

The background of the slide is a complex, abstract wireframe mesh in shades of gray. A solid blue horizontal band spans the middle of the image, serving as a backdrop for the title and speaker information.

Real-World Revit: Piping A Mechanical Room

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Introduction



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Learning Objectives

- Discuss the differences between coordination, fabrication, and the Levels Of Development (LOD)
- Apply best practices that will allow you to quickly get “pipe into the model”
- Understand how to create a model that will facilitate successful coordination
- Learn how to adjust and refine the model to be fabrication and installation ready

Why??

Minimized Field Issues + More Efficient Install =
Greater Profits for the Company





Coordination Ready vs. Fabrication Ready

Coordination

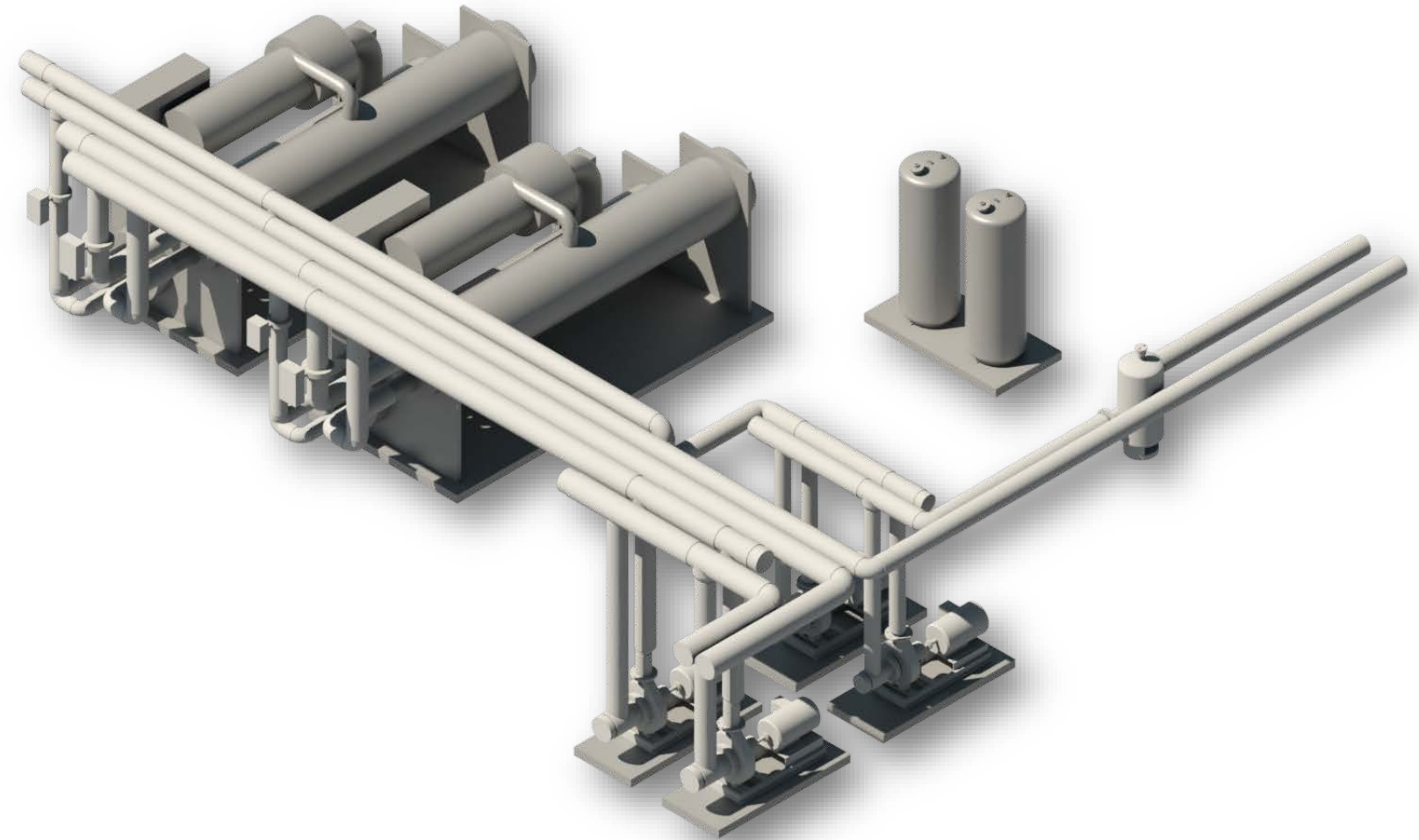
- Elements are placed in the model, using approximate sizes, shapes and locations.
- All trades adjust their models to accommodate for other trade's space requirements.
- Requires min. LOD 200 to get started, min. LOD 350 to complete

Fabrication

- Model contains elements that are fully coordinated and detailed.
- Complete & coordinated model is broken down into manageable parts (assemblies/spools) and put through the fabrication process
- Requires min. LOD 400 to complete

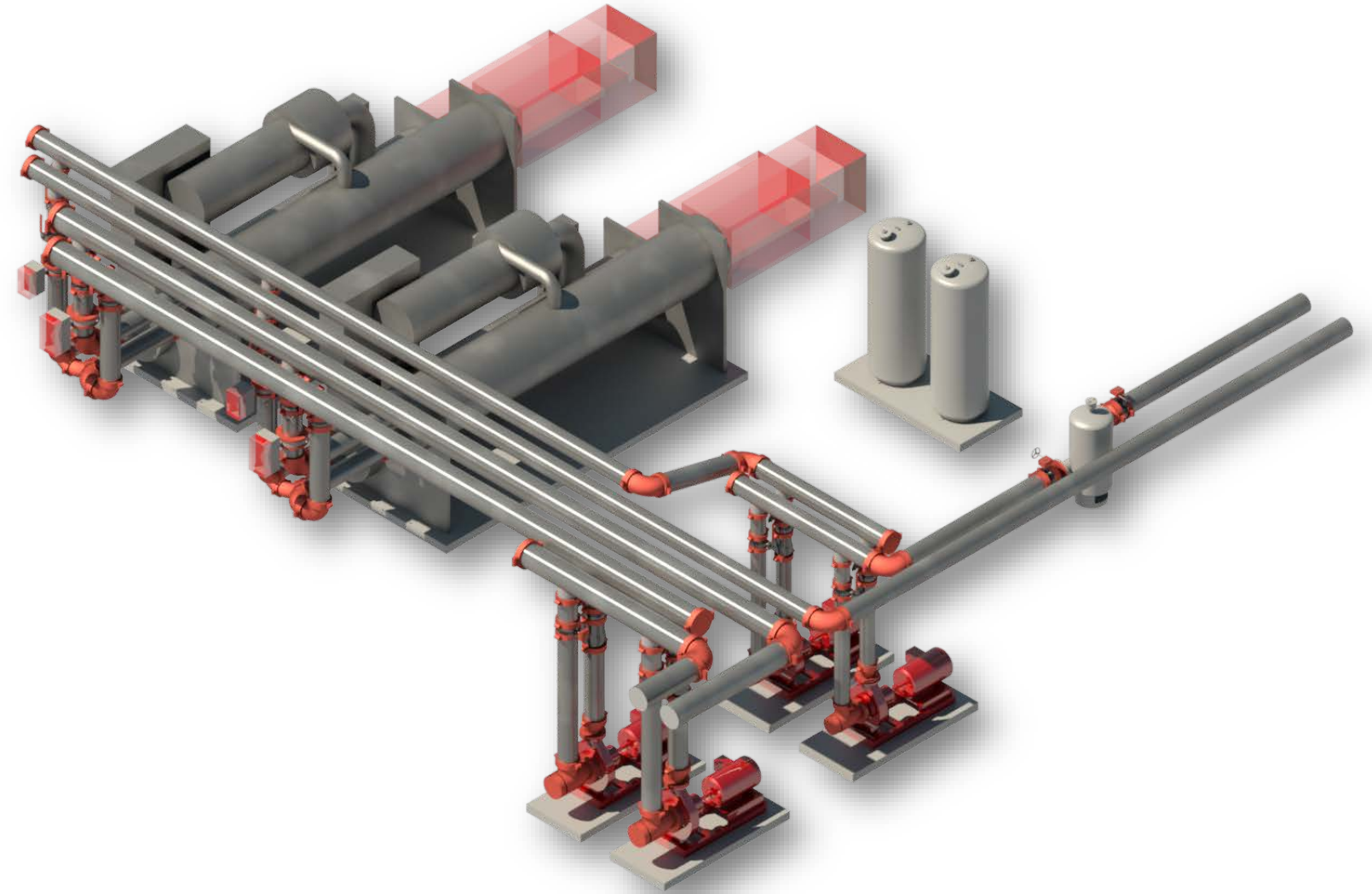
LOD 200

- The model is basically a generic system
- The size, shape and orientation of objects are for reference only
- All information contained in the model should be considered approximate



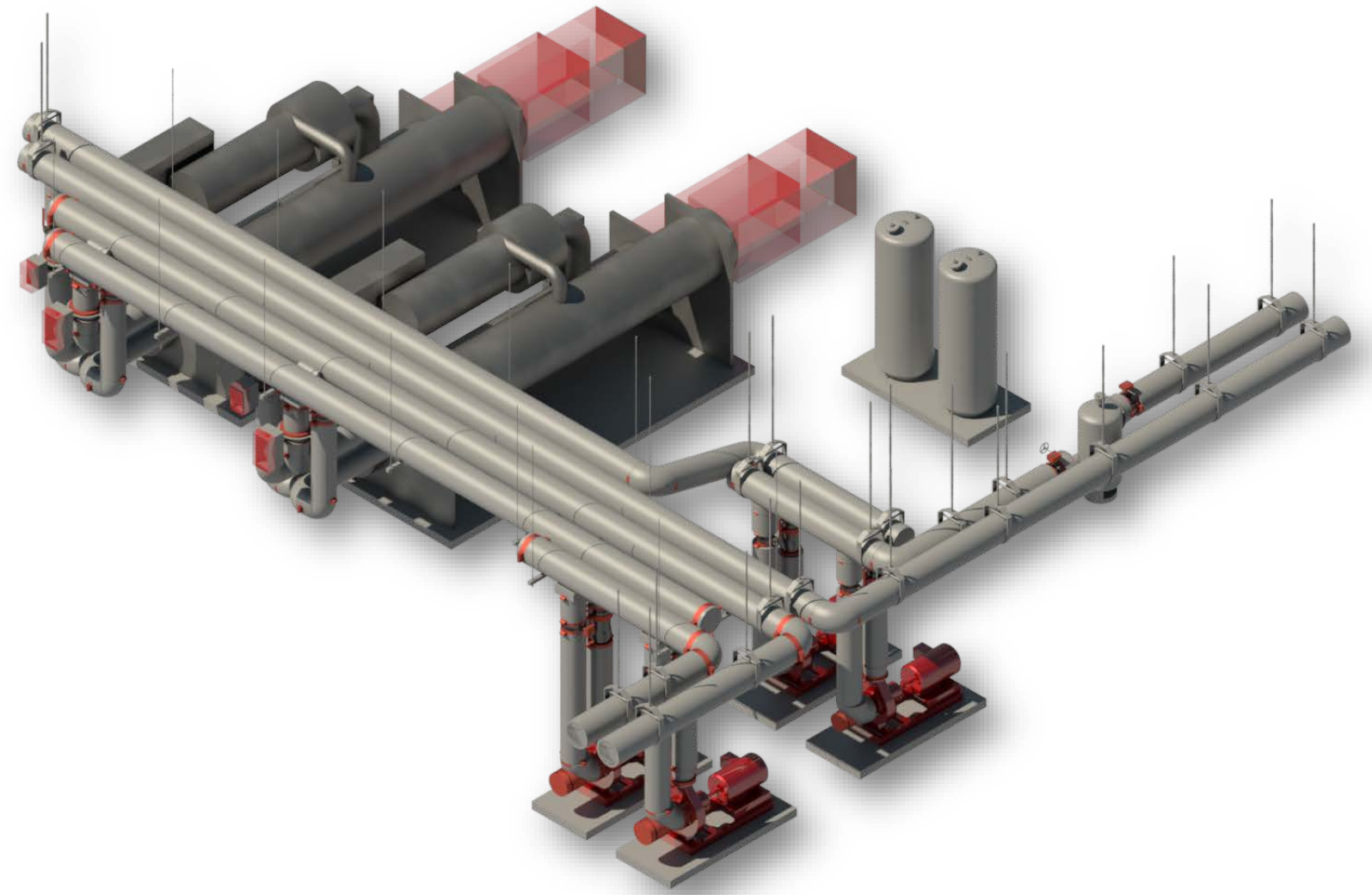
LOD 300

- The modeled piping is now designated with a specific system
- The size, shape and orientation of objects can now be set dimensionally
- All elements should now be located accurately based on the project origin



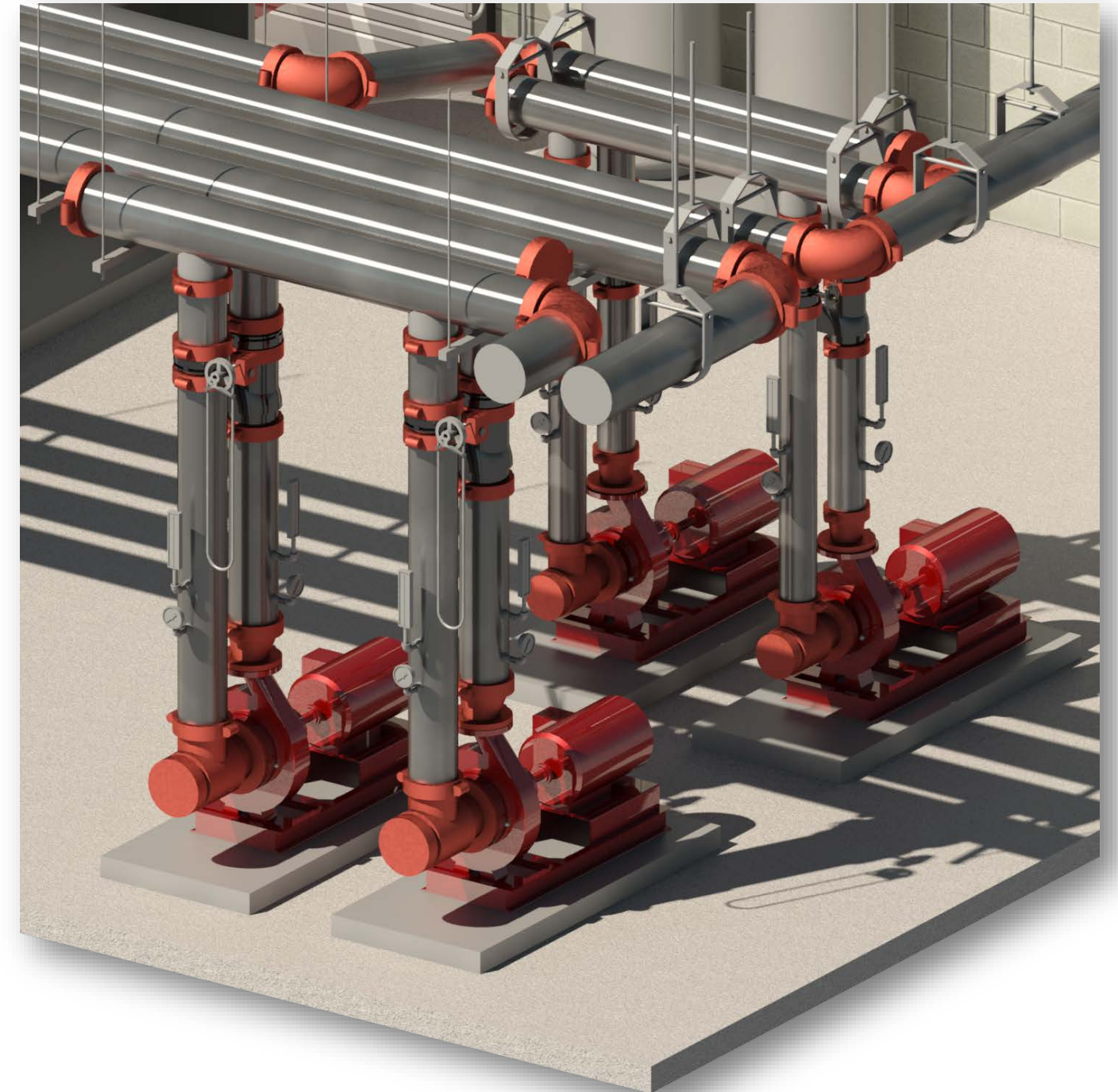
LOD 350

- The modeled piping is now sized and located accurately per coordination
- The size, shape and orientation of elements are now dimensionally accurate
- All secondary elements, such as pull spaces and hangers, are now modeled and accurately located



LOD 400

- All elements required for fabrication are now in the model
- All trade models have been coordinated and conflicts have been resolved
- The model should now represent exactly what will be built on site

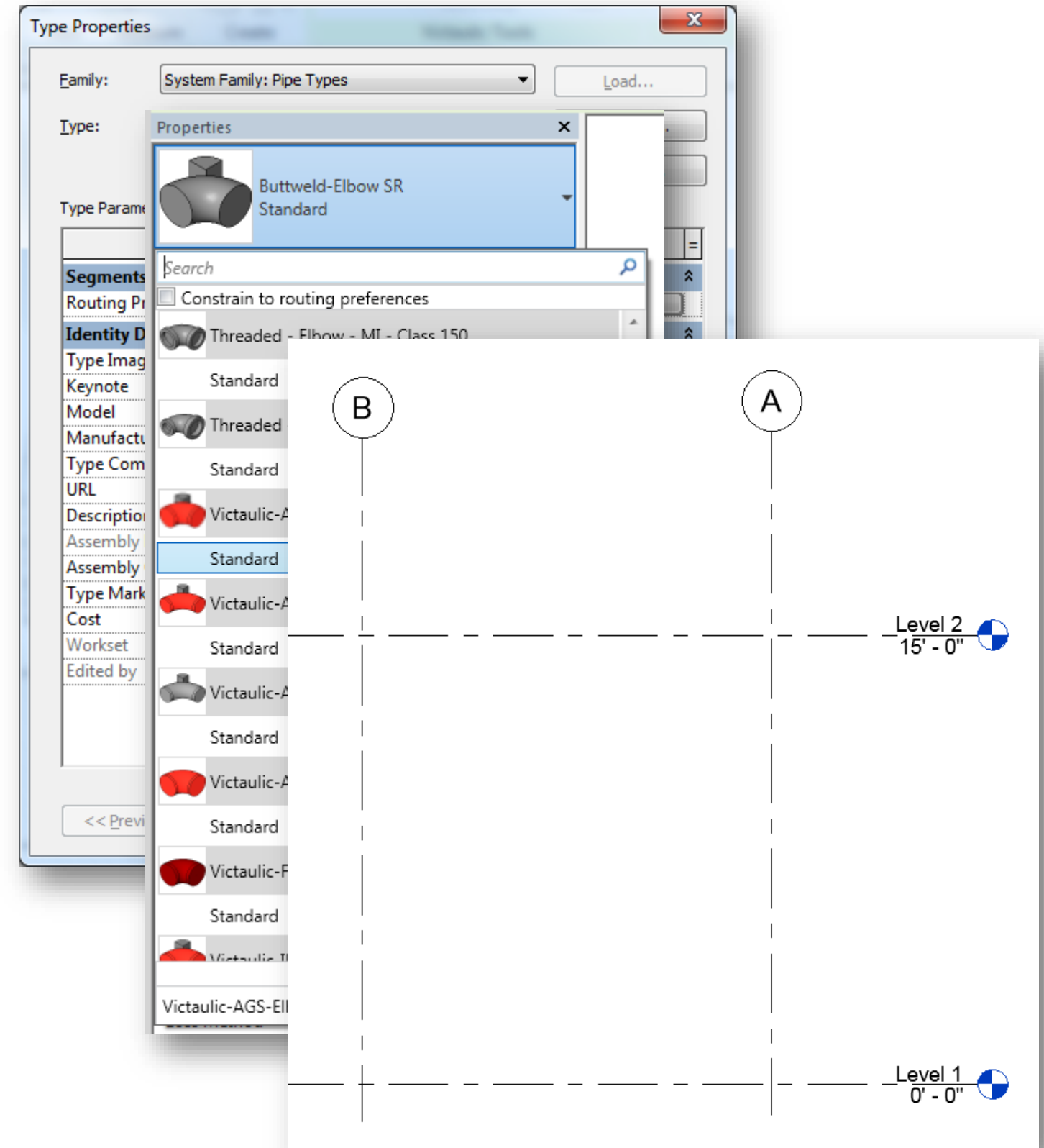


The background of the slide is a complex, abstract wireframe mesh. The mesh is composed of numerous interconnected lines forming a series of irregular, organic shapes that resemble a network or a complex structure. The lines are thin and grey. A solid blue horizontal bar spans the bottom portion of the image, providing a contrasting background for the white text.

“Just get pipe into the model...”

Before we start modeling

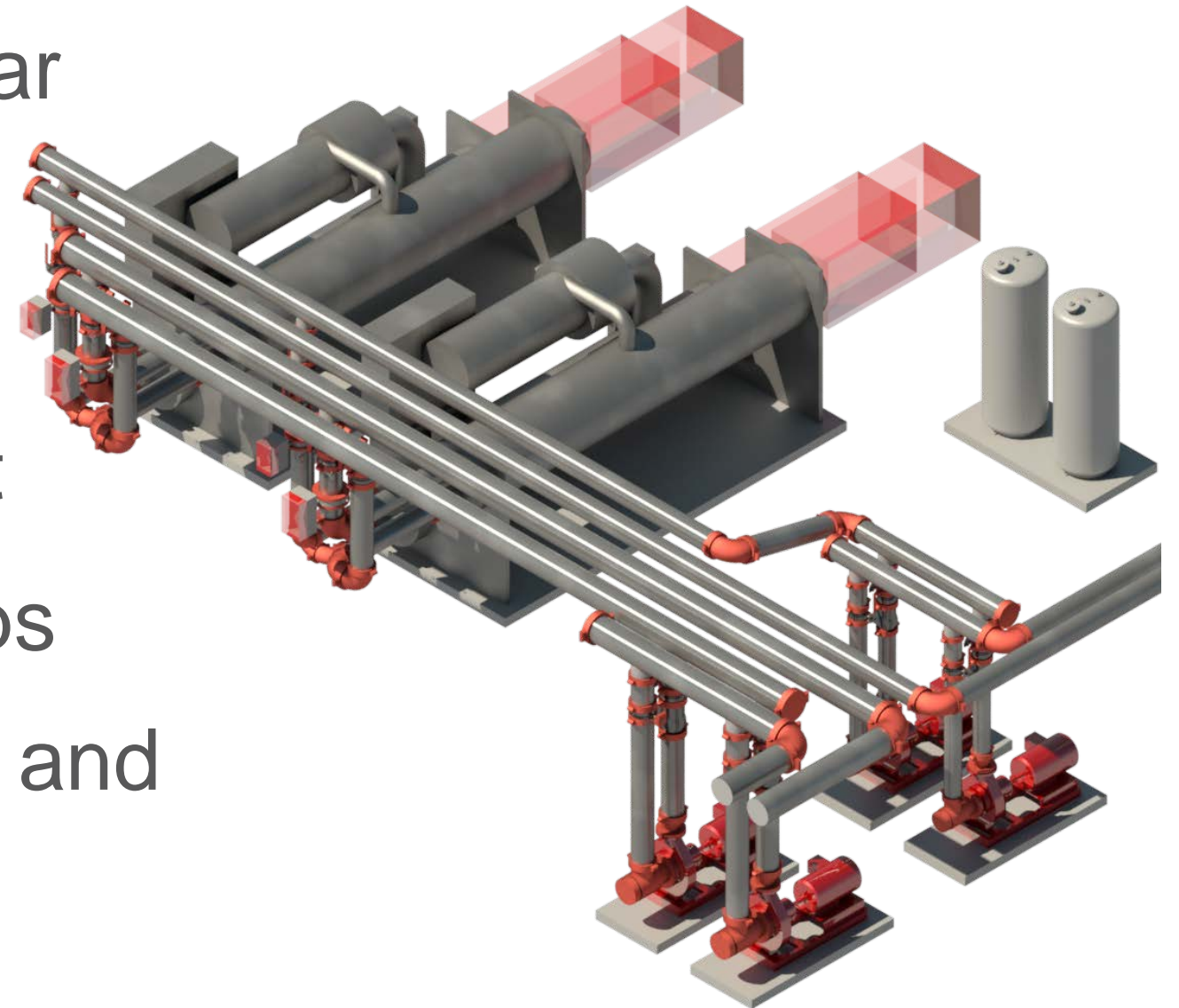
- Having a standard project template allows us to get started sooner
 - Basic pipe types with typical routing preferences allow for quick duplication and project set-up
 - Typical families pre-loaded for common systems allows for a greater LOD without extra work
- Link all background files
- Set-up all levels and grids



“Get Pipe in the Model”

LOD 300

- Roughly route main piping
 - Locate penetrations in approximate locations
 - Route at approximate elevations and near equipment
- Make connections to equipment
 - Don't connect the drops to the mains yet
 - Detail one drop and copy for similar drops
- Use dimensions to move and space piping and equipment



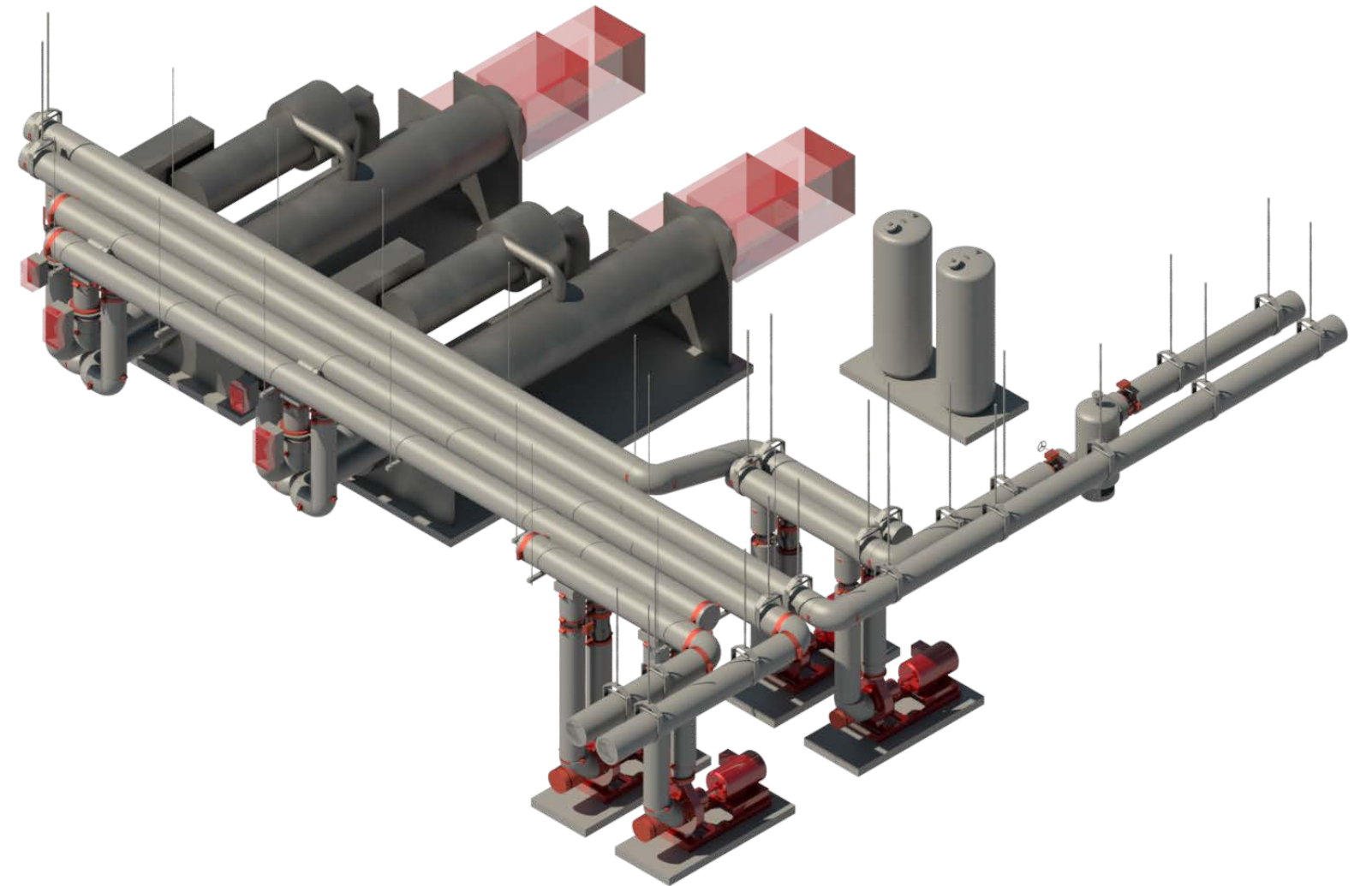
DEMO



Revise the model for coordination

Revise the Model for Coordination LOD 350

- Shift pipes, drops and equipment to coordinate with other trades
- Add accessories and smaller equipment
- Ensure the model has full connectivity



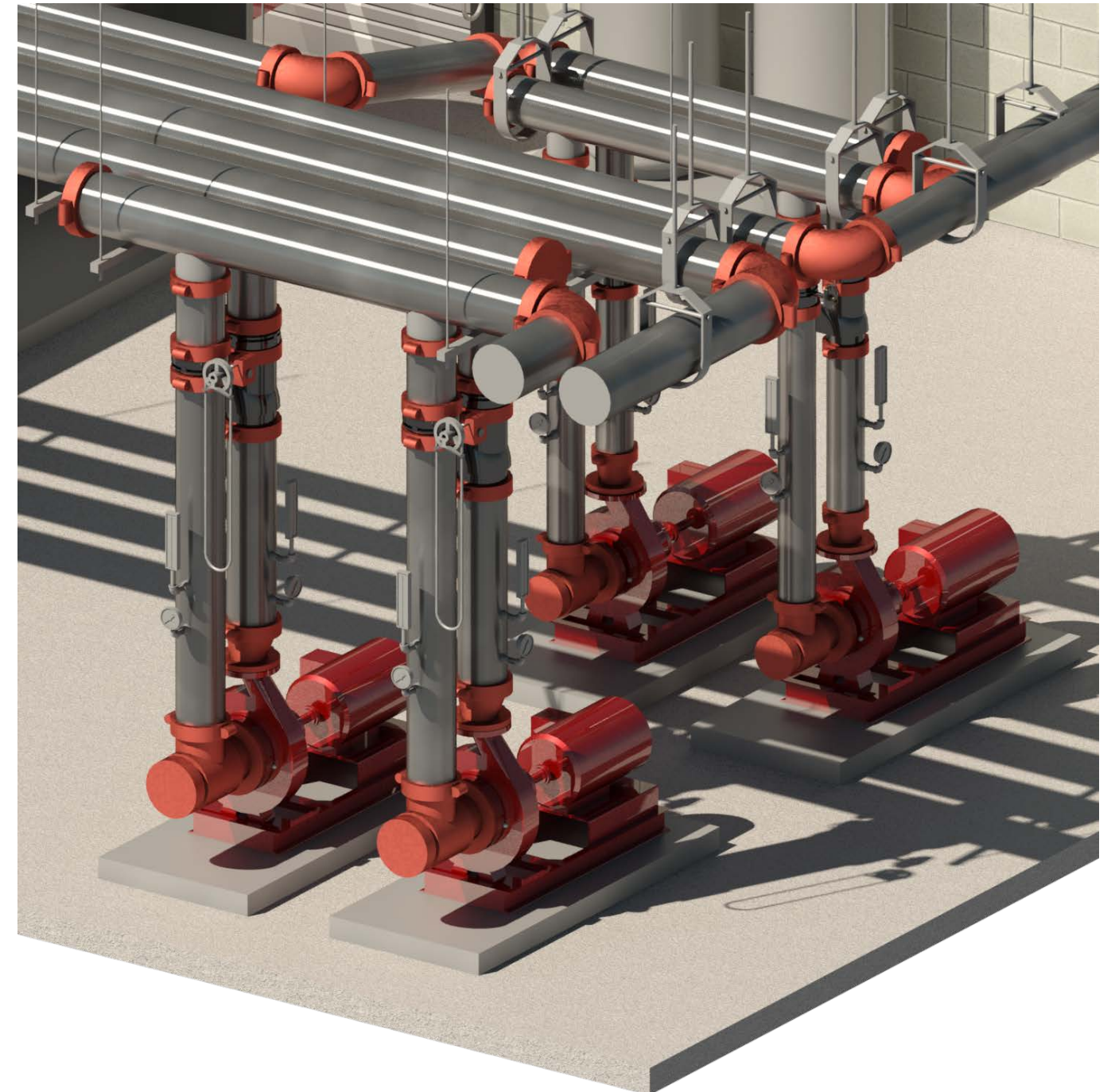
DEMO

The background of the slide is a complex, abstract wireframe mesh. It consists of a dense network of thin, grey lines that form a series of interconnected, flowing, and undulating shapes. These shapes resemble organic, cellular structures or perhaps a stylized representation of a liquid surface. The mesh is more densely packed in some areas, creating a sense of depth and volume, while other areas are more sparse. The overall effect is one of dynamic, organic complexity.

Refine the model for fabrication

Refine the Model for Fabrication LOD 400

- Fine tune piping and equipment locations/spacing to prepare for installation
- Add small details such as instrument taps, mounting hardware & installation information
- Ensure the model has maintained full connectivity



Conclusion

- Preparation is key
- Good content allows for greater LOD without extra effort
- Start routing pipe to establish basic locations
- Leave small details until later; big stuff needs to go in first
- Use the tools and tricks to make it easier to “get pipe into the model”

