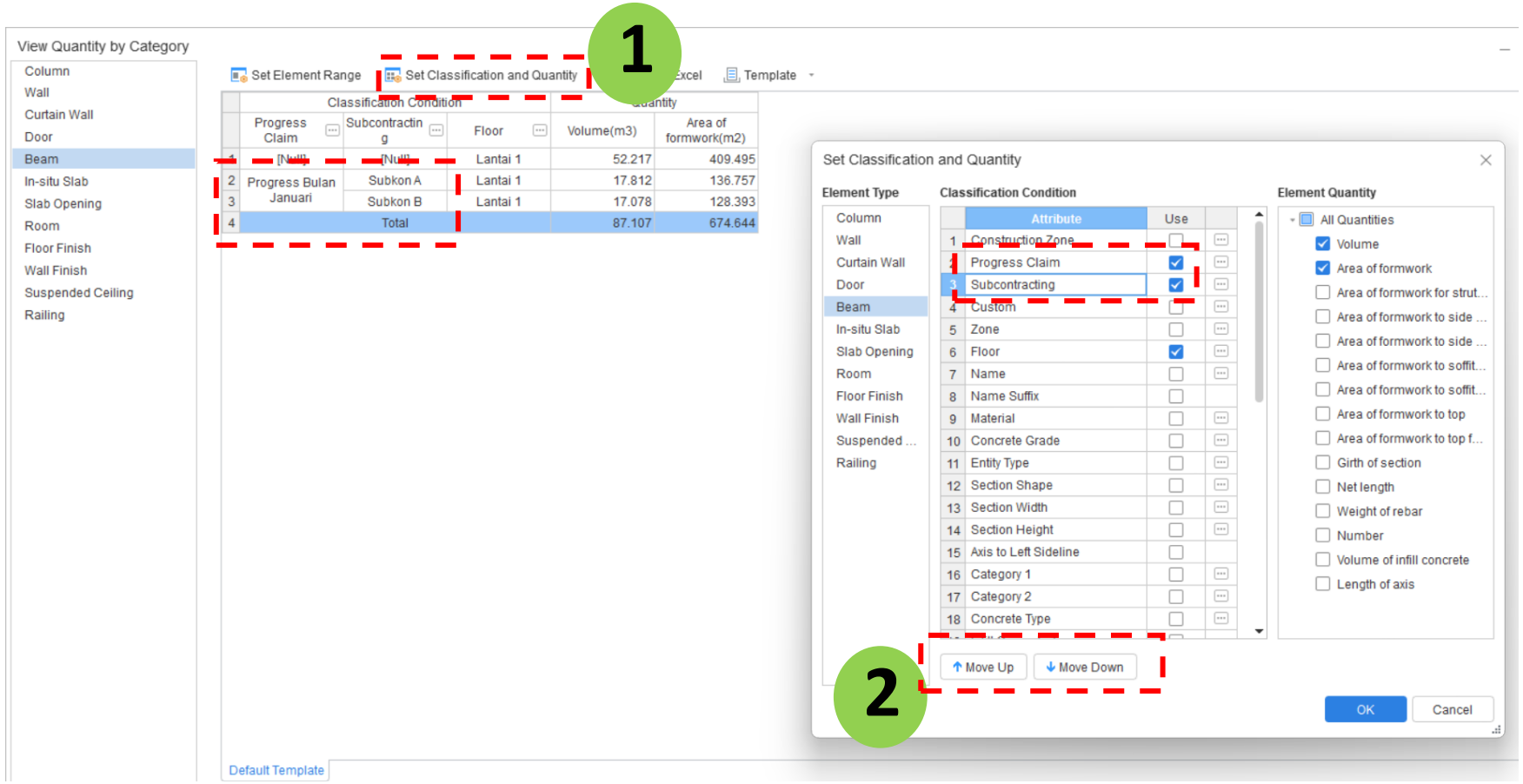
# Quantity Reporting

- Volume of concrete and area of formwork are now separated by each progress.
- Total quantities are constant, preventing any overclaimed and underclaimed amounts.
  - *[Null] : Entities outside progress claims*
- View Expression can be used to re-check the calculation



# Quantity Reporting for Mixture of Segmentations

- Step 1: Set Classification and Quantity → Tick the desired segmentations (ex: Progress Claim & Sub-Contracting).
- Step 2: Use Move Down or Move Up to adjust the filter hierarchy

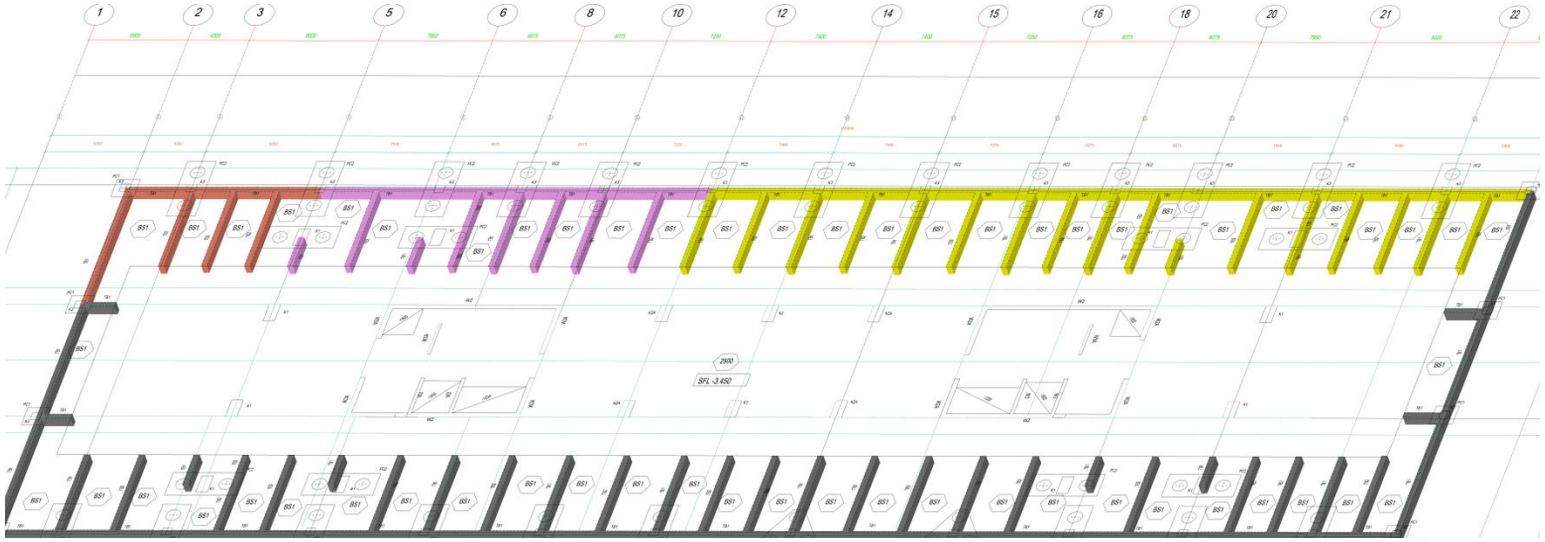



# Check Segmentation

# Case: Reporting Work Progress

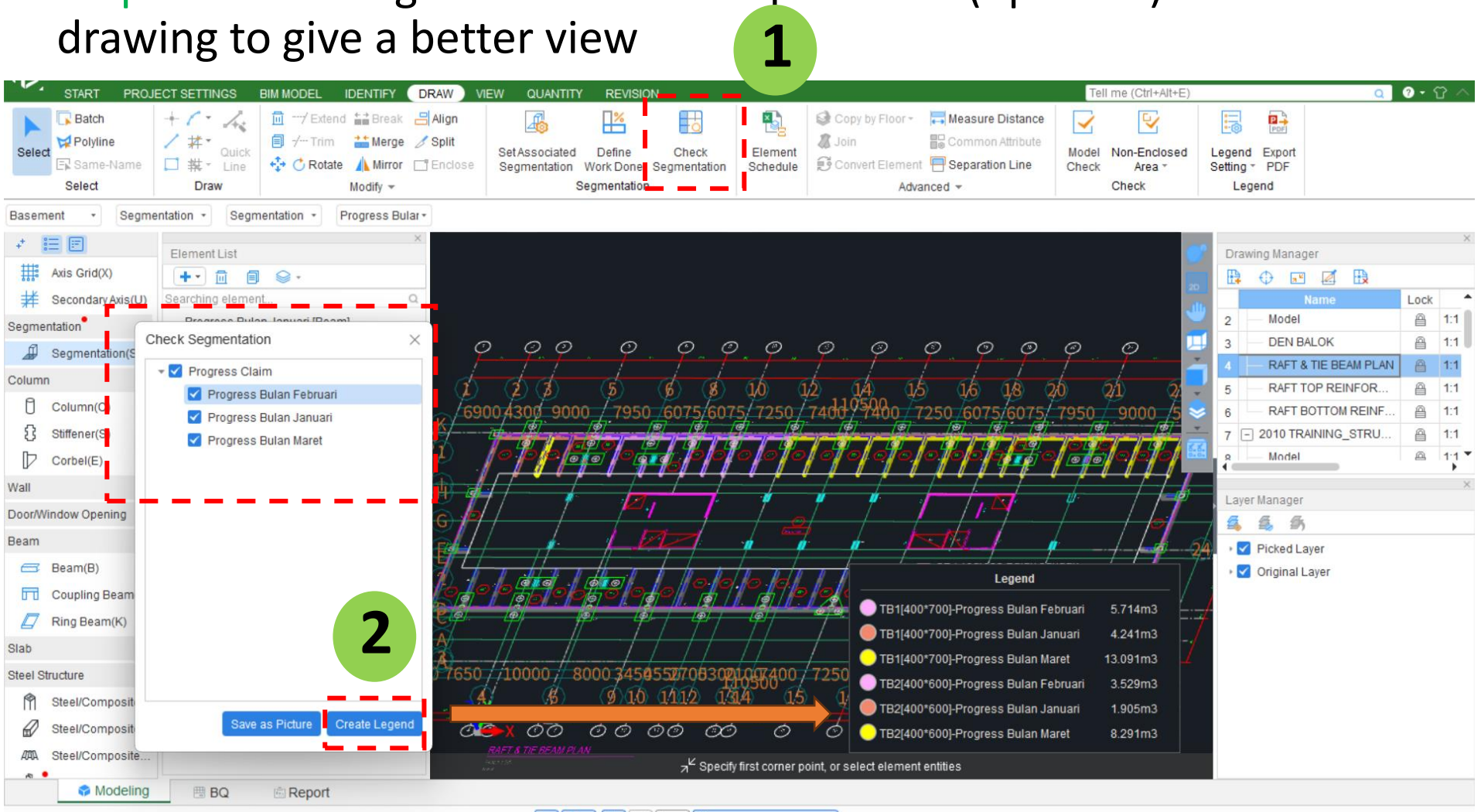
In general, work progress is reported through highlighted drawings. Colored objects indicate completed work, while greyed-out objects represent tasks that have not yet started.

In **Cubicost TAS C-VI**, segmentation zones drawn on the model can be distinguished from excluded areas using **Check Segmentation**. Additionally, the segmentation can be exported as a PDF along with detailed quantity information.



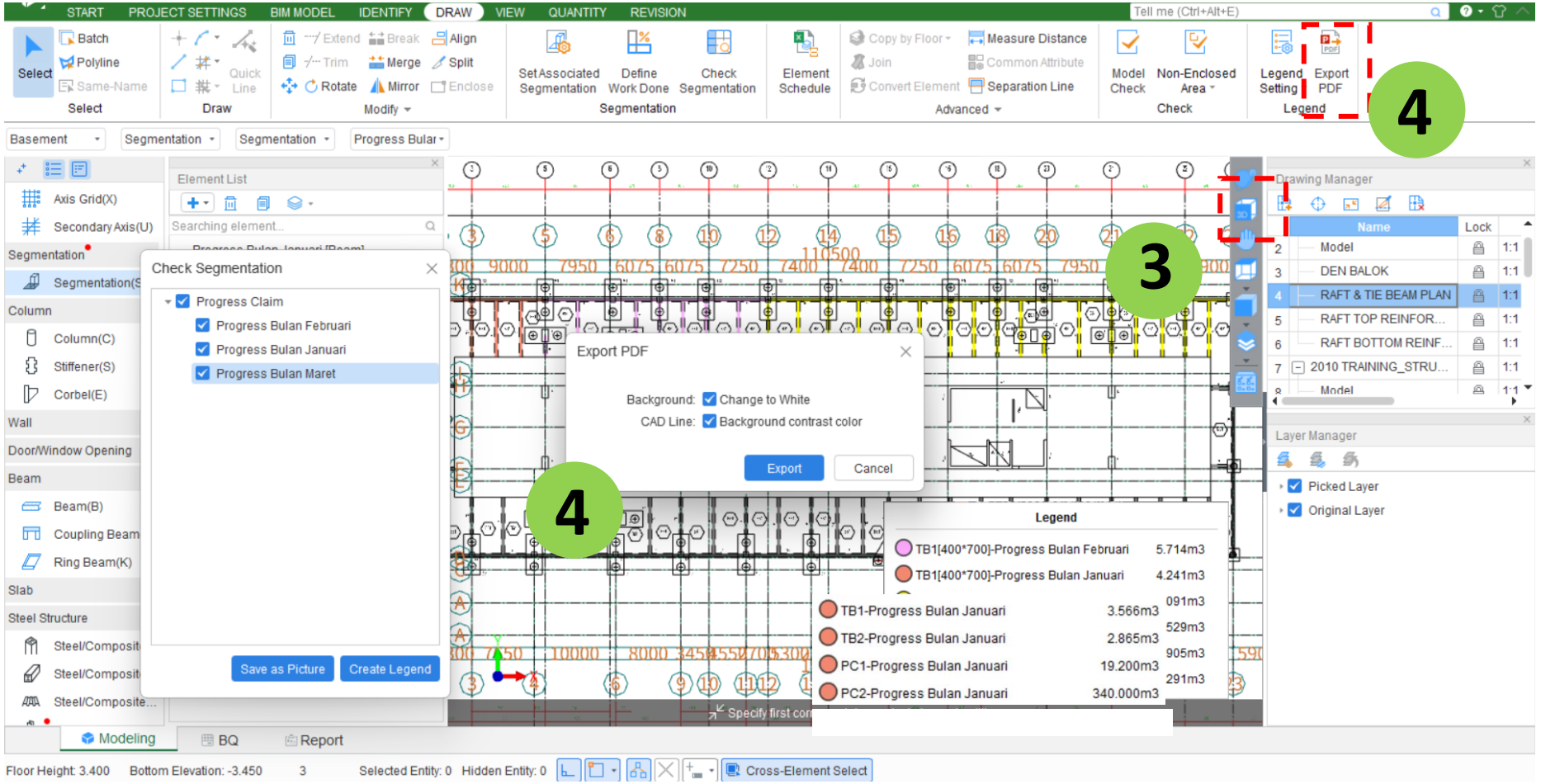
# Check Segmentation

- Step 1: Check Segmentation→ Choose the segmentation name
- Step 2: Create Legend to show the quantities (optional). Make sure to display the drawing to give a better view



# Check Segmentation

- Step 3: Go to 2D Plan View
- Step 4: Export PDF → Change to White & Background Contrast Color

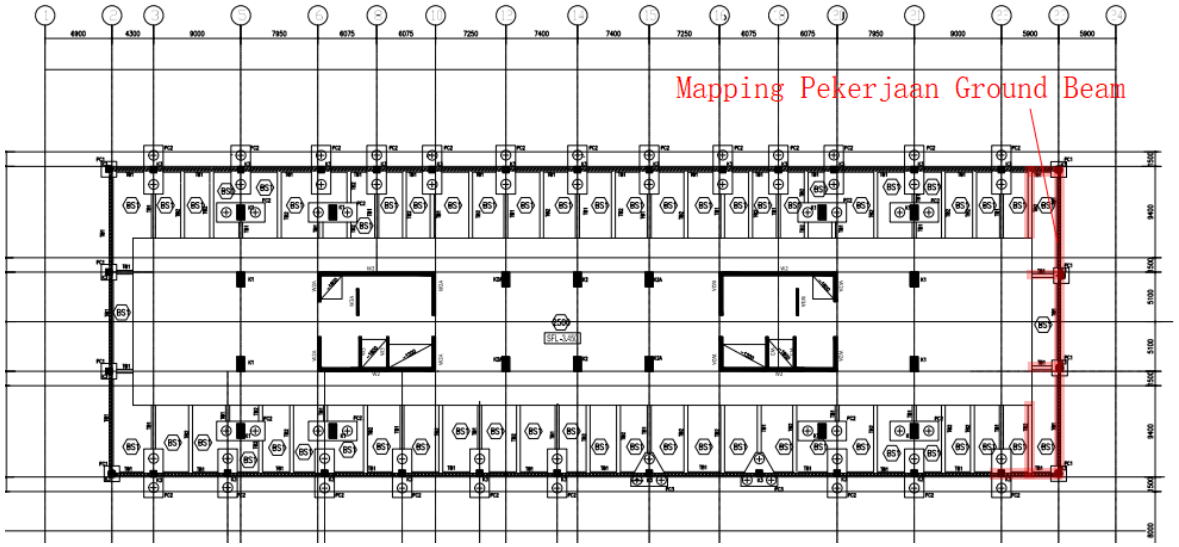


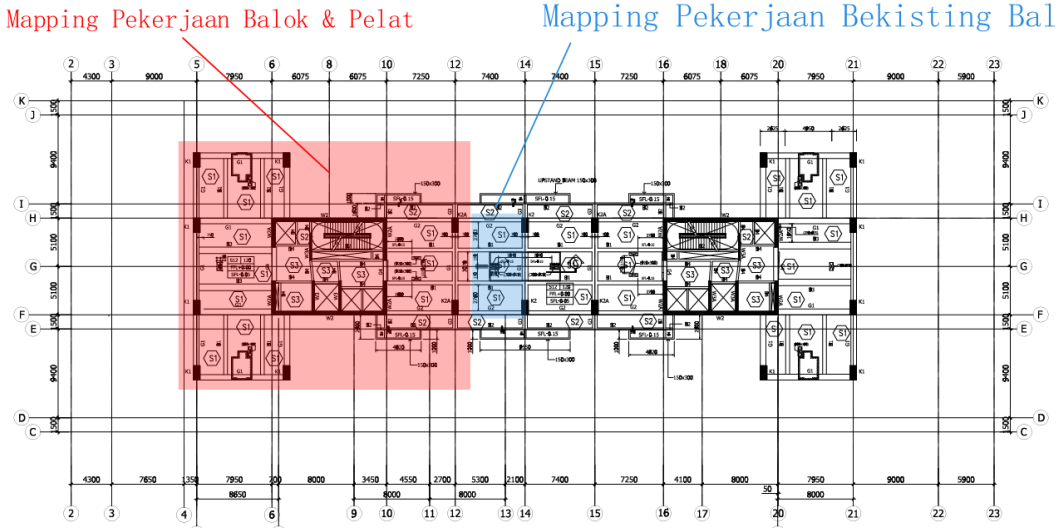
# CASE 1:
# PROGRESS CLAIM

# Progress Claim of Beam & Slab Basement and 1st Floor

In January 2025, two construction activities has been finished. Below are the reports from site engineer.

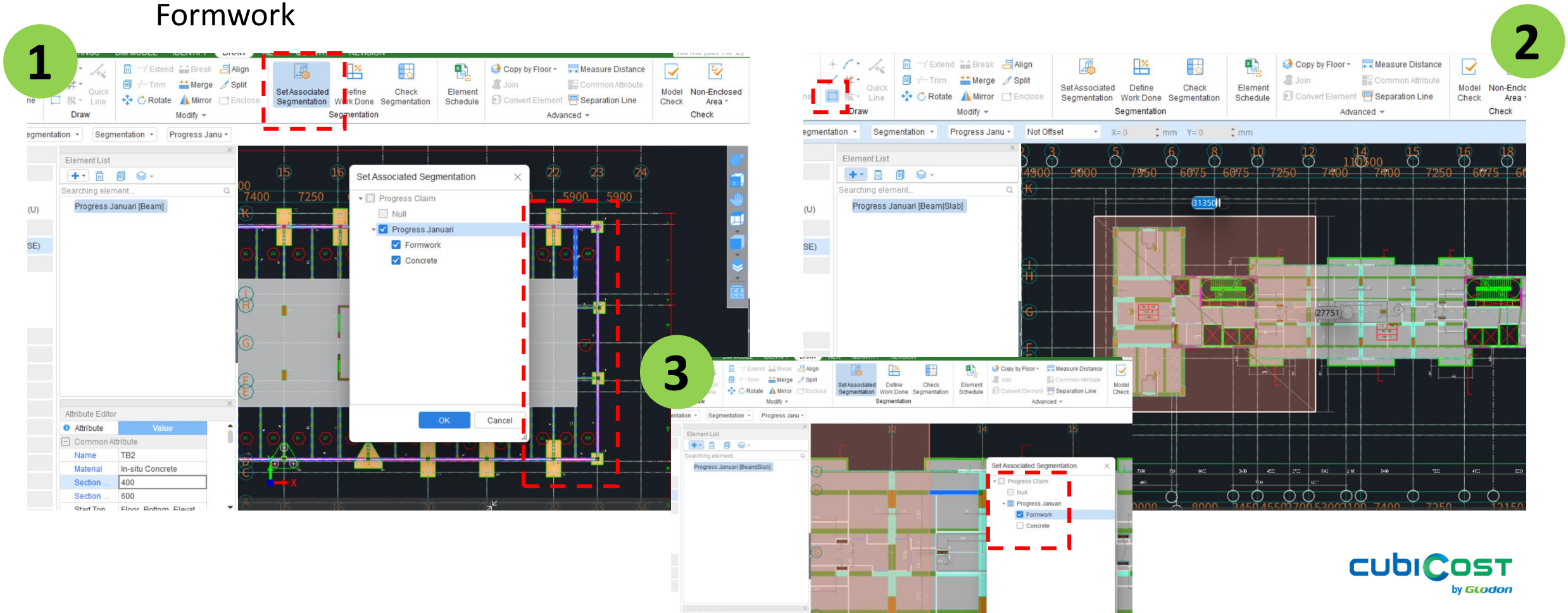
1. Ground beam work at the basement
2. Beam and slab work on the 1st floor
   - Some beams and slabs have been successfully cast together, while some beams remain uncast, with only their formwork completed.



# Progress Claim of Beam & Slab Basement and 1st Floor

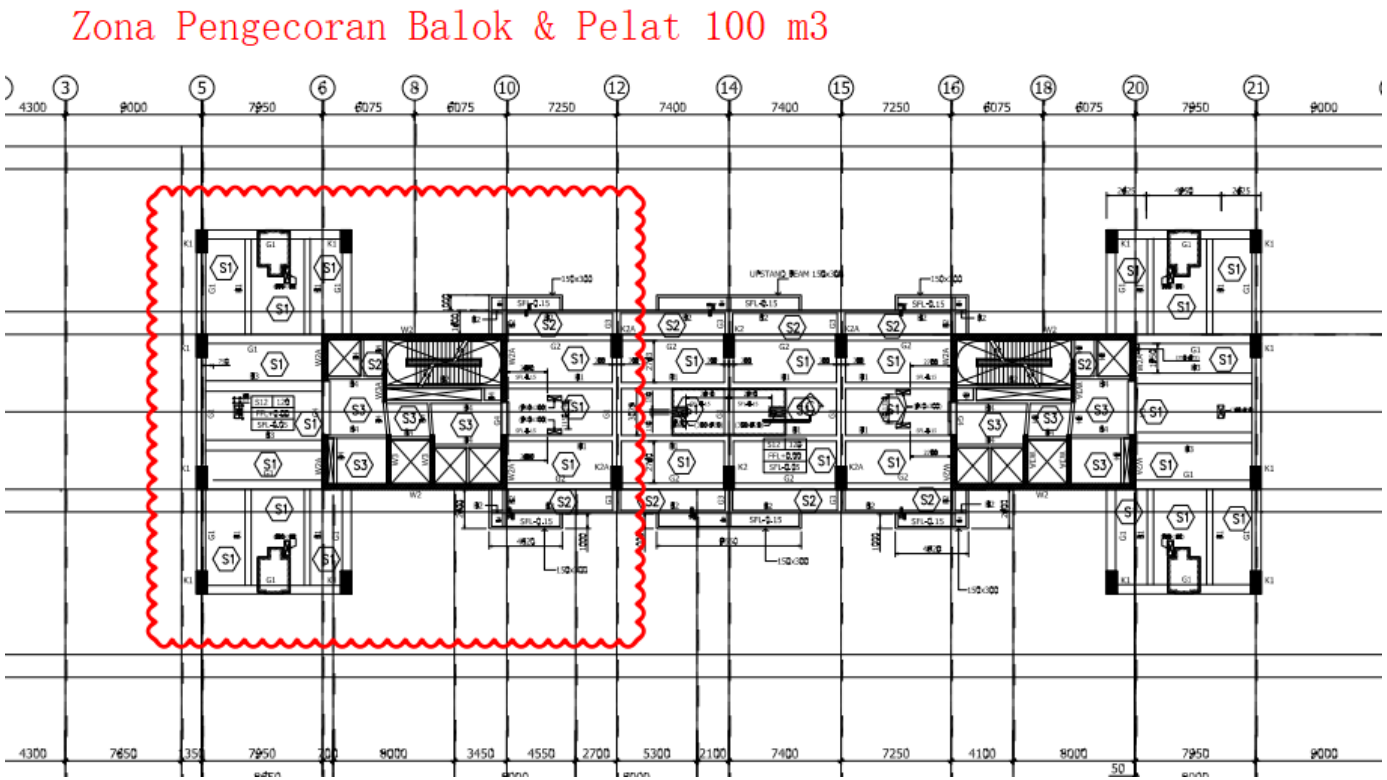
- Step 1: Use Progress Claim → Set Associated Segmentation for Ground Beams
- Step 2: Use Progress Claim → Draw by Area for Beam and Slabs
- Step 3: Use Progress Claim → Combine “Break” and Set Associated Segmentation for Beam Formwork



# CASE 2:
# MATERIAL ORDER

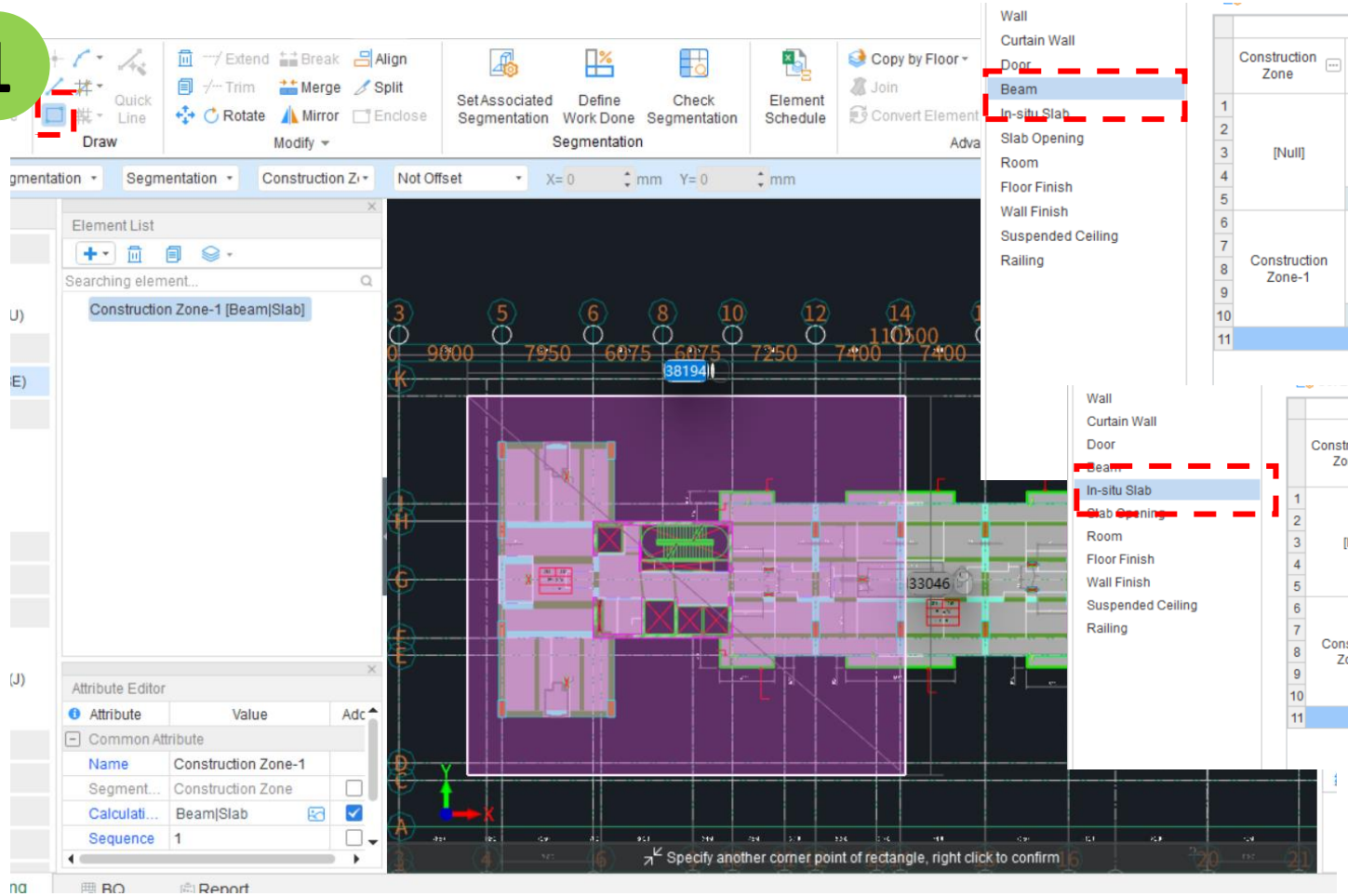
# Zoning of Beam & Slab Casting at 1st Floor

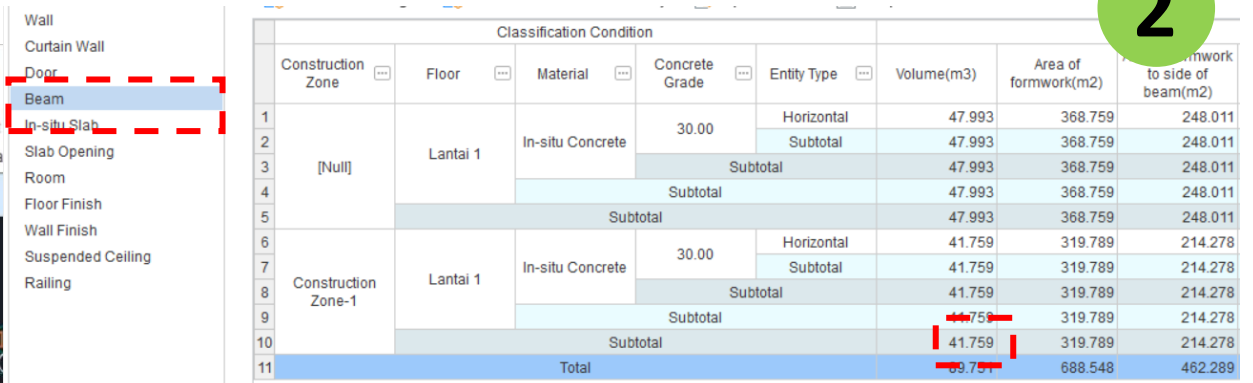
A total of 100 m³ of concrete is scheduled to be cast for the beam and slab together. The mapping below is still an estimate and requires verification using Cubicost. The updated and accurate zoning will serve as the work order for the next casting.



# Zoning of Beam & Slab Casting at 1st Floor

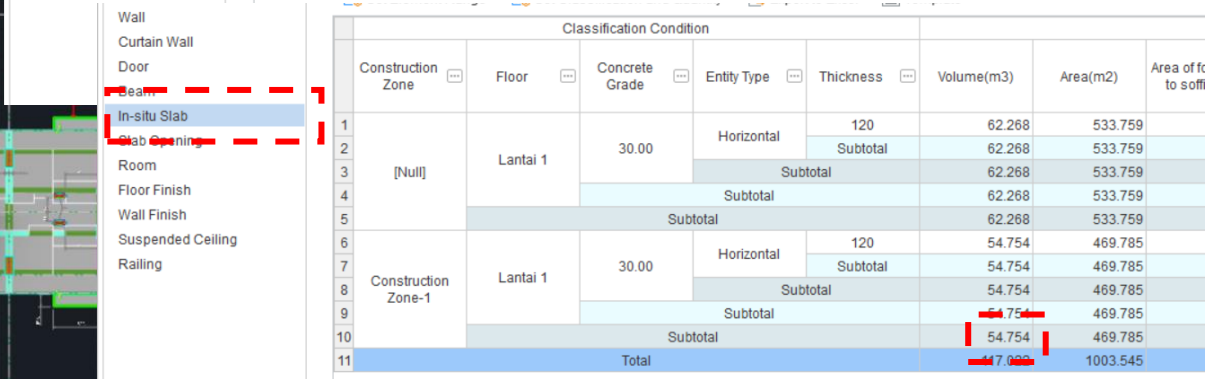
- Step 1: Use Construction Zone → Draw by Area for Beam and Slabs
- Step 2: Check the quantity using View Quantity by Category




Classification Condition

| | Construction Zone | Floor | Material | Concrete Grade | Entity Type | Volume(m3) | Area of formwork(m2) | formwork to side of beam(m2) |
|---|---|---|---|---|---|---|---|---|
| 1 | [Null] | Lantai 1 | In-situ Concrete | 30.00 | Horizontal | 47.993 | 368.759 | 248.011 |
| 2 | | | | | Subtotal | 47.993 | 368.759 | 248.011 |
| 3 | | | | Subtotal | | 47.993 | 368.759 | 248.011 |
| 4 | | | Subtotal | | | 47.993 | 368.759 | 248.011 |
| 5 | | Subtotal | | | | 47.993 | 368.759 | 248.011 |
| 6 | Construction Zone-1 | Lantai 1 | In-situ Concrete | 30.00 | Horizontal | 41.759 | 319.789 | 214.278 |
| 7 | | | | | Subtotal | 41.759 | 319.789 | 214.278 |
| 8 | | | | Subtotal | | 41.759 | 319.789 | 214.278 |
| 9 | | | Subtotal | | | 41.759 | 319.789 | 214.278 |
| 10 | | Subtotal | | | | 41.759 | 319.789 | 214.278 |
| 11 | Total | | | | | 89.751 | 688.548 | 462.289 |




Classification Condition

| | Construction Zone | Floor | Concrete Grade | Entity Type | Thickness | Volume(m3) | Area(m2) | Area of formwork to soffit |
|---|---|---|---|---|---|---|---|---|
| 1 | [Null] | Lantai 1 | 30.00 | Horizontal | 120 | 62.268 | 533.759 | |
| 2 | | | | | Subtotal | 62.268 | 533.759 | |
| 3 | | | | Subtotal | | 62.268 | 533.759 | |
| 4 | | | Subtotal | | | 62.268 | 533.759 | |
| 5 | | Subtotal | | | | 62.268 | 533.759 | |
| 6 | Construction Zone-1 | Lantai 1 | 30.00 | Horizontal | 120 | 54.754 | 469.785 | |
| 7 | | | | | Subtotal | 54.754 | 469.785 | |
| 8 | | | | Subtotal | | 54.754 | 469.785 | |
| 9 | | | Subtotal | | | 54.754 | 469.785 | |
| 10 | | Subtotal | | | | 54.754 | 469.785 | |
| 11 | Total | | | | | 117.022 | 1003.545 | |

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