

An isometric architectural rendering of Marvin Camras Elementary School. The building is a long, multi-story structure with a flat roof and numerous windows. It features a central section with a slightly different roofline and a series of smaller, rectangular volumes along its length. The building is shown from a high-angle perspective, casting a soft shadow on the ground. The text 'BIM bim' is overlaid in a large, orange, sans-serif font, with 'BIM' in all caps and 'bim' in lowercase.

BIM bim

CPS

MARVIN CAMRAS  
ELEMENTARY SCHOOL

# BIM bim

is the **management of information and the complex relationships** between the ***social*** and ***technical resources*** that represent the complexity, collaboration, and interrelationships of today's organizations and environment.  
*the focus is on managing projects to get the right information to the right place, at the right time\**

is used to represent applications-focused topics; i.e. Revit\*

THE PROCESS  
**BUILDING INFORMATION MODELING**

THE TOOL  
**MODELING SOFTWARE**

\* *BIG BIM, LITTLE BIM". JERNIGAN, FINITH*

# BIM bim CPS

## *Why CPS is a good candidate for use of BIM?*

### **CPS is a Long-term Owner/Operator of real property**

- Industry is going to BIM
- BIM can be “saved down” to Autocad, but Autocad cannot be “saved up” to BIM. Data is there when you are ready to roll out your management

### **CPS is an Owner of a large quantity of buildings (600+)**

- Fewer files and documents to manage. Central file has all the needed building data, including links to warranties, product data, shop drawings, etc.

### **Operations and Management of properties uniformly across the system is difficult**

- Enables better communication with and oversight of Users, Property Managers, etc.

### **Building ownership outlives FM personnel**

# BIM bim CPS

## *Advantages of BIM for CPS*

### **Design and Construction**

- A more complete picture of the building
- Ability to easily look at scenarios and alternates
- Easier and more accurate cost estimation
- Phasing (4d)
- 3d images for user education
- Manufacturer information available in BIM formats
- Subcontractor use of BIM for shop drawings and fabrication virtually reduces coordination problems and on-site waste.
- Shortens construction time and coordination efforts on site

# BIM bim CPS

## ***Facilities Management***

- Part-specific data such as serial numbers and warranty period may be added for important equipment
- Track and maintain assets and spaces, manage repair or renovation projects, and implement maintenance procedures and schedules
  - *Publish the facility data into web formats, providing read-only access to data, drawings and reports to others in an organization*
  - *Allow facility occupants to enter their own service requests such as corrective maintenance or moves*
  - *Develop maintenance schedules, renovation and repair schedules and budgets*

# BIM bim CPS

## *Financial advantages*

- Increase building performance through BIM-Based energy and lighting design and analysis to improve overall building performance
- Reduce the financial risk by using the BIM model to obtain earlier and more reliable cost estimates.
- Obtain reliable and accurate cost estimates through automatic quantity takeoff from the building model, providing feedback earlier in a project when decision will have the greatest impact.
- Shorten the project schedule from approval to completion by using building models to coordinate and prefabricate design with reduced field labor time.
- Optimize facilities management and maintenance by exporting relevant as-built building and equipment information for the building systems.

# BIM bim CPS

## ***Goals for the Test Case***

- Development of process to maximize project planning/estimating efficiencies
- Gain an understanding of what is possible to put into and get out of the BIM model, so CPS can develop standards for its future construction and FM use
- Development of standards customized to CPS operations and use
- Obtain a base case model so CPS can start to test drive FM / BAS software with a real CPS building.

*However, to implement BIM, you will need system wide training, and hardware and software upgrades to make it an effective tool.*

***Yes, when you are ready.***

# BIM

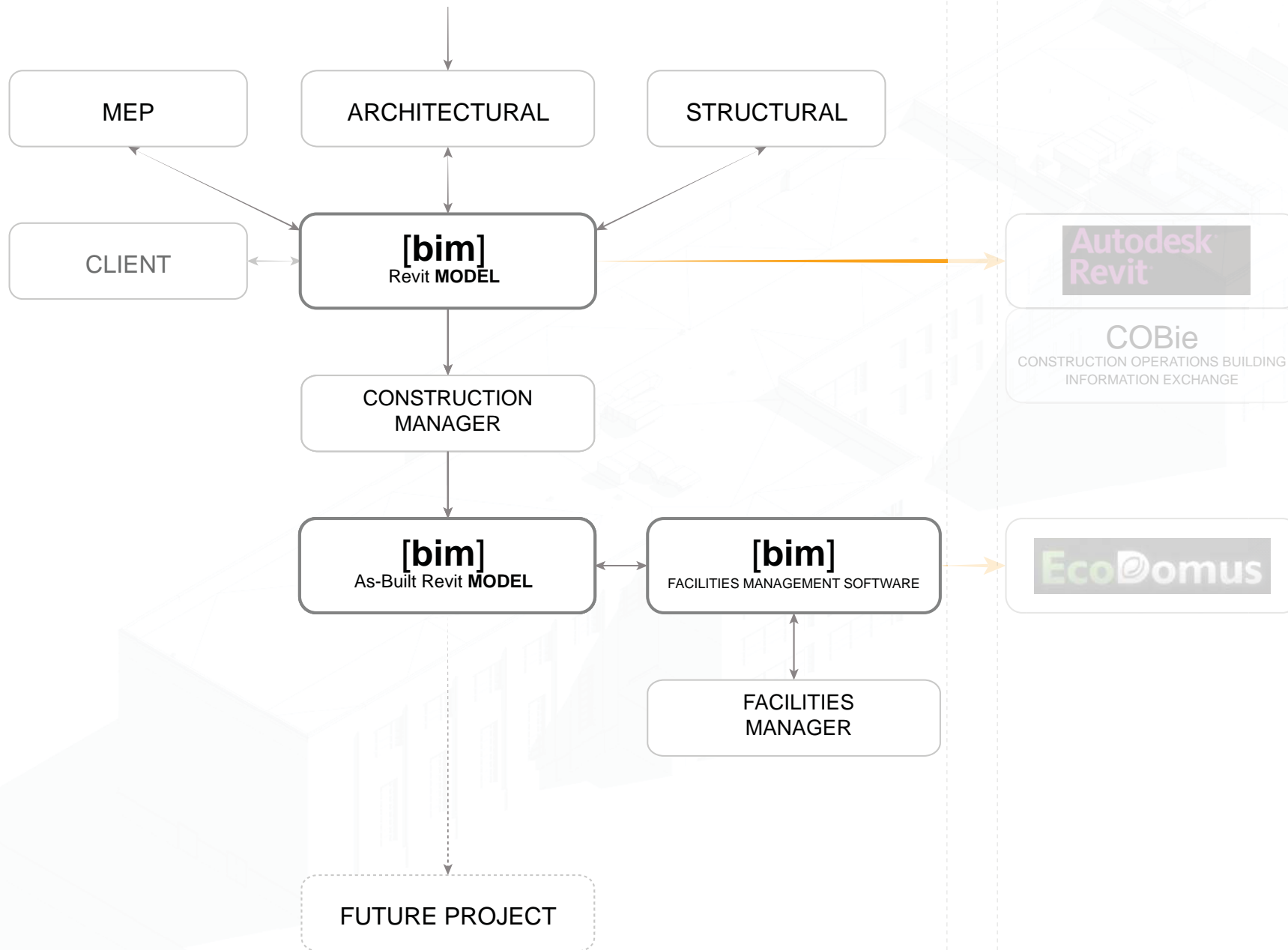
THE PROCESS

## BUILDING INFORMATION MODELING

bim

THE TOOL

## MODELING SOFTWARE





# BIM

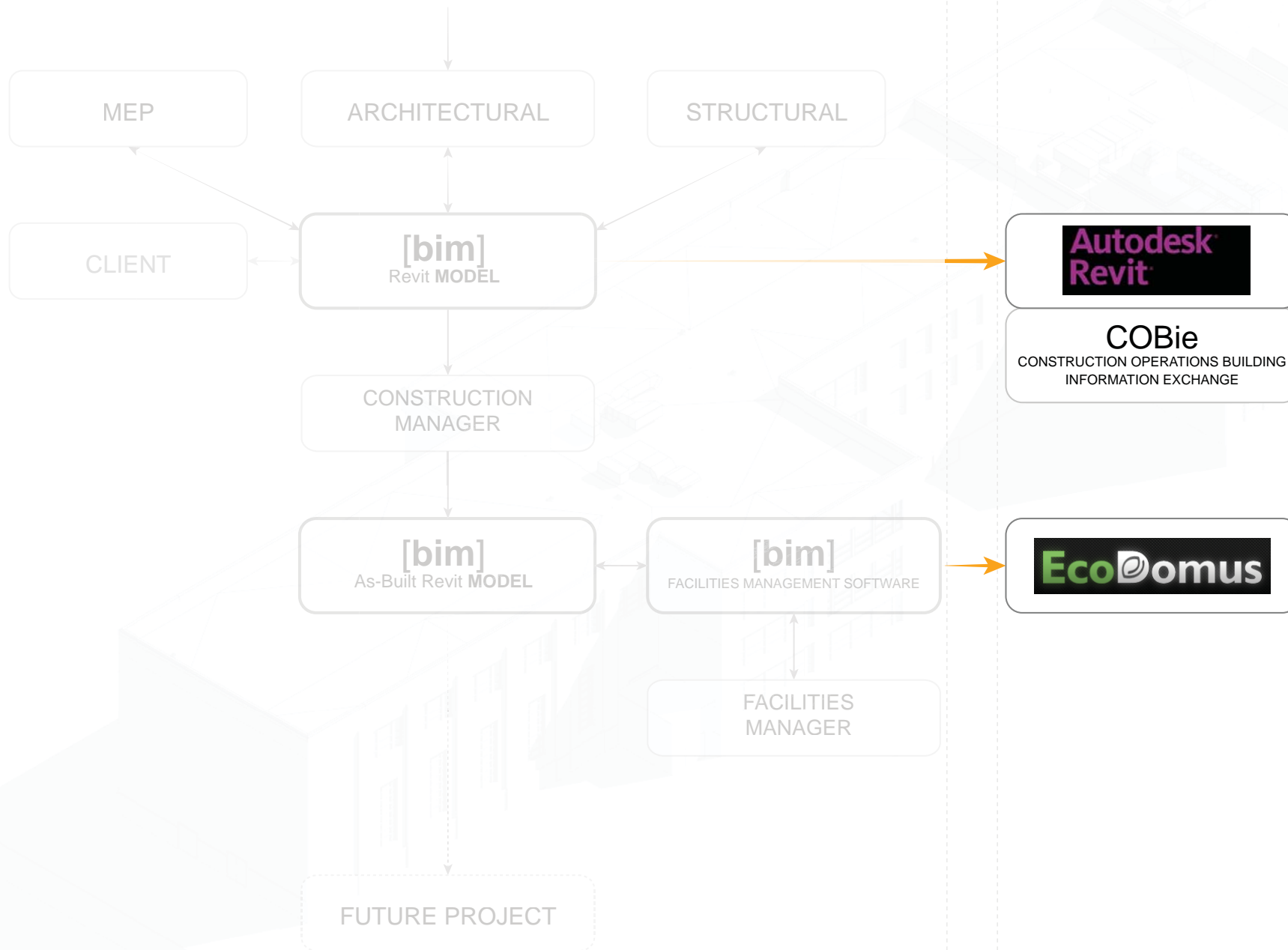
THE PROCESS

BUILDING INFORMATION MODELING

# bim

THE TOOL

MODELING SOFTWARE



# BIM

THE PROCESS

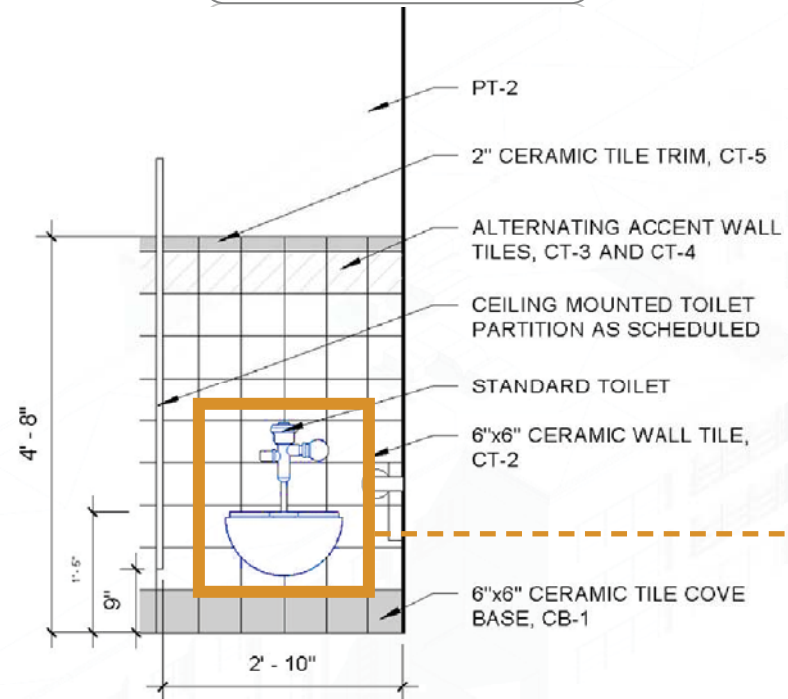
BUILDING INFORMATION MODELING

# bim

THE TOOL

MODELING SOFTWARE

Autodesk  
Revit



COBie

CONSTRUCTION OPERATIONS BUILDING  
INFORMATION EXCHANGE

Type Properties

Family: PF Toilet-Commercial-Wall-3D\_ADA Load...

Type: 17" Seat Height Duplicate... Rename...

Type Parameters

Parameter	Value
<b>Construction</b>	
COBieAssetType	
COBieDurationUnit	
COBieExpectedLife	
COBieReplacementCost	
COBieWarrantyDescription	
COBieWarrantyDurationLabor	
COBieWarrantyDurationParts	
COBieWarrantyDurationUnit	
COBieWarrantyGuarantorLabor	
COBieWarrantyGuarantorParts	
COBieCategory	
COBieDescription	
COBieName	
<b>Materials and Finishes</b>	
Toilet - Seat Material	<By Category>
Toilet - Bowl Material	<By Category>
Piping Material	<By Category>
<b>Plumbing</b>	

<< Preview OK Cancel Apply

# BIM

THE PROCESS

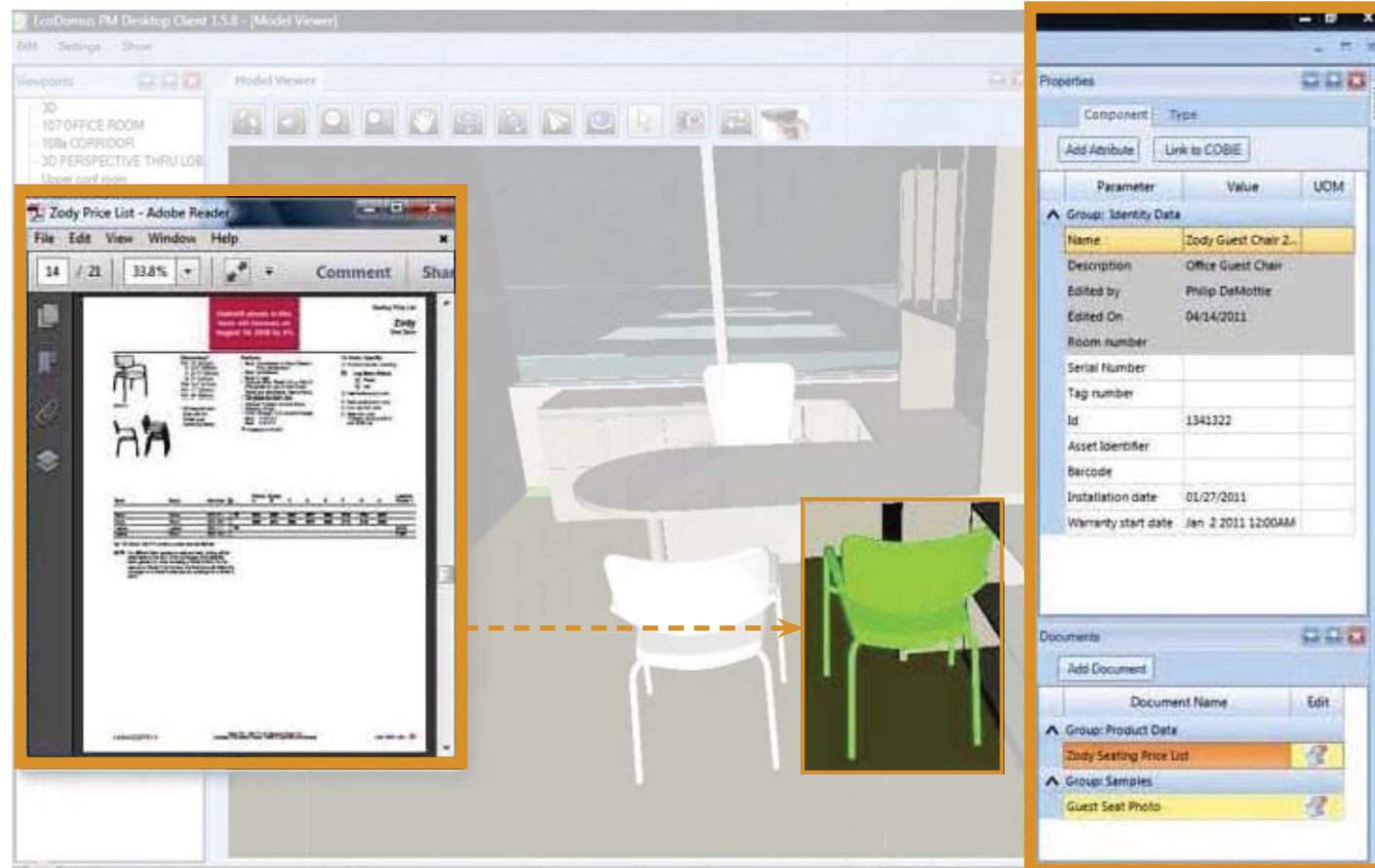
BUILDING INFORMATION MODELING

# bim

THE TOOL

MODELING SOFTWARE

EcoDomus

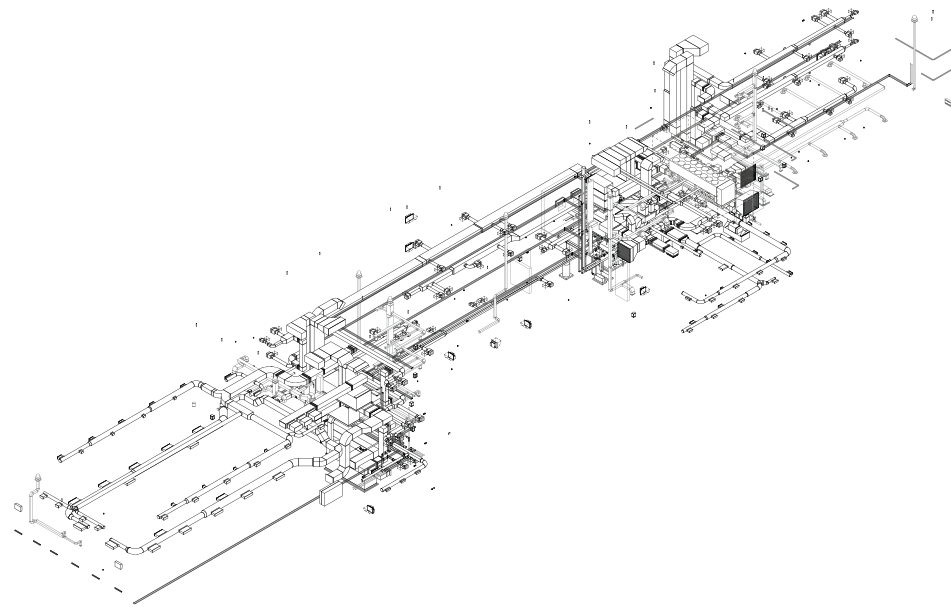


# BIM

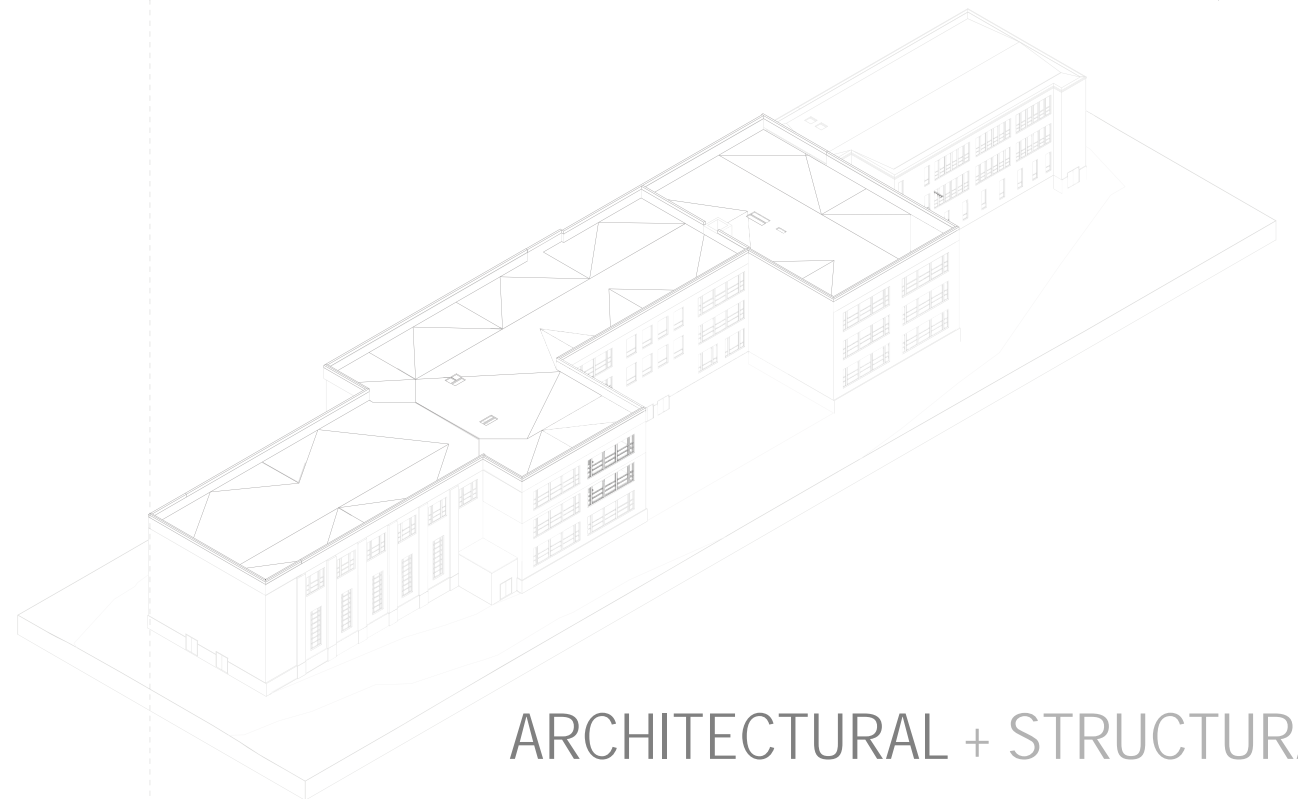
THE PROCESS

## MODEL COORDINATION

KNOWLEDGE OF THE PARTS  
KNOWLEDGE OF THE WHOLE



MEP

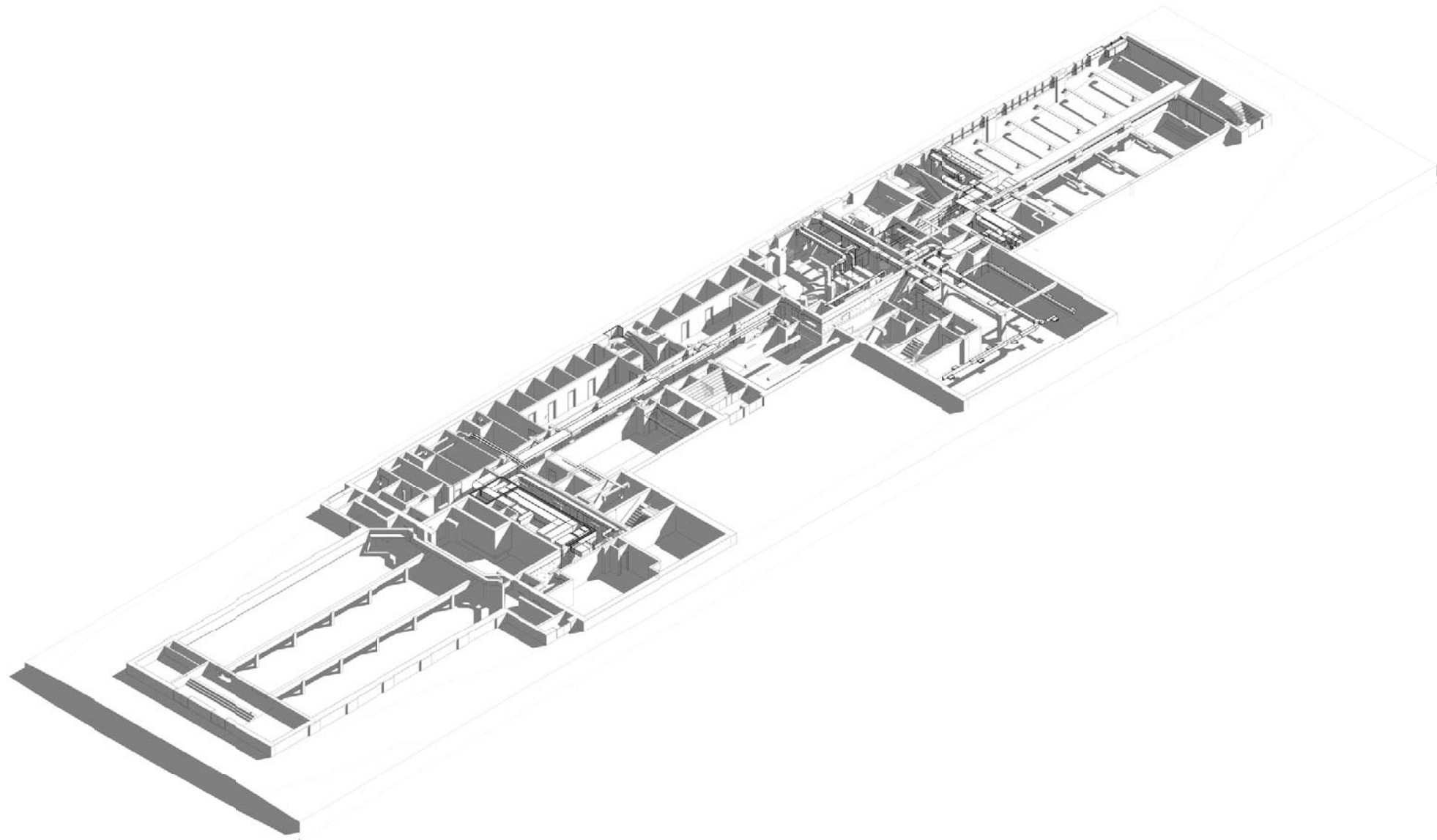


ARCHITECTURAL + STRUCTURAL

# BIM

THE PROCESS

## MODEL COORDINATION



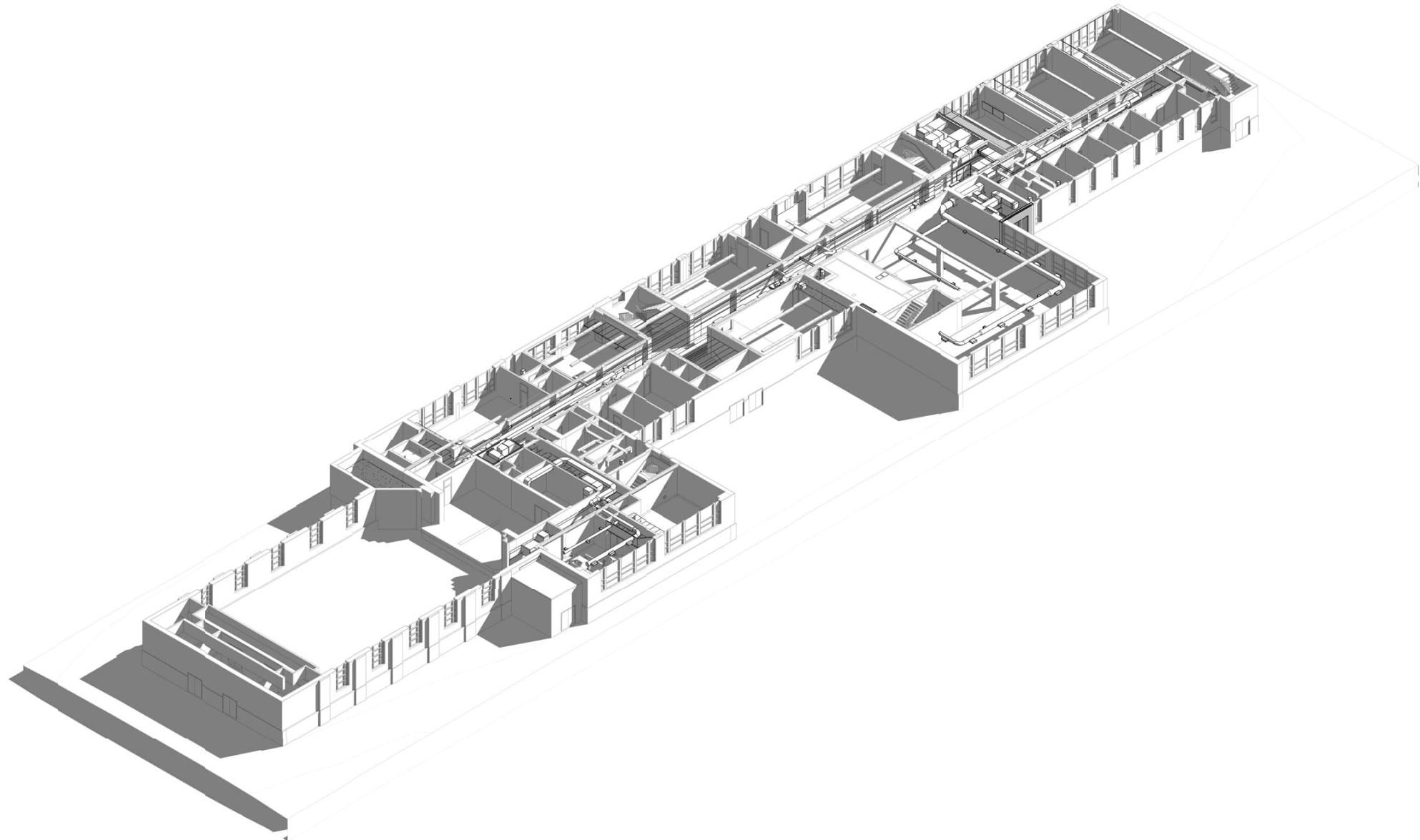
ARCHITECTURAL + MEP + STRUCTURAL MODEL COMPONENTS



# BIM

THE PROCESS

## MODEL COORDINATION

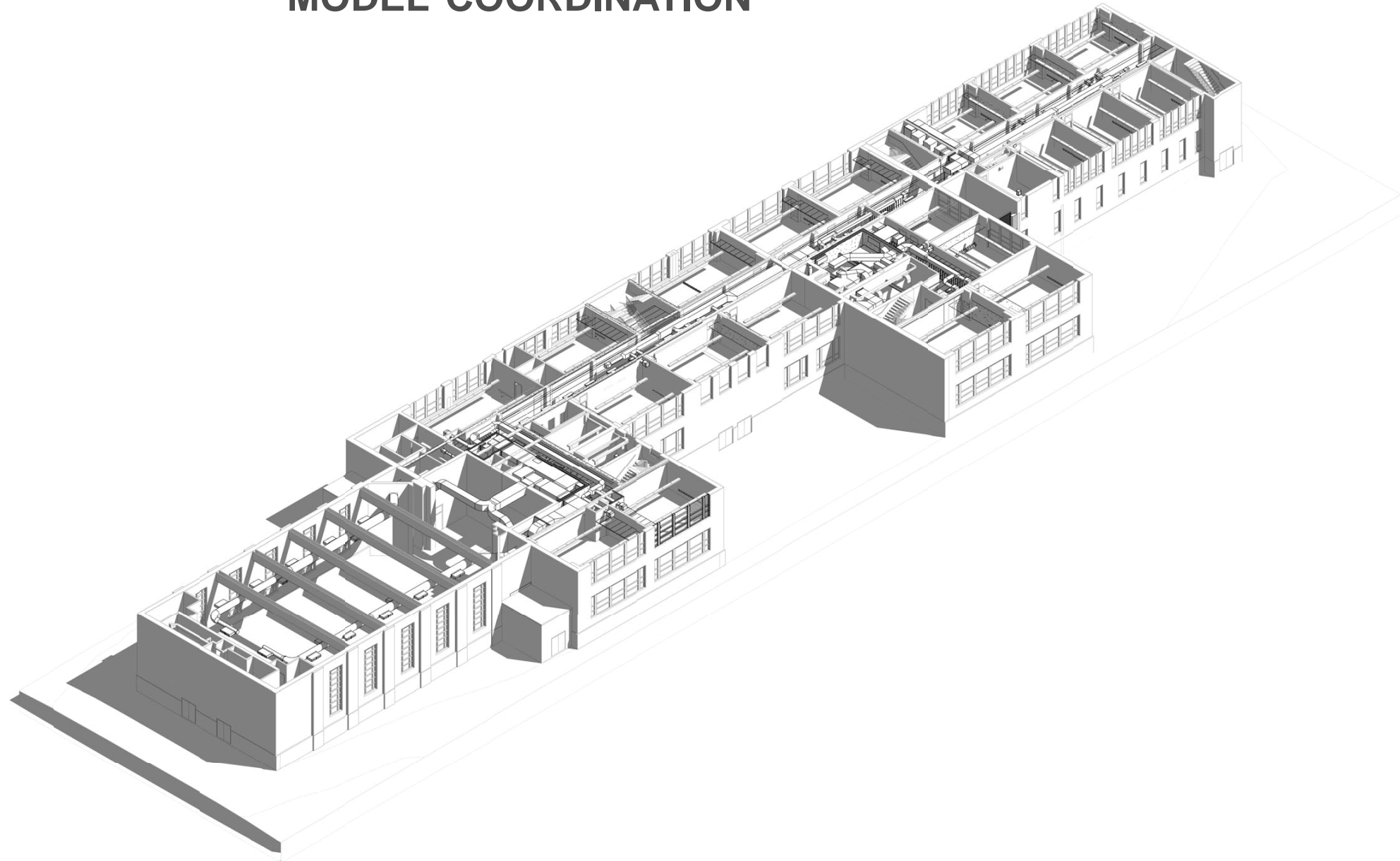


ARCHITECTURAL + MEP + STRUCTURAL MODEL COMPONENTS

# BIM

THE PROCESS

## MODEL COORDINATION

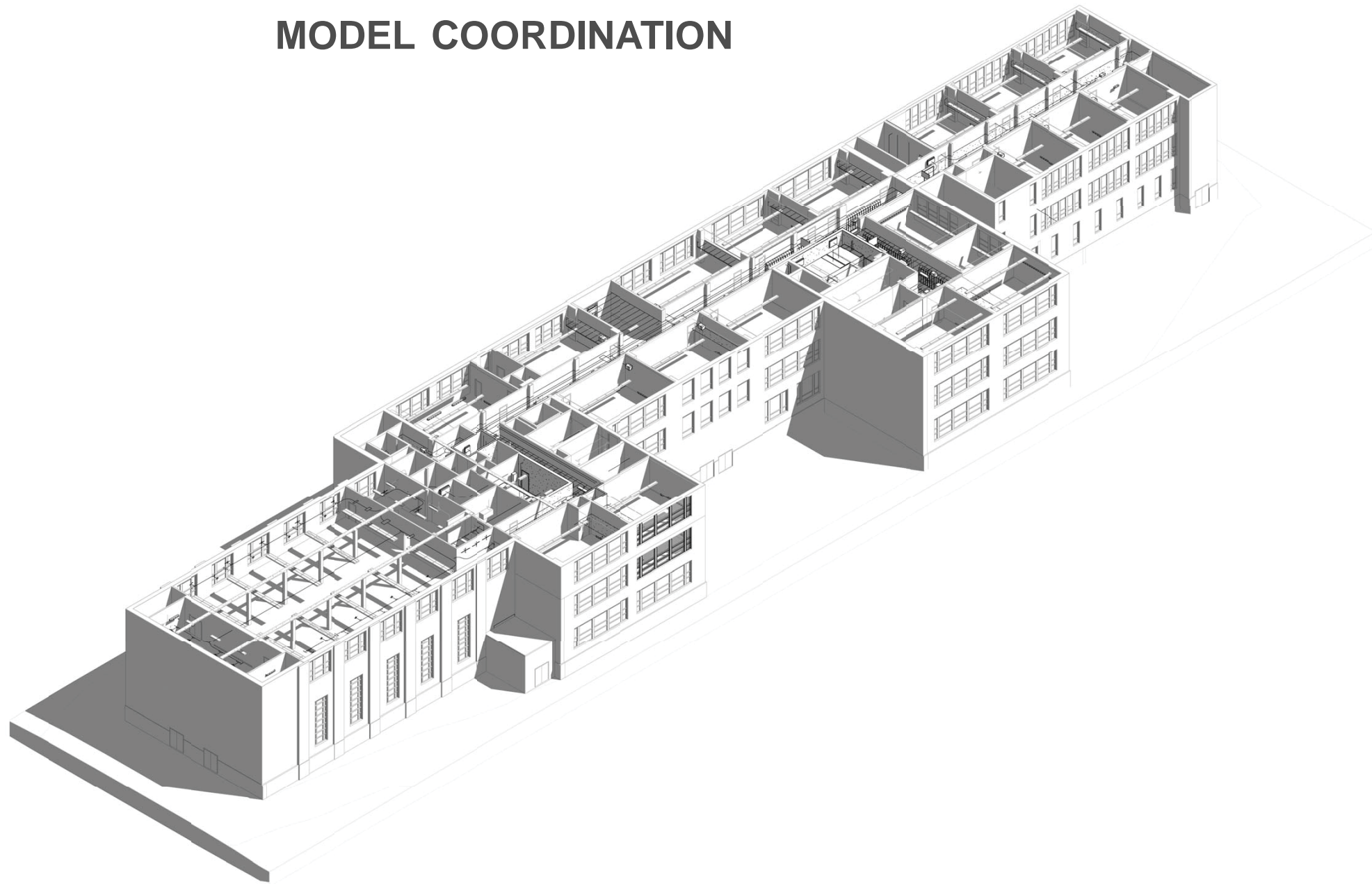


ARCHITECTURAL + MEP + STRUCTURAL MODEL COMPONENTS

# BIM

THE PROCESS

## MODEL COORDINATION



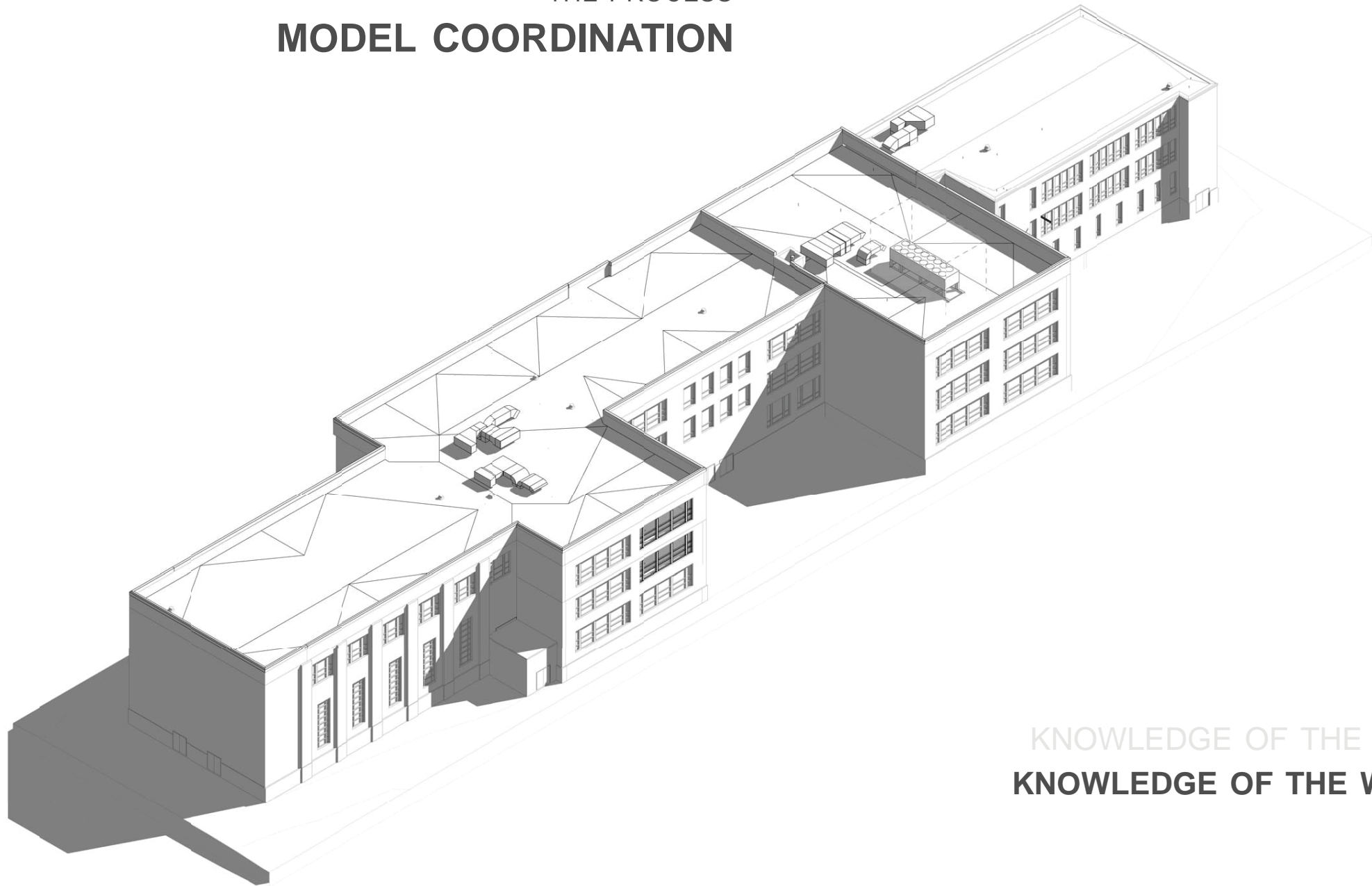
ARCHITECTURAL + MEP + STRUCTURAL MODEL COMPONENTS



# BIM

THE PROCESS

## MODEL COORDINATION



KNOWLEDGE OF THE PARTS  
**KNOWLEDGE OF THE WHOLE**

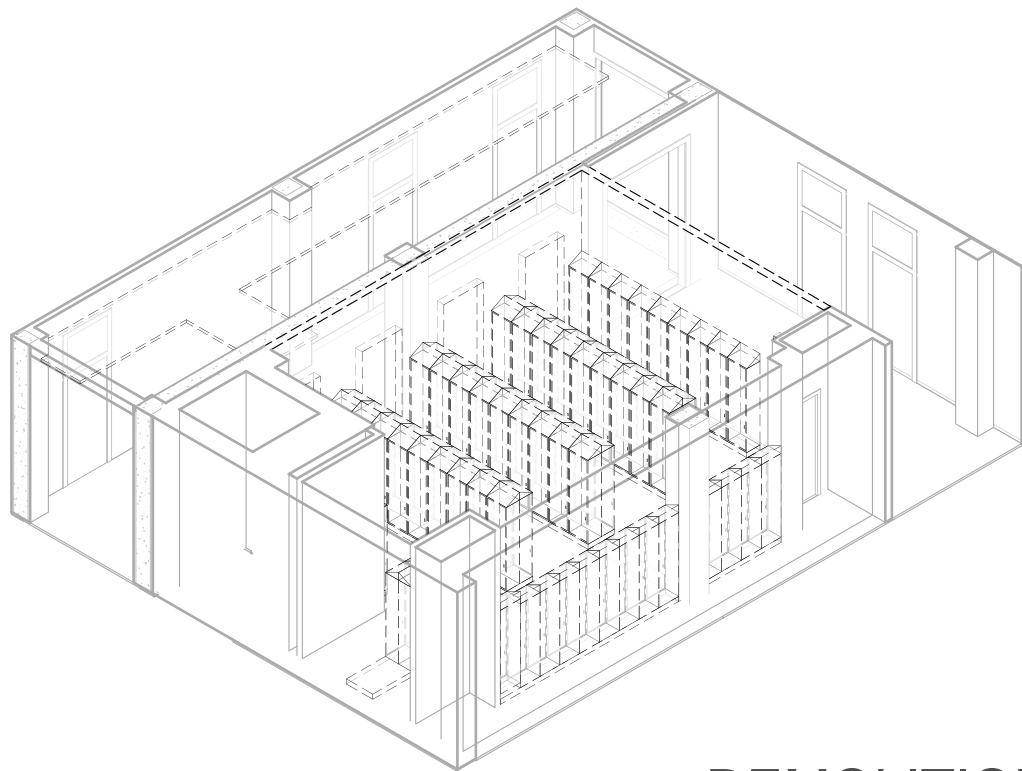
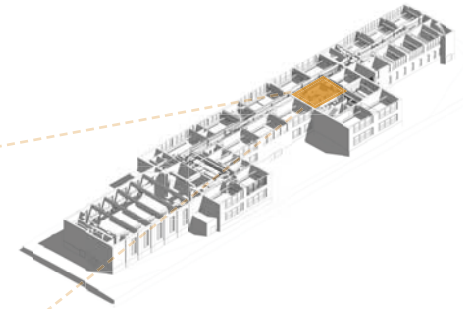
ARCHITECTURAL + MEP + STRUCTURAL MODEL COMPONENTS

# BIM

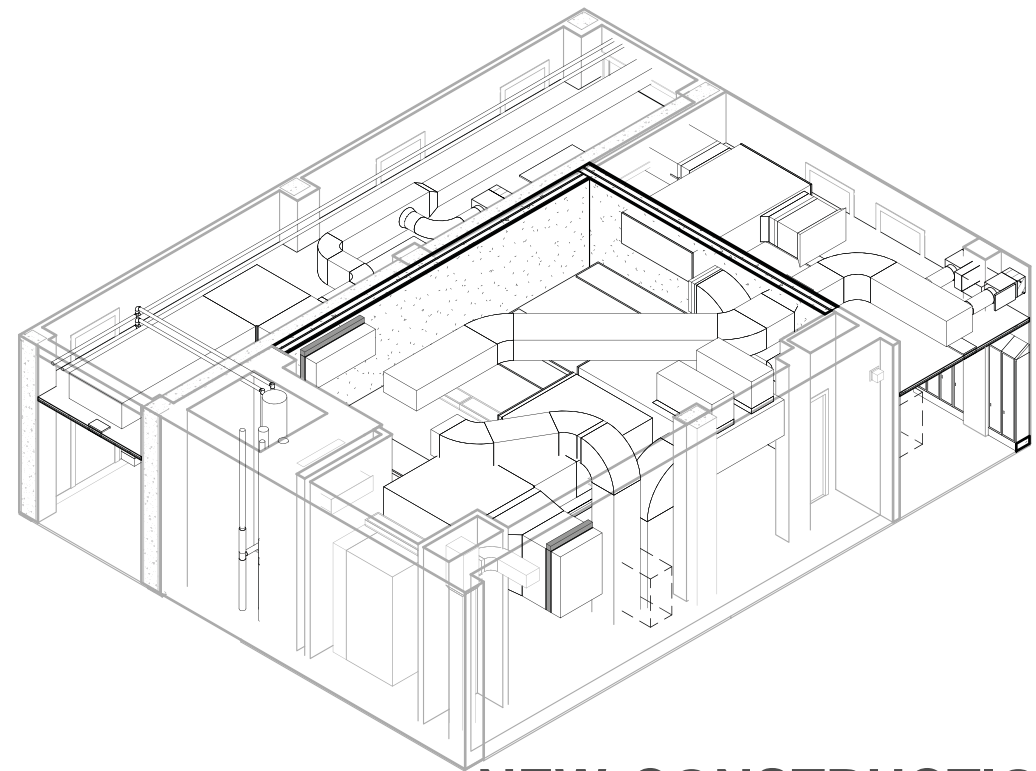
THE PROCESS

## PHASING

bim



**DEMOLITION**



**NEW CONSTRUCTION**

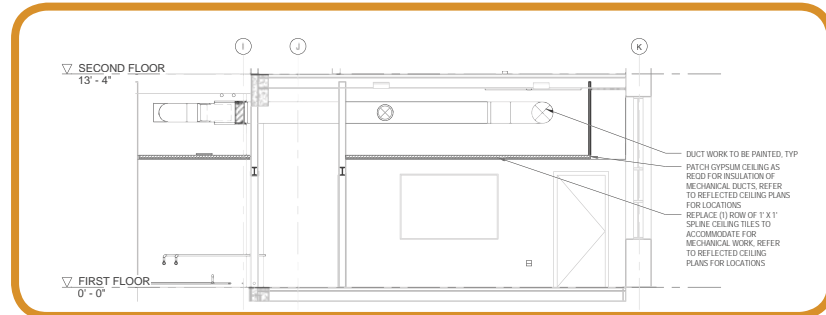
ARCHITECTURAL + MEP + STRUCTURAL MODEL COMPONENTS

# BIM

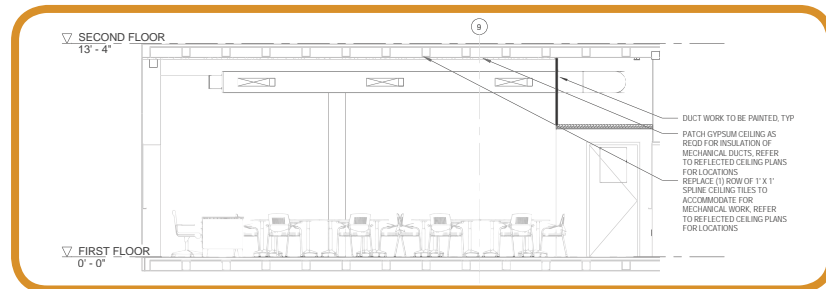
## bim

### THE TOOL

#### [LIVE] SECTION

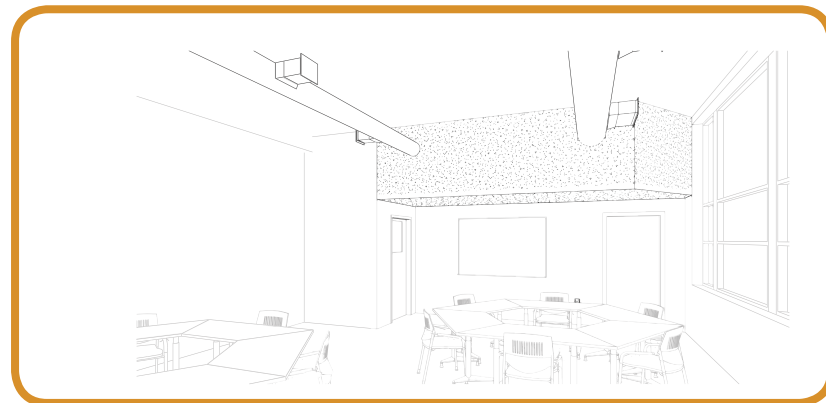


5 Section at Typical Classroom, East/West  
1/4" = 1'-0"



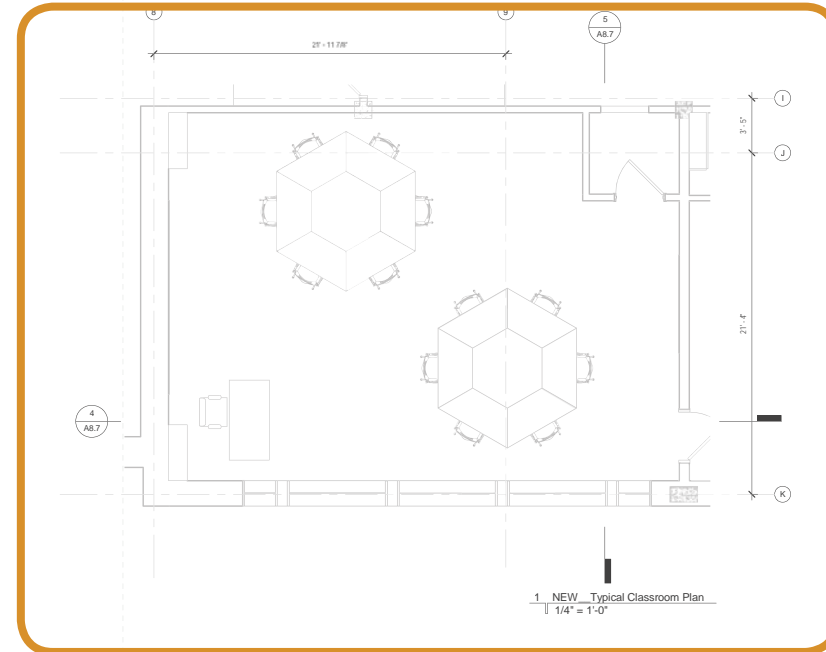
4 Section at Typical Classroom, North/South  
1/4" = 1'-0"

#### [LIVE] PERSPECTIVE



3 Perspective of Typical Classroom

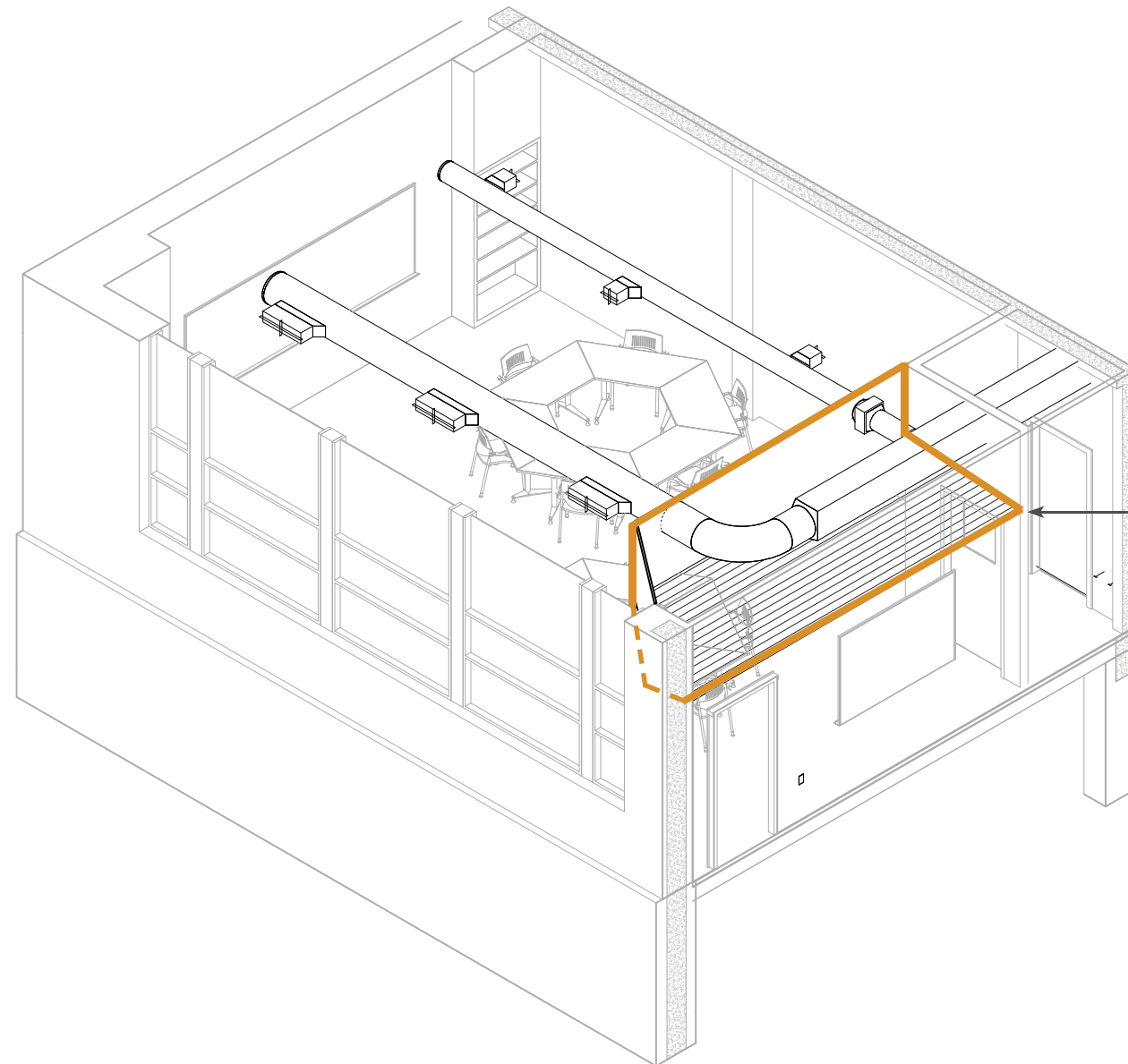
#### [LIVE] PLAN



# BIM

bim  
THE TOOL

[LIVE] VIEW



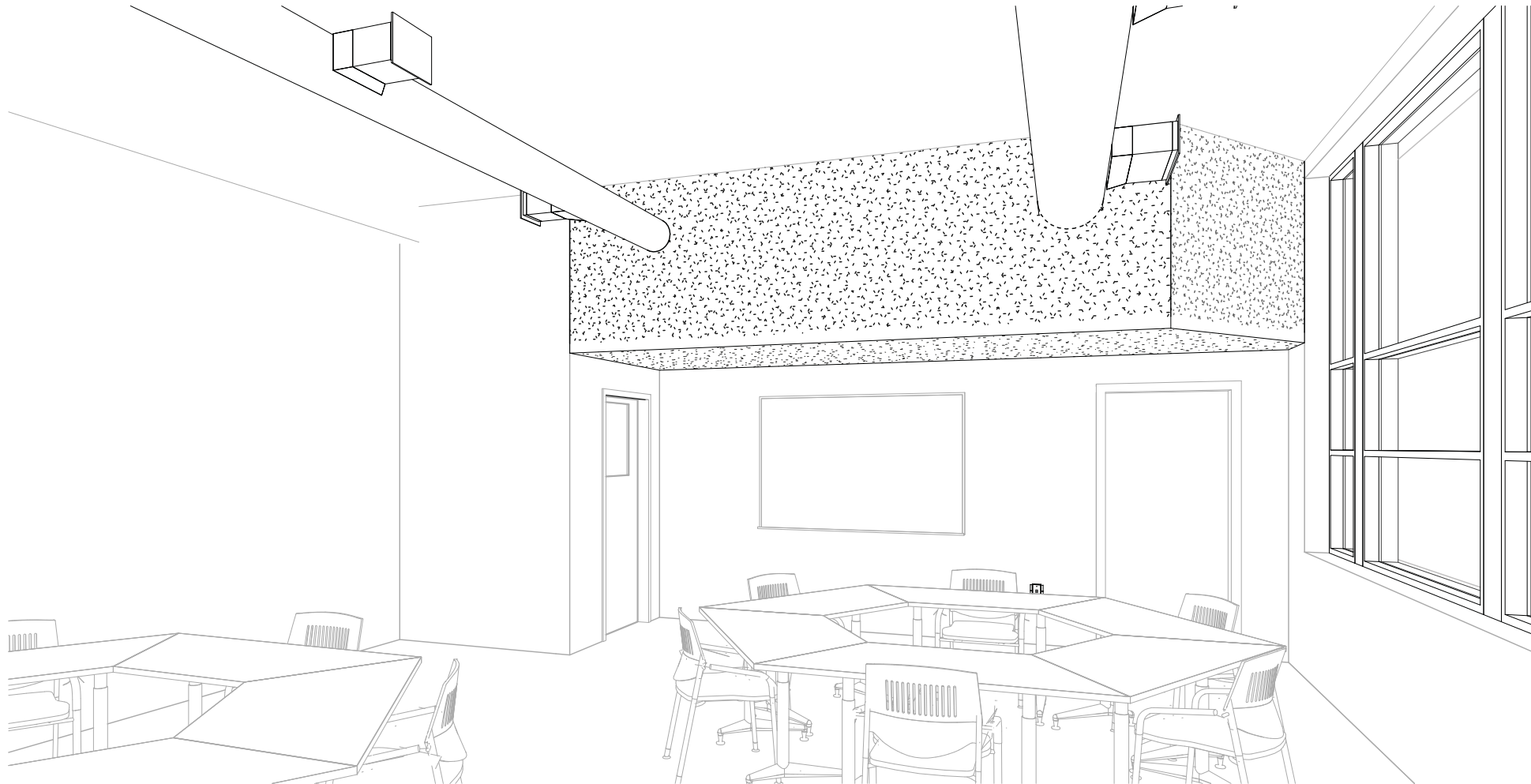
[EXAMPLE]  
**SOFFIT HEIGHT  
COORDINATION**

1 Axon of Typical Classroom

# BIM

bim  
THE TOOL

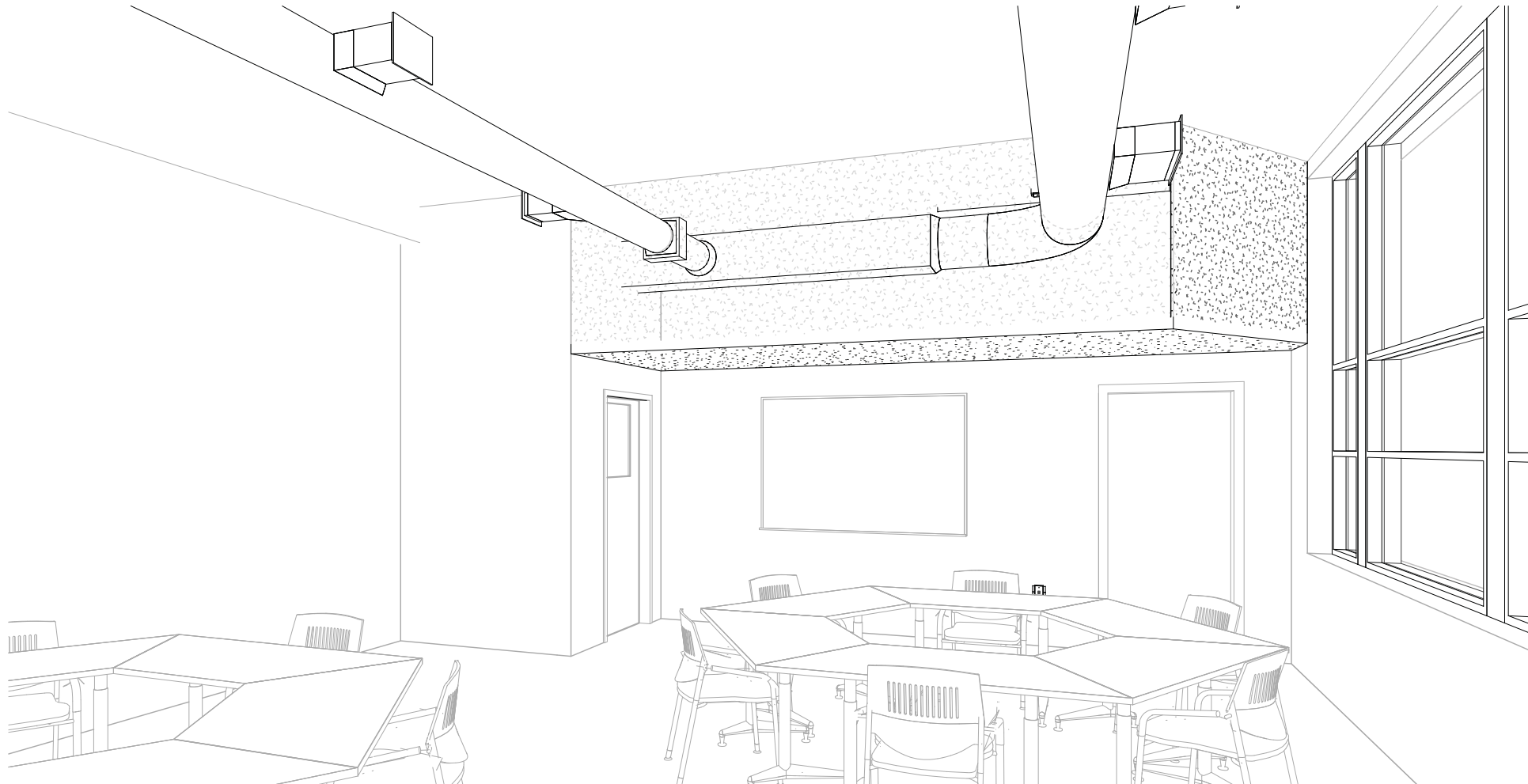
[LIVE] PERSPECTIVE



# BIM

bim  
THE TOOL

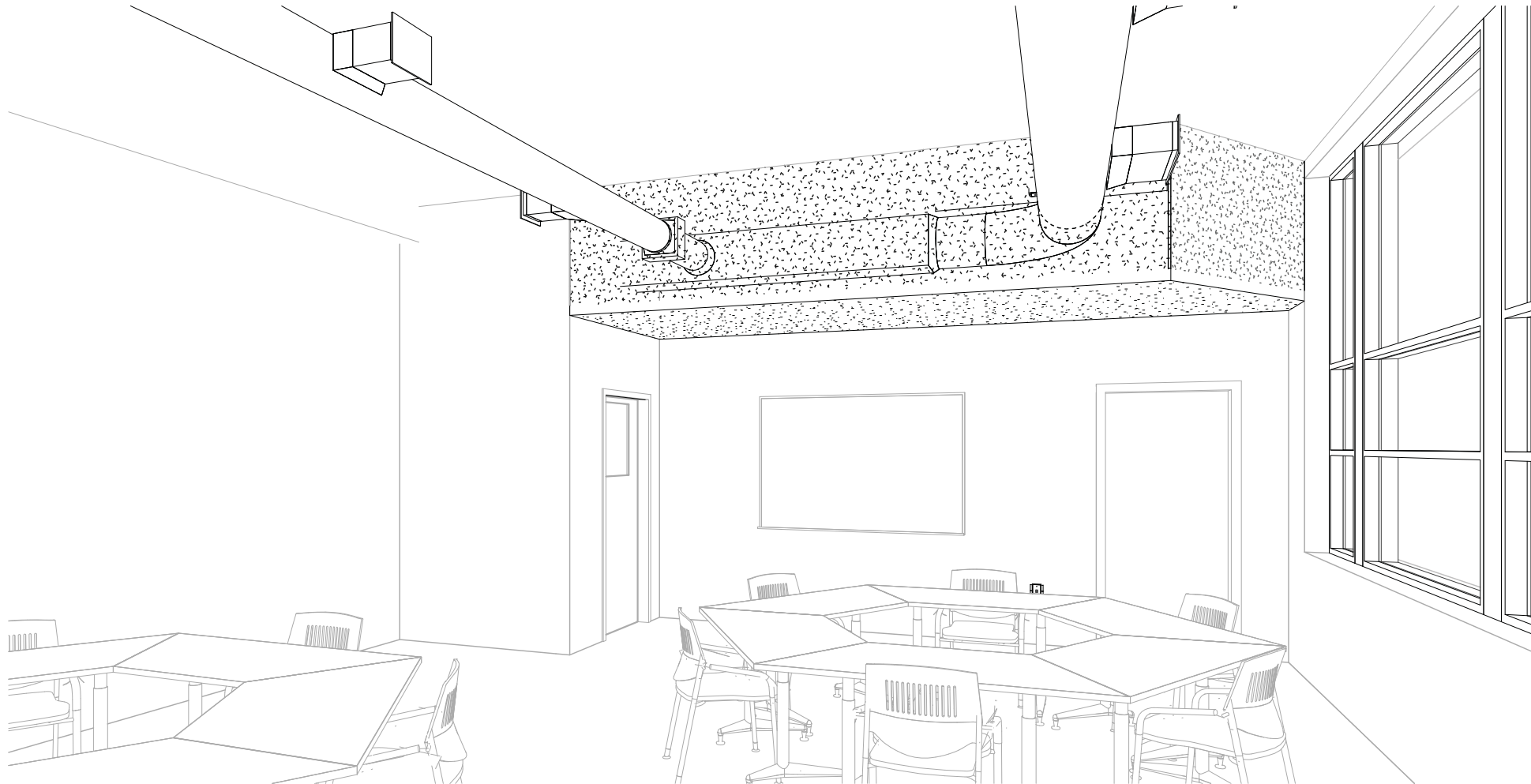
[LIVE] PERSPECTIVE



# BIM

bim  
THE TOOL

[LIVE] PERSPECTIVE

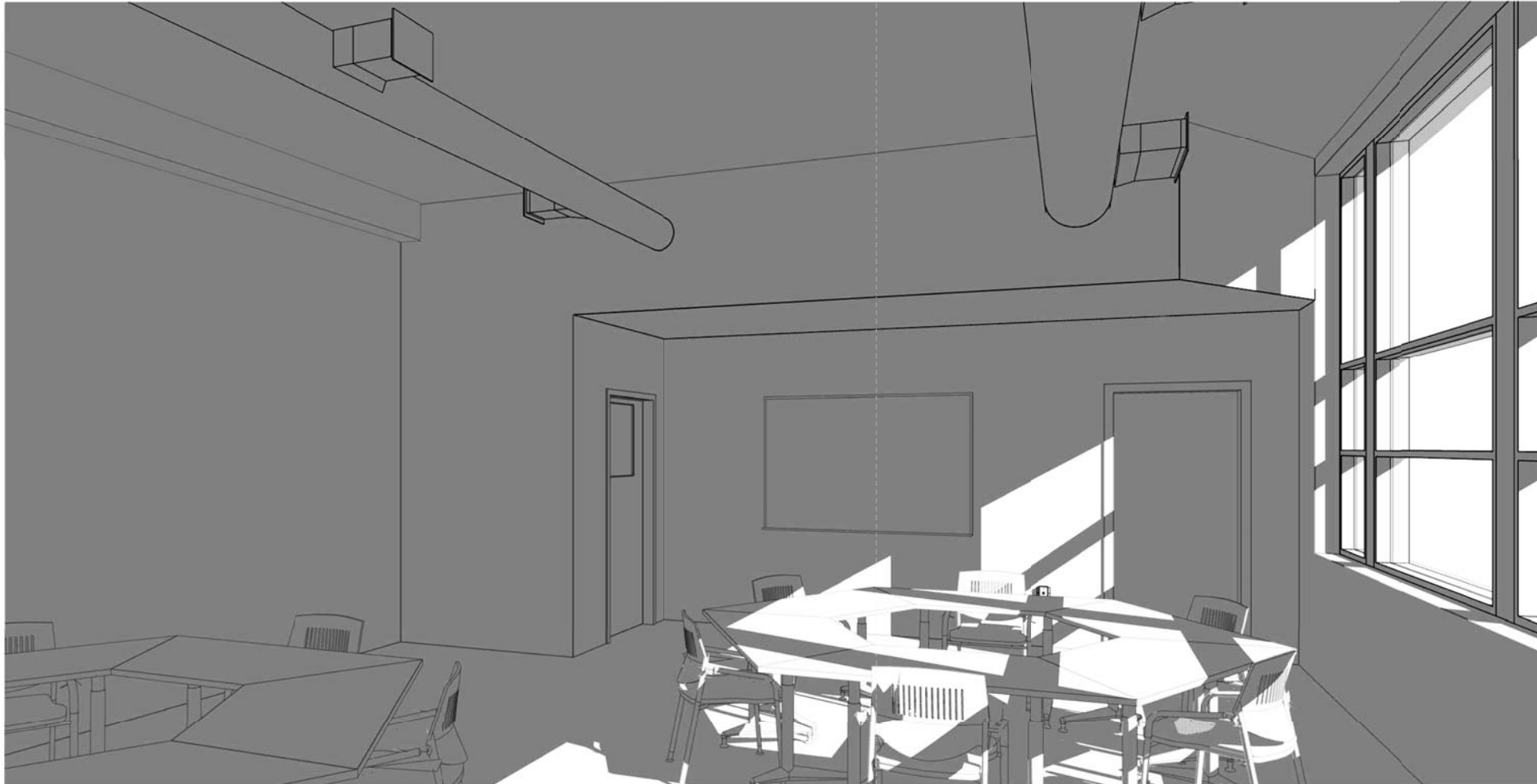




# BIM

bim  
THE TOOL

[LIVE] PERSPECTIVE



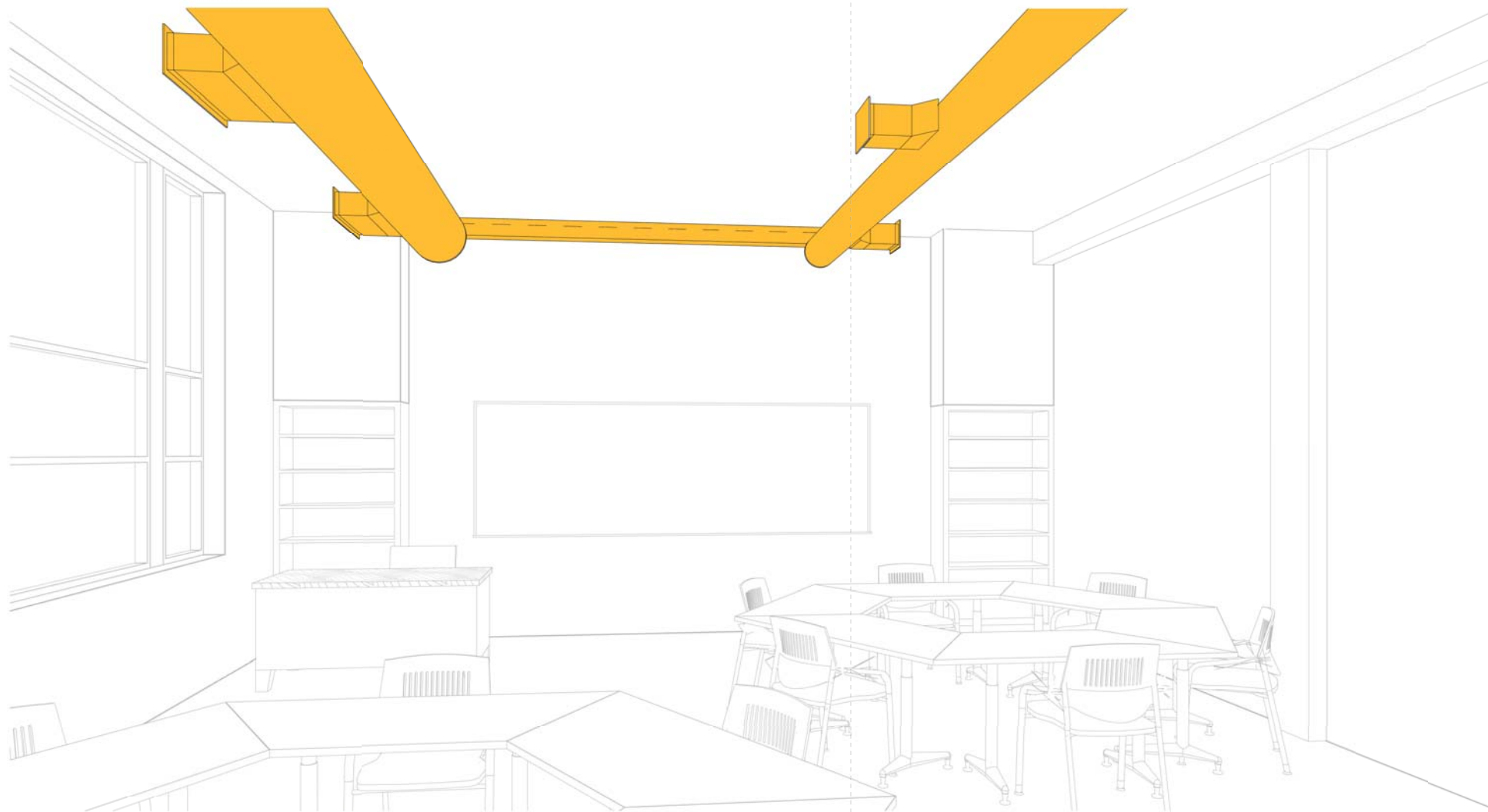




# BIM

bim  
THE TOOL

[LIVE] PERSPECTIVE



# BIM

## bim

### THE TOOL

