MODULE 06 – MEP & MINI PRESENTATION

One of the many ways DPR determines the amount of risk involved in a project is a thorough review of the design documents. Identifying items with a lot of exposure early, helps us prioritize where to focus our attention and how. We pride ourselves as a technical builder in the industry and as such, it is important to understand the building's mechanical, electrical, and plumbing (MEP) systems.

One of the most unique and challenging pieces of MEP coordination in this project is the density of equipment, fixtures, and finishes above the ceiling. Many of these materials have long lead times and if ordered incorrectly, the job could be on hold while the correct material is procured. This exposes DPR to more risk and unforeseen costs.

Per the contract documents, the Contractor is responsible for finding any potential clashes within the drawings and bringing it to the Design Teams' attention. For example, General Note 1 on M-001 states:

1. *All drawings are considered to be part of the contract document. The Contractor shall be responsible for the review and coordination of all drawings prior to any construction, including structural, plumbing, air conditioning and electrical. Any discrepancies that occur shall be brought to the attention of the Engineer prior to the start of construction so that a clarification can be issued. Any work performed in conflict with the contract documents or any code requirement shall be corrected by the Contractor at his own expense, and at no expense to the Owner.*

There are several BIM programs that we use to detect clashes, but for this exercise we would like you to use the overlay tool on Bluebeam. The overlay process in Bluebeam lets you compare two or more PDFs by converting each document to a different color and stacking them on top of each other as layers in a new PDF. Each layer is transparent and blends with the layers below it. Where the colors are stacked directly over each other, they blend to create a darker color, making it easier to see which elements collide with each other.

Part A – Interdisciplinary Overlay and Clash Identification

Objective: With the drawing sheets provided to you in this folder, perform an overlay in Bluebeam for a section of the building (within grid lines 1 & 3 and A & D on Level 1). The overlay function is a great way to help you identify any potential clashes. Once you have successfully created your overlay:

1. Highlight clashes you identify on your overlay PDF.
2. On the "Clash Coordination Matrix" spreadsheet provided, list the quantity of clashes you found.


3. For today's MEP Coordination meeting, focus on the clashes listed below:

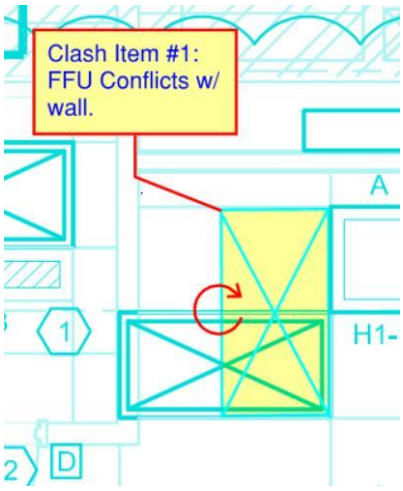
Part A: Interdisciplenary Overlay and Clash Identifcation		
Item	**Clashes With:** Below are the items the design team wishes to dicsuss in today's meeting.	**Quantity:** In the boxes below, please provide a count of the occurences.
F1 Light	FCU/ Ductwork/ Grills/ Grid	
F2 Light	FCU/ Ductwork/ Grills/ Grid	
F3 Lights	FCU/ Ductwork/ Grills/ Grid	
F4 Light	FCU/ Ductwork/ Grills/ Grid	
F5 Light	FCU/ Ductwork/ Grills/ Grid	
Supply/ Return Grills	Grid	
Total Clashes Found		0

4. For this exercise, assume the following:
    a. All lighting hanger rods must be vertical to deck and cannot be hung at an angle in conjunction with one another.
    b. Lighting hangers for all long linear fixtures are hung with one rod from each end.
    c. Overhead space is limited and restricts stacking above ceiling equipment over lights.
    d. For any 2x2 or 2x4 light fixtures, assume the hanging rods are attached at all 4 corners and extend straight up.
    e. Not all light fixtures are labeled, please find the typical labeled "TYP." and apply to other light fixtures that appear similar.
    f. Grilles can be hung at angles if needed.

Part B – Clash Mitigation

<u>Objective:</u> Now that you have identified the clashes, the next step is to provide potential solutions.

1. Of the highlighted clashes you found, pick five clashes that you feel have the most impact to the project and label them 1-5.
2. Take a snapshot of the conflict with the related layer(s) turned on, provide a brief description of the clash, and clearly mark-up your proposed solution. For example, this Fan Filter Unit (FFU) was shown going into a wall, so we proposed to rotate the FFU to resolve this clash.




3. All proposed solutions should be shown on the applicable layers the clash is associated with. For example, if you turn off the layer with associated mark-ups of that layer, those mark-ups should be hidden as well.
4. In the "Clash Coordination Matrix" spreadsheet, provide a more detailed description of your proposed solution and your reasoning behind it.

Part B: Clash Mitigation		
Clash #	**Description:** Provide a detailed description of the clash including details describing the items in conflict, and the reasons they are significant.	**Solution:** In detail, provide a narrative of your solution to go with your mark ups in bluebeam.
1		
2		
3		
4		
5		

Part C – MEP Coordination Meeting Mini Presentation

1. Two members from your team are to prepare a mini-presentation about the five crucial clashes you chose and explain your reasoning behind your proposed solutions. Remember, in this mini-presentation, you are the MEP Coordinators presenting to the Design Team in a MEP Coordination meeting.
2. The time of your mini-presentation will be given to you at the 10AM meet up and fall between the following range: 3:00 - 5:30PM (5-minute presentation & 5-minute Q&A).

Required Deliverables:

The following deliverables are due via email (asc.execteam.dpr@gmail.com) by 2:30PM:

1. "Clash Coordination Matrix" Excel spreadsheet
2. (1) Overlay PDF with all highlighted clashes (Part A) and the 5 marked-up clash solutions (Part B)
3. MEP Coordination Meeting Mini Presentation PowerPoint