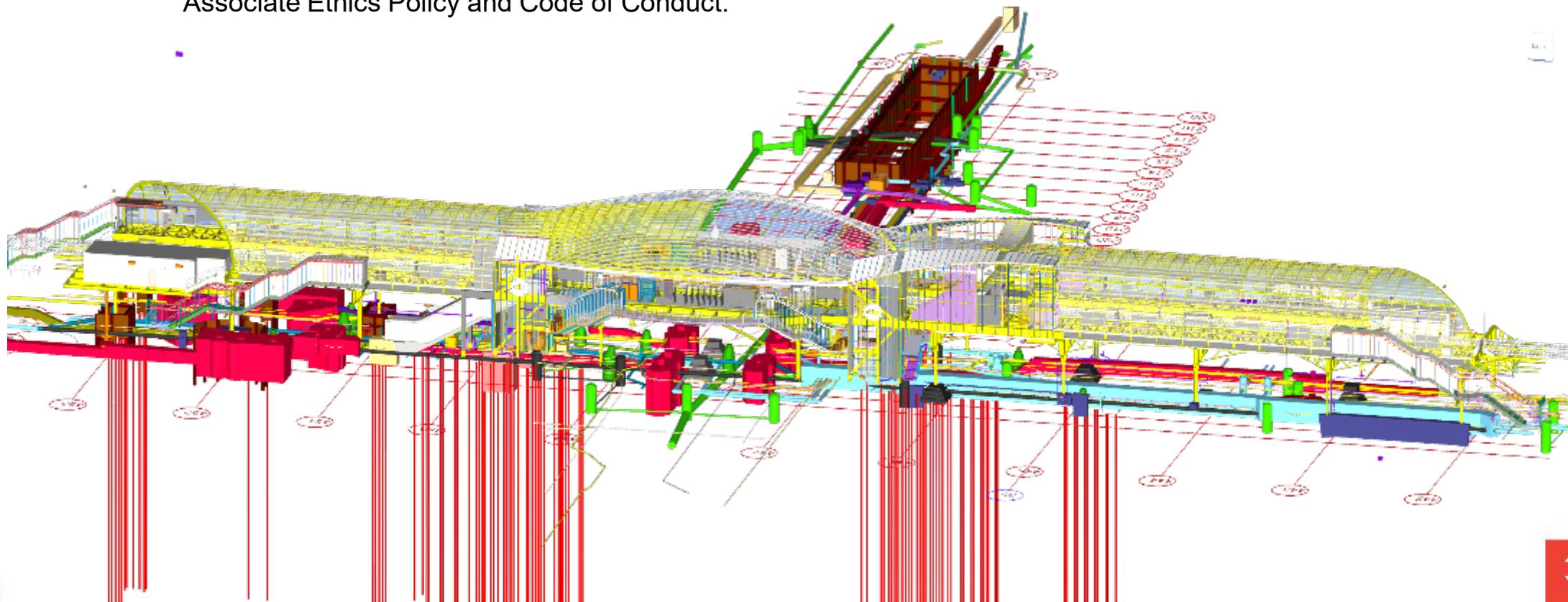


Bridging the Gap: BIM Coordination & Clash Detection for Smarter Schools

This presentation is to be informative and not to promote specific products, services companies, etc. Illinois ASBO Member Programs are permitted to promote products and services in accordance with the Service Associate Ethics Policy and Code of Conduct.



Illinois Association of School Business Officials | Friday, March 6, 2026 | Drury Lane Events, Oakbrook Terrace



Introductions

Josh Curran, PE, CCM
- *Vice President, F.H. Paschen*



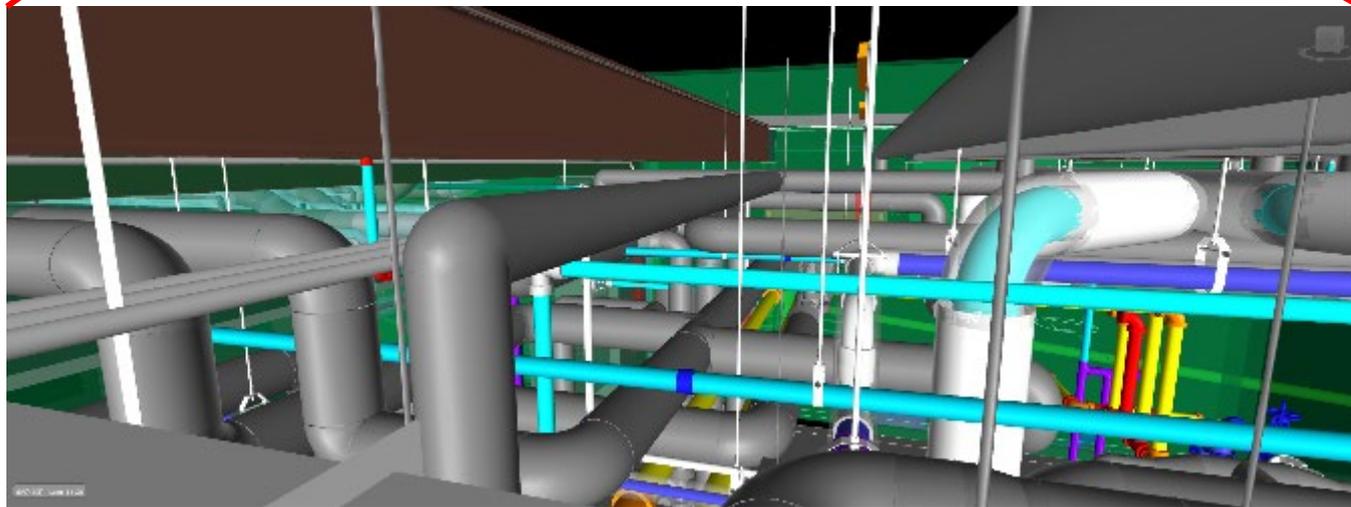
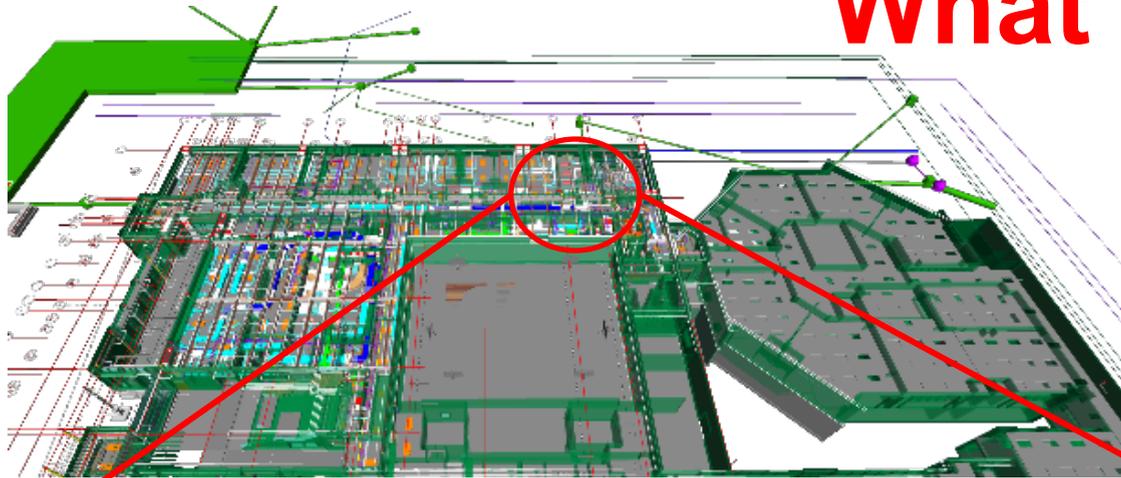
Michael Lopez, AIA, LEED
- *Director of Facility Operations, Valley View School District*



Athi Toufexis, AIA, ALEP
- *Principal, Studio GC*



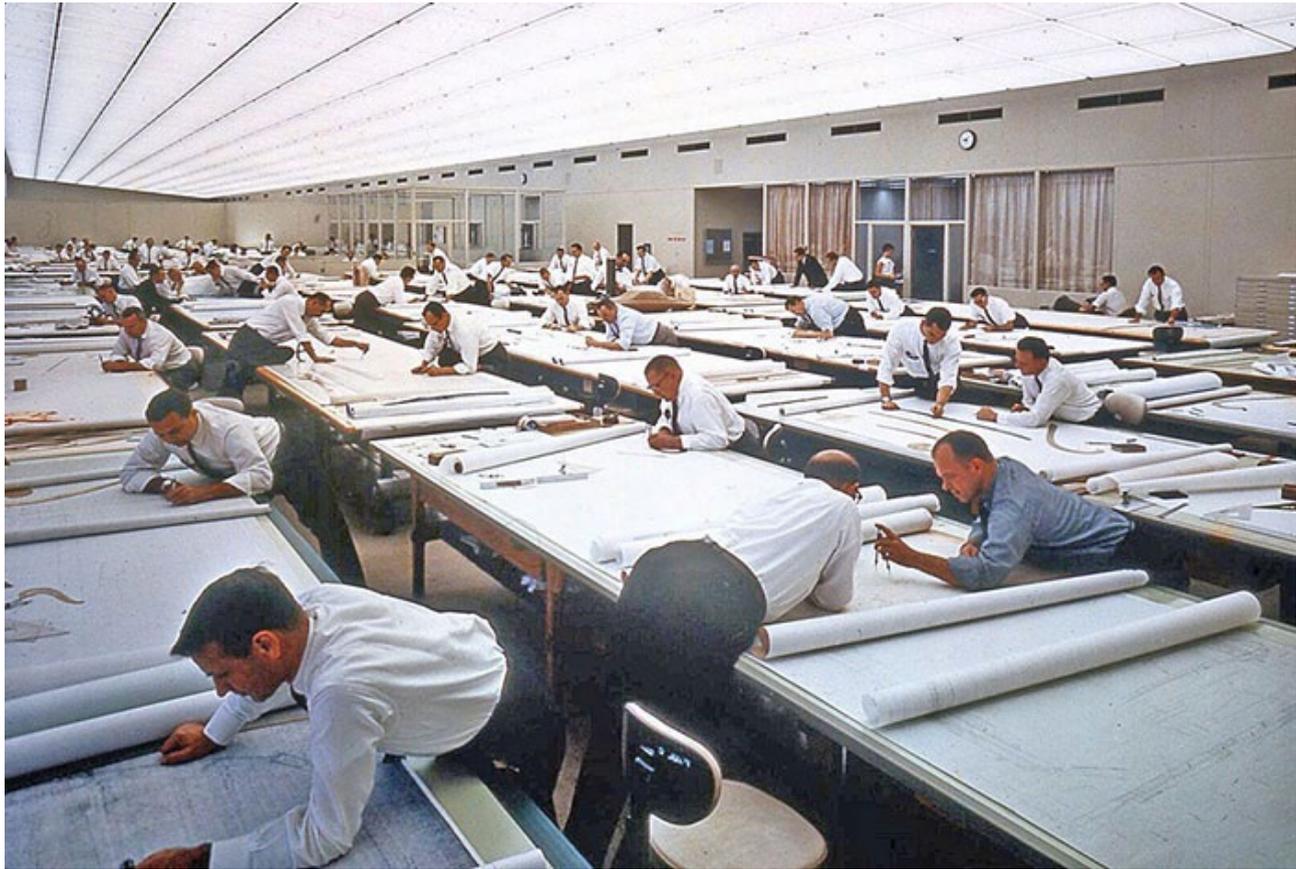
What is VDC & BIM



- **Virtual Design & Construction** - building a project digitally and working out the big problems, then building it more efficiently in the physical world.
- **Building Information Modeling** - the process that 3D models are generated.
- Why BIM? Why VDC?
- Why Design Documents Aren't Enough.



History of VDC & Design



Mike Lopez back in the day...



History of VDC & Design

The screenshot displays the AutoCAD interface for a building design project. The ribbon at the top includes tabs for Home, Insert, Annotate, Parametric, View, Manage, Output, Add-ins, Collaborate, Express Tools, Featured Apps, and Layout. The workspace is divided into four panes:

- Top-Left Pane:** A-0.2 Code Compliance Plans.dwg. Shows a floor plan with rooms labeled CLASSROOM (001, 003, 005, 007) and CORRIDOR (010).
- Top-Right Pane:** A-4.2a Building Sections.dwg. Shows a cross-section of a building with structural and material annotations, including labels like BRICK FINISH, 5" SPLIT FACED, 6" CMU BLOCK - PRECESSED PANELS, and 6" CMU BLOCK.
- Bottom-Left Pane:** A-1.2 Floor Plan.dwg. Shows a floor plan with rooms labeled CLASSROOM (001, 003, 005), STORAGE (001A, 003A, 005A), and CORRIDOR (010). A command prompt shows "Command: ***** No System Variable Changed *****".
- Bottom-Right Pane:** A-9.2 Schedules.dwg. Shows a table titled "Door and Frame Schedule-Ridge Central Elementary".

Door		Frame				Details			Fire	Remarks							
Quantity	Room Name	Width	Height	Thickness	Type	Material	Finish	Width	Height	Thickness	Type	Material	Finish	Jamb	Head	Rating	
001A	STORAGE	ONE															EXISTING TO REMAIN
002A	STORAGE	ONE															EXISTING TO REMAIN
003A	STORAGE	ONE															EXISTING TO REMAIN
004A	STORAGE	ONE															EXISTING TO REMAIN
005A	STORAGE	ONE															EXISTING TO REMAIN
006A	STORAGE	ONE															EXISTING TO REMAIN
007A	STORAGE	ONE															EXISTING TO REMAIN
008A	STORAGE	ONE															EXISTING TO REMAIN
009A	STORAGE	ONE															EXISTING TO REMAIN
010A	STORAGE	ONE															EXISTING TO REMAIN
011A	STORAGE	ONE															EXISTING TO REMAIN
012A	STORAGE	ONE															EXISTING TO REMAIN
013A	STORAGE	ONE															EXISTING TO REMAIN
014A	STORAGE	ONE															EXISTING TO REMAIN
015A	STORAGE	ONE															EXISTING TO REMAIN
016A	STORAGE	ONE															EXISTING TO REMAIN
017A	STORAGE	ONE															EXISTING TO REMAIN
018A	STORAGE	ONE															EXISTING TO REMAIN
019A	STORAGE	ONE															EXISTING TO REMAIN
020A	STORAGE	ONE															EXISTING TO REMAIN
021A	STORAGE	ONE															EXISTING TO REMAIN
022A	STORAGE	ONE															EXISTING TO REMAIN
023A	STORAGE	ONE															EXISTING TO REMAIN
024A	STORAGE	ONE															EXISTING TO REMAIN
025A	STORAGE	ONE															EXISTING TO REMAIN
026A	STORAGE	ONE															EXISTING TO REMAIN
027A	STORAGE	ONE															EXISTING TO REMAIN
028A	STORAGE	ONE															EXISTING TO REMAIN
029A	STORAGE	ONE															EXISTING TO REMAIN
030A	STORAGE	ONE															EXISTING TO REMAIN
031A	STORAGE	ONE															EXISTING TO REMAIN
032A	STORAGE	ONE															EXISTING TO REMAIN
033A	STORAGE	ONE															EXISTING TO REMAIN
034A	STORAGE	ONE															EXISTING TO REMAIN
035A	STORAGE	ONE															EXISTING TO REMAIN
036A	STORAGE	ONE															EXISTING TO REMAIN
037A	STORAGE	ONE															EXISTING TO REMAIN
038A	STORAGE	ONE															EXISTING TO REMAIN
039A	STORAGE	ONE															EXISTING TO REMAIN
040A	STORAGE	ONE															EXISTING TO REMAIN
041A	STORAGE	ONE															EXISTING TO REMAIN
042A	STORAGE	ONE															EXISTING TO REMAIN
043A	STORAGE	ONE															EXISTING TO REMAIN
044A	STORAGE	ONE															EXISTING TO REMAIN
045A	STORAGE	ONE															EXISTING TO REMAIN
046A	STORAGE	ONE															EXISTING TO REMAIN
047A	STORAGE	ONE															EXISTING TO REMAIN
048A	STORAGE	ONE															EXISTING TO REMAIN
049A	STORAGE	ONE															EXISTING TO REMAIN
050A	STORAGE	ONE															EXISTING TO REMAIN
051A	STORAGE	ONE															EXISTING TO REMAIN
052A	STORAGE	ONE															EXISTING TO REMAIN
053A	STORAGE	ONE															EXISTING TO REMAIN
054A	STORAGE	ONE															EXISTING TO REMAIN
055A	STORAGE	ONE															EXISTING TO REMAIN
056A	STORAGE	ONE															EXISTING TO REMAIN
057A	STORAGE	ONE															EXISTING TO REMAIN
058A	STORAGE	ONE															EXISTING TO REMAIN
059A	STORAGE	ONE															EXISTING TO REMAIN
060A	STORAGE	ONE															EXISTING TO REMAIN
061A	STORAGE	ONE															EXISTING TO REMAIN
062A	STORAGE	ONE															EXISTING TO REMAIN
063A	STORAGE	ONE															EXISTING TO REMAIN
064A	STORAGE	ONE															EXISTING TO REMAIN
065A	STORAGE	ONE															EXISTING TO REMAIN
066A	STORAGE	ONE															EXISTING TO REMAIN
067A	STORAGE	ONE															EXISTING TO REMAIN
068A	STORAGE	ONE															EXISTING TO REMAIN
069A	STORAGE	ONE															EXISTING TO REMAIN
070A	STORAGE	ONE															EXISTING TO REMAIN
071A	STORAGE	ONE															EXISTING TO REMAIN
072A	STORAGE	ONE															EXISTING TO REMAIN
073A	STORAGE	ONE															EXISTING TO REMAIN
074A	STORAGE	ONE															EXISTING TO REMAIN
075A	STORAGE	ONE															EXISTING TO REMAIN
076A	STORAGE	ONE															EXISTING TO REMAIN
077A	STORAGE	ONE															EXISTING TO REMAIN
078A	STORAGE	ONE															EXISTING TO REMAIN
079A	STORAGE	ONE															EXISTING TO REMAIN
080A	STORAGE	ONE															EXISTING TO REMAIN
081A	STORAGE	ONE															EXISTING TO REMAIN
082A	STORAGE	ONE															EXISTING TO REMAIN
083A	STORAGE	ONE															EXISTING TO REMAIN
084A	STORAGE	ONE															EXISTING TO REMAIN
085A	STORAGE	ONE															EXISTING TO REMAIN
086A	STORAGE	ONE															EXISTING TO REMAIN
087A	STORAGE	ONE															EXISTING TO REMAIN
088A	STORAGE	ONE															EXISTING TO REMAIN
089A	STORAGE	ONE															EXISTING TO REMAIN
090A	STORAGE	ONE															EXISTING TO REMAIN
091A	STORAGE	ONE															EXISTING TO REMAIN
092A	STORAGE	ONE															EXISTING TO REMAIN
093A	STORAGE	ONE															EXISTING TO REMAIN
094A	STORAGE	ONE															EXISTING TO REMAIN
095A	STORAGE	ONE															EXISTING TO REMAIN
096A	STORAGE	ONE															EXISTING TO REMAIN
097A	STORAGE	ONE															EXISTING TO REMAIN
098A	STORAGE	ONE															EXISTING TO REMAIN
099A	STORAGE	ONE															EXISTING TO REMAIN
100A	STORAGE	ONE															EXISTING TO REMAIN
101A	STORAGE	ONE															EXISTING TO REMAIN
102A	STORAGE	ONE															EXISTING TO REMAIN
103A	STORAGE	ONE															EXISTING TO REMAIN
104A	STORAGE	ONE															EXISTING TO REMAIN
105A	STORAGE	ONE															EXISTING TO REMAIN
106A	STORAGE	ONE															EXISTING TO REMAIN
107A	STORAGE	ONE															EXISTING TO REMAIN
108A	STORAGE	ONE															EXISTING TO REMAIN
109A	STORAGE	ONE															EXISTING TO REMAIN
110A	STORAGE	ONE															EXISTING TO REMAIN
111A	STORAGE	ONE															EXISTING TO REMAIN
112A	STORAGE	ONE															EXISTING TO REMAIN
113A	STORAGE	ONE															EXISTING TO REMAIN
114A	STORAGE	ONE															EXISTING TO REMAIN
115A	STORAGE	ONE															EXISTING TO REMAIN
116A	STORAGE	ONE															EXISTING TO REMAIN
117A	STORAGE	ONE															EXISTING TO REMAIN
118A	STORAGE	ONE															EXISTING TO REMAIN
119A	STORAGE	ONE															EXISTING TO REMAIN
120A	STORAGE	ONE															EXISTING TO REMAIN
121A	STORAGE	ONE															EXISTING TO REMAIN
122A	STORAGE	ONE															EXISTING TO REMAIN
123A	STORAGE	ONE															EXISTING TO REMAIN
124A	STORAGE	ONE															EXISTING TO REMAIN
125A	STORAGE	ONE															EXISTING TO REMAIN
126A	STORAGE	ONE</															

History of VDC & Design

The screenshot displays a VDC software interface with three main panels:

- Top Left:** A 2D floor plan of a room with a grid of desks and chairs.
- Top Right:** A 3D perspective rendering of the room, showing desks, chairs, and a ceiling with recessed lighting.
- Bottom Left:** A 'DOOR & FRAME SCHEDULE' table with the following data:

DOOR #	ROOM NAME	QUANT	DOOR TYP	DOOR WIDTH	DOOR HT	DOOR THICKNE	DOOR MATERIA	
123	TOILET	1	A	3'-0"	7'-2"	0'-1 3/4"	WOOD	PRE
124	TOILET	1	A	3'-0"	7'-2"	0'-1 3/4"	WOOD	PRE
125a	ADULT COLLECTION	2	D	3'-0"	7'-2"	0'-1 3/4"	ALUMINUM	PRE
125b	ADULT COLLECTION	2	D	3'-0"	7'-2"	0'-1 3/4"	ALUMINUM	PRE
126	CHILDREN'S COLLECTI	2	D	3'-0"	7'-2"	0'-1 3/4"	ALUMINUM	PRE
127	STO	1	A	3'-0"	7'-0"	0'-1 3/4"	INSULATED	PAI
128	STORAGE	1	A	3'-0"	7'-2"	0'-1 3/4"	HOLLOW ME	PAI
129a	MEETING ROOM	1	D	3'-0"	7'-2"	0'-1 3/4"	ALUM.	PRE
129b	MEETING ROOM	1	A	3'-0"	7'-2"	0'-1 3/4"	WOOD	PRE
129c	MEETING ROOM	1	D	3'-0"	7'-2"	0'-1 3/4"	WOOD	PRE
130	STO	1	A	3'-0"	7'-2"	0'-1 3/4"	WOOD	PRE
130A	STO	1	A	3'-0"	7'-2"	0'-1 3/4"	WOOD	PRE
131	STO	1	A	3'-0"	7'-2"	0'-1 3/4"	WOOD	PRE
132	READING ROOM	1	D	3'-0"	7'-2"	0'-1 3/4"	WOOD	PRE



Illinois Association of School Business Officials | Friday, March 6, 2026 | Drury Lane Events, Oakbrook Terrace



History of MEPFP Coordination



Illinois Association of School Business Officials | Friday, March 6, 2026 | Drury Lane Events, Oakbrook Terrace

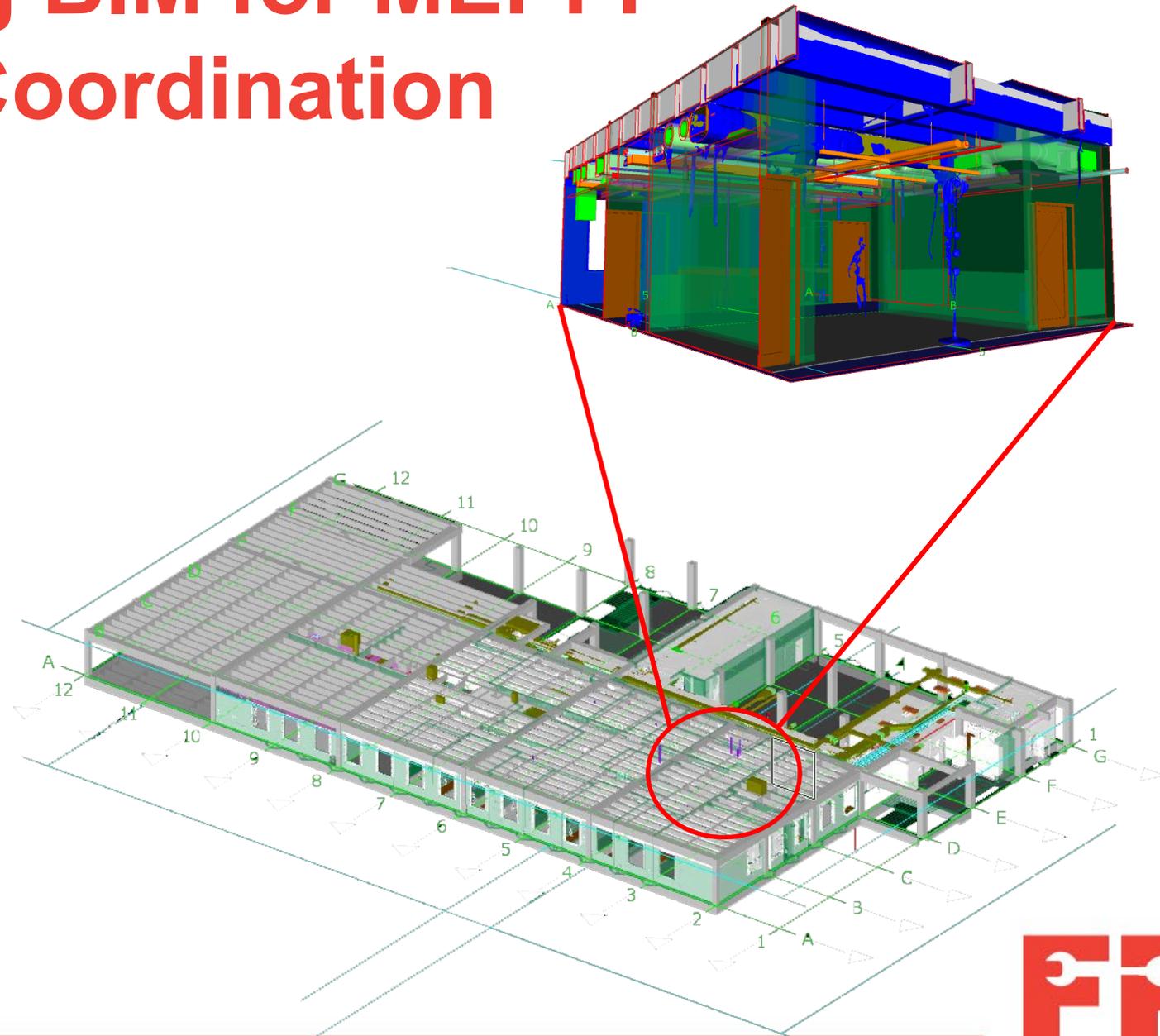


“Field Fixes”

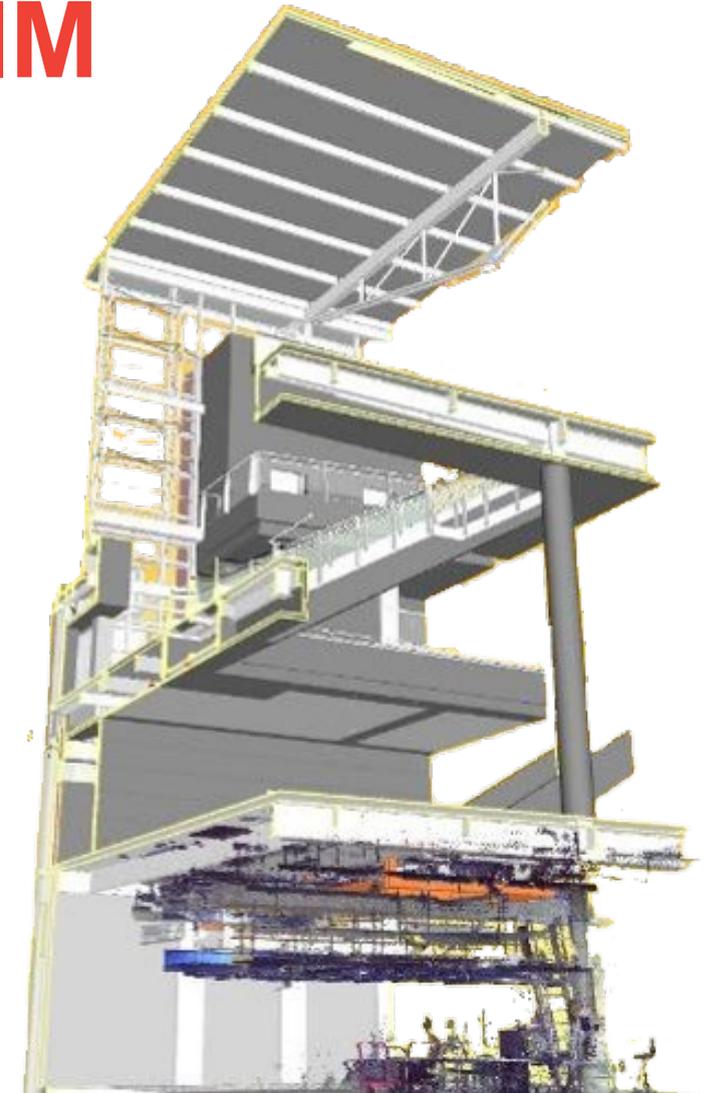
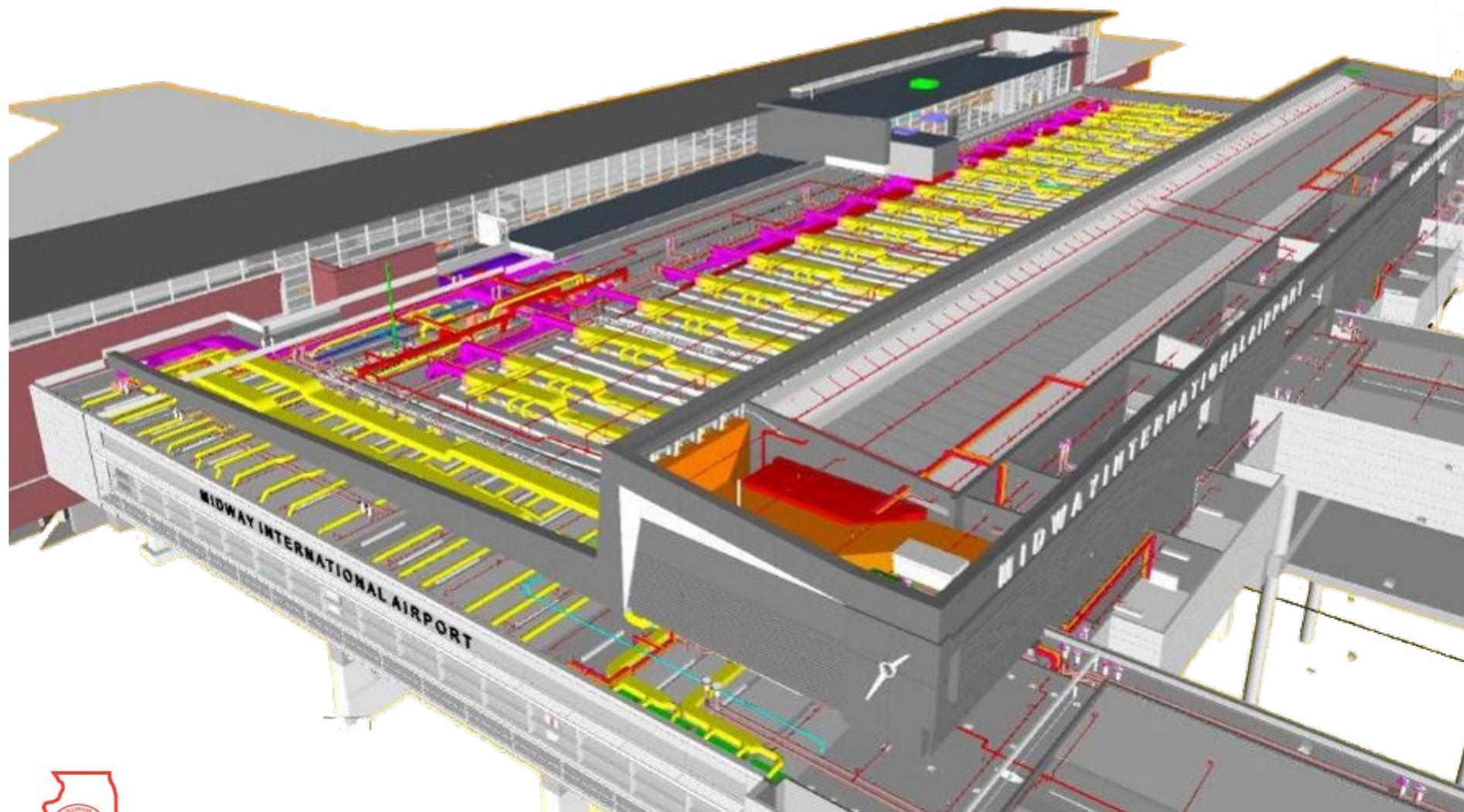


Using BIM for MEPFP Coordination

- BIM Construction Process
 1. Kickoff
 2. Model Creation/Handoff
 3. Coordination Meetings & Clash Detection
 4. 4D/5D Integration
 5. Field Implementation
 6. As Built Model Development



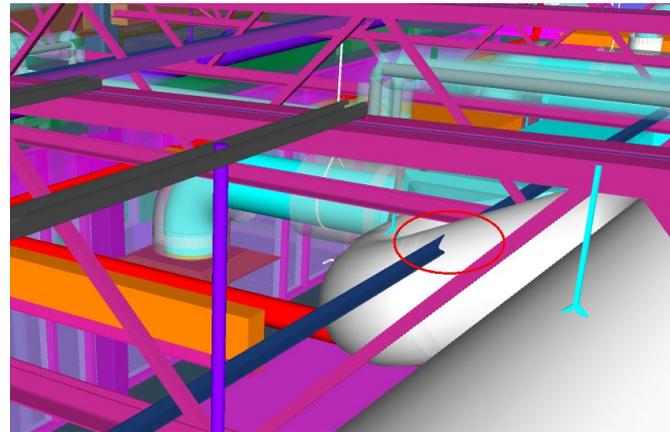
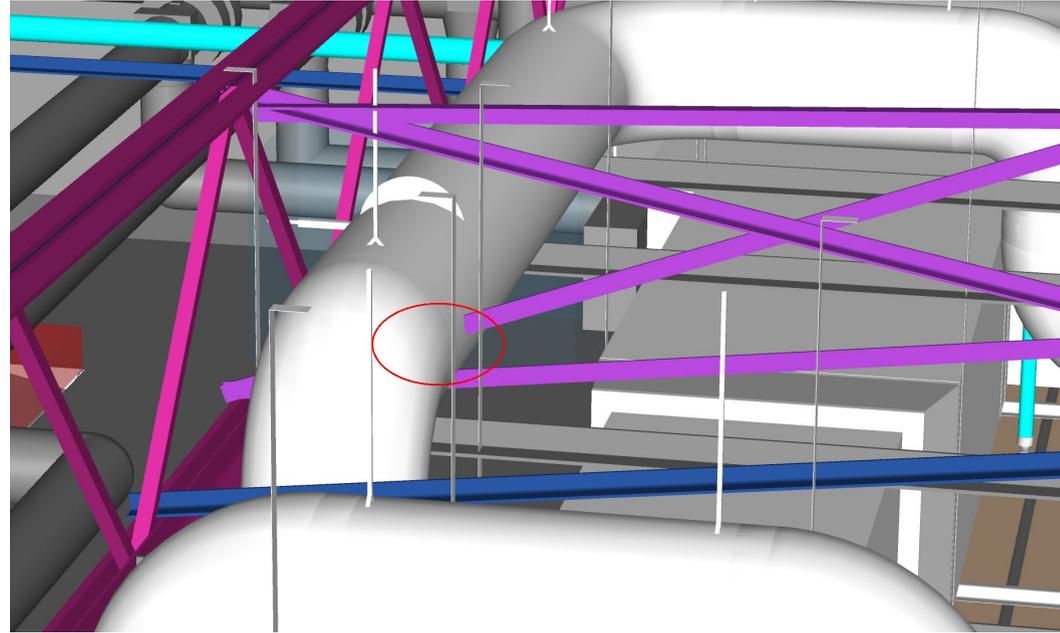
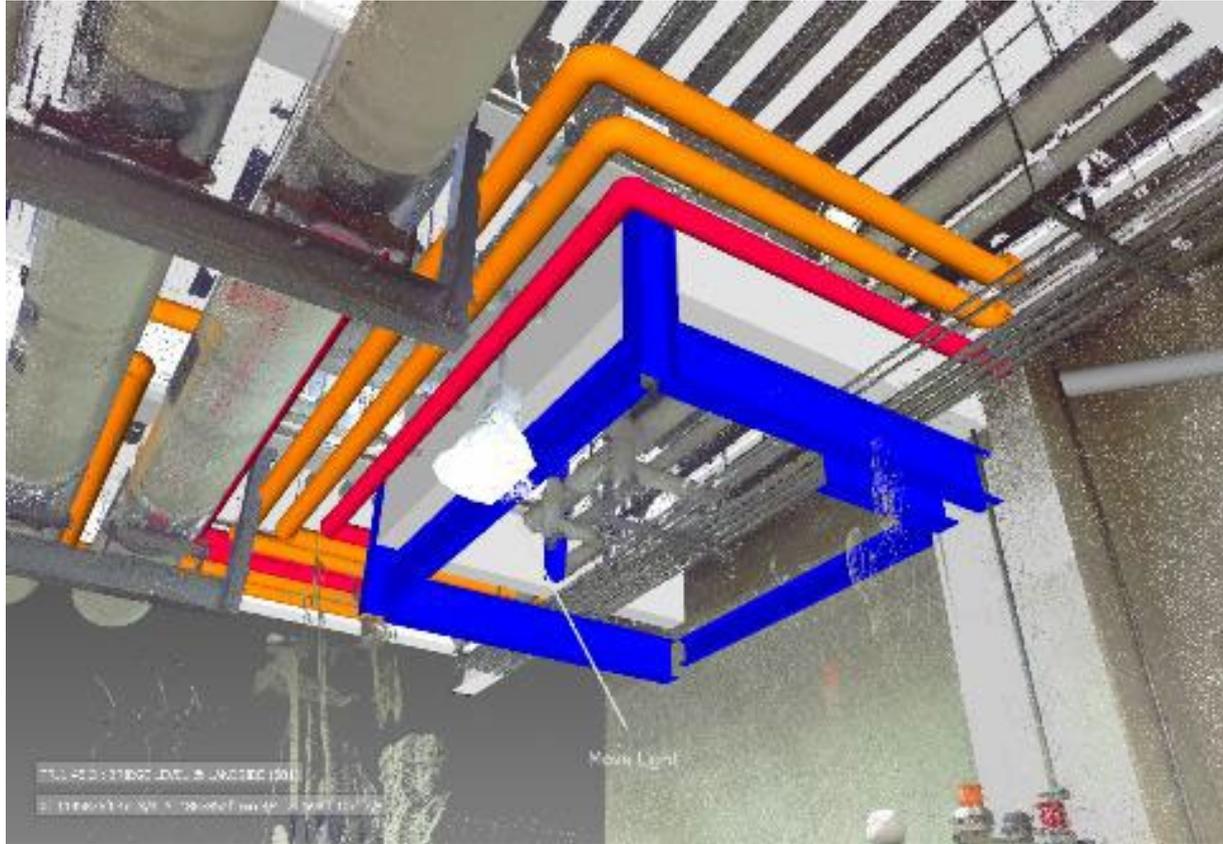
The Role of MEPFP Trades in BIM



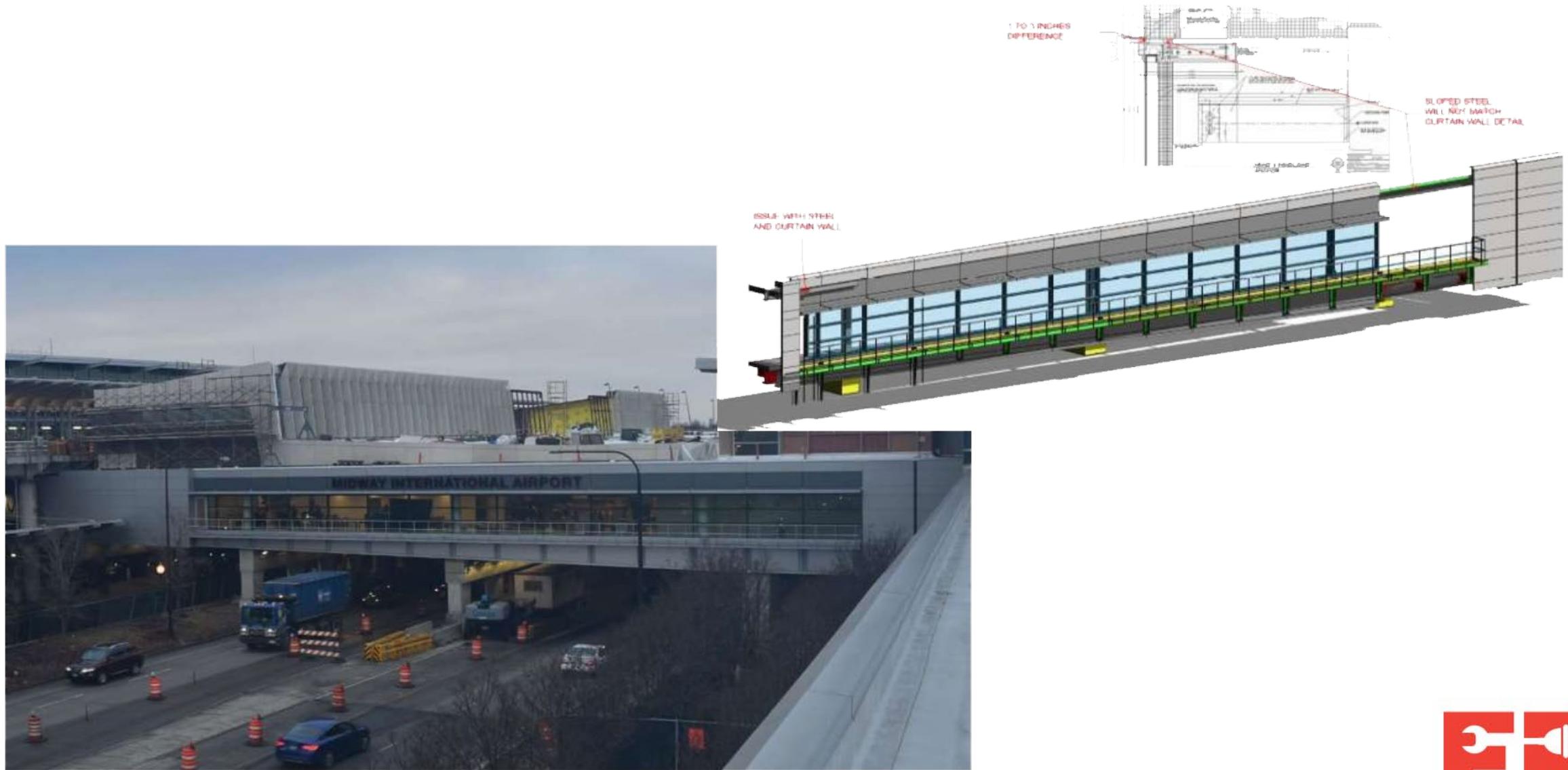
Illinois Association of School Business Officials | Friday, March 6, 2026 | Drury Lane Events, Oakbrook Terrace



Clash Detection



BIM for Building Envelope



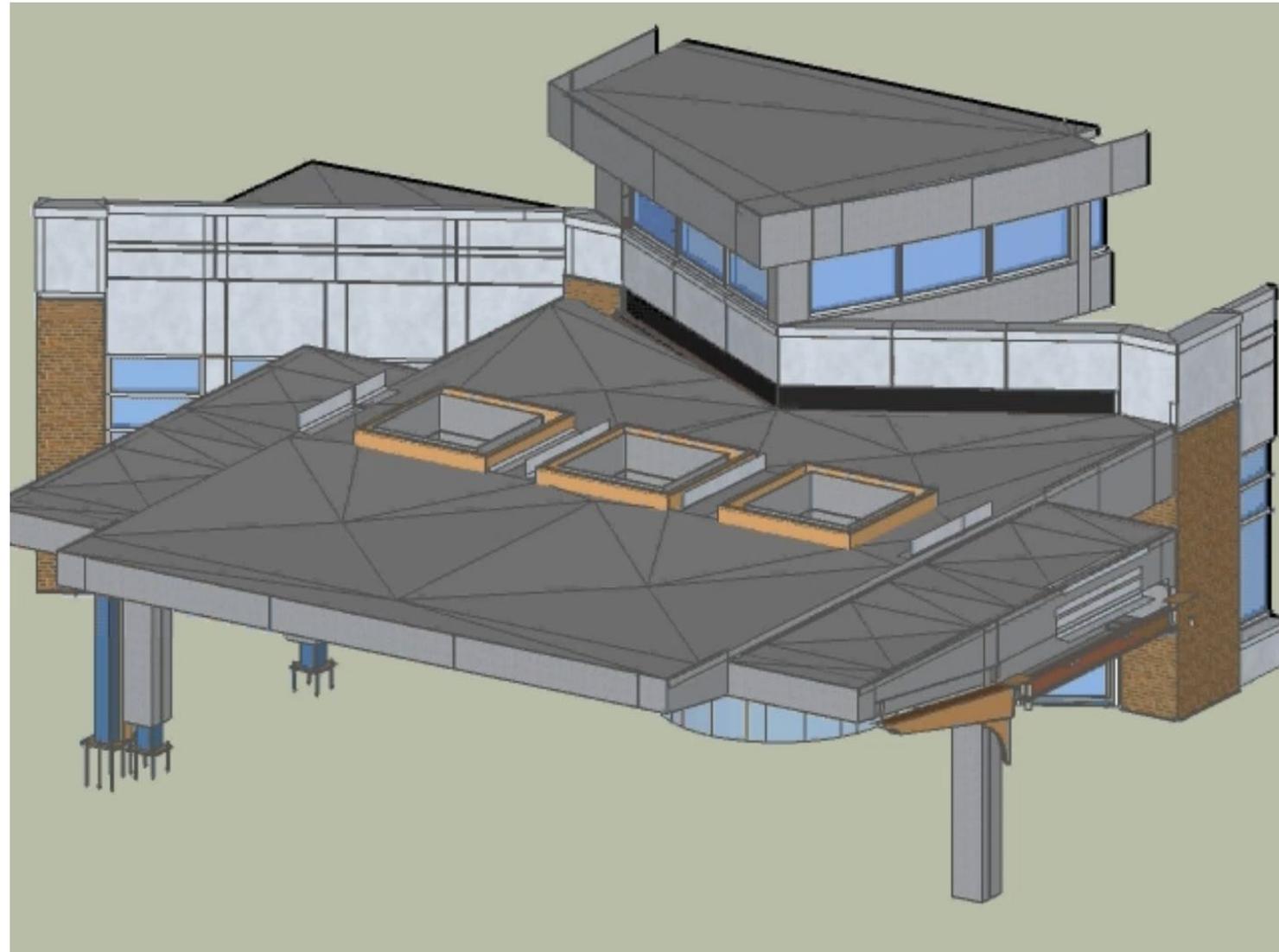
Illinois Association of School Business Officials | Friday, March 6, 2026 | Drury Lane Events, Oakbrook Terrace



Logistics Planning



Constructability Sequencing



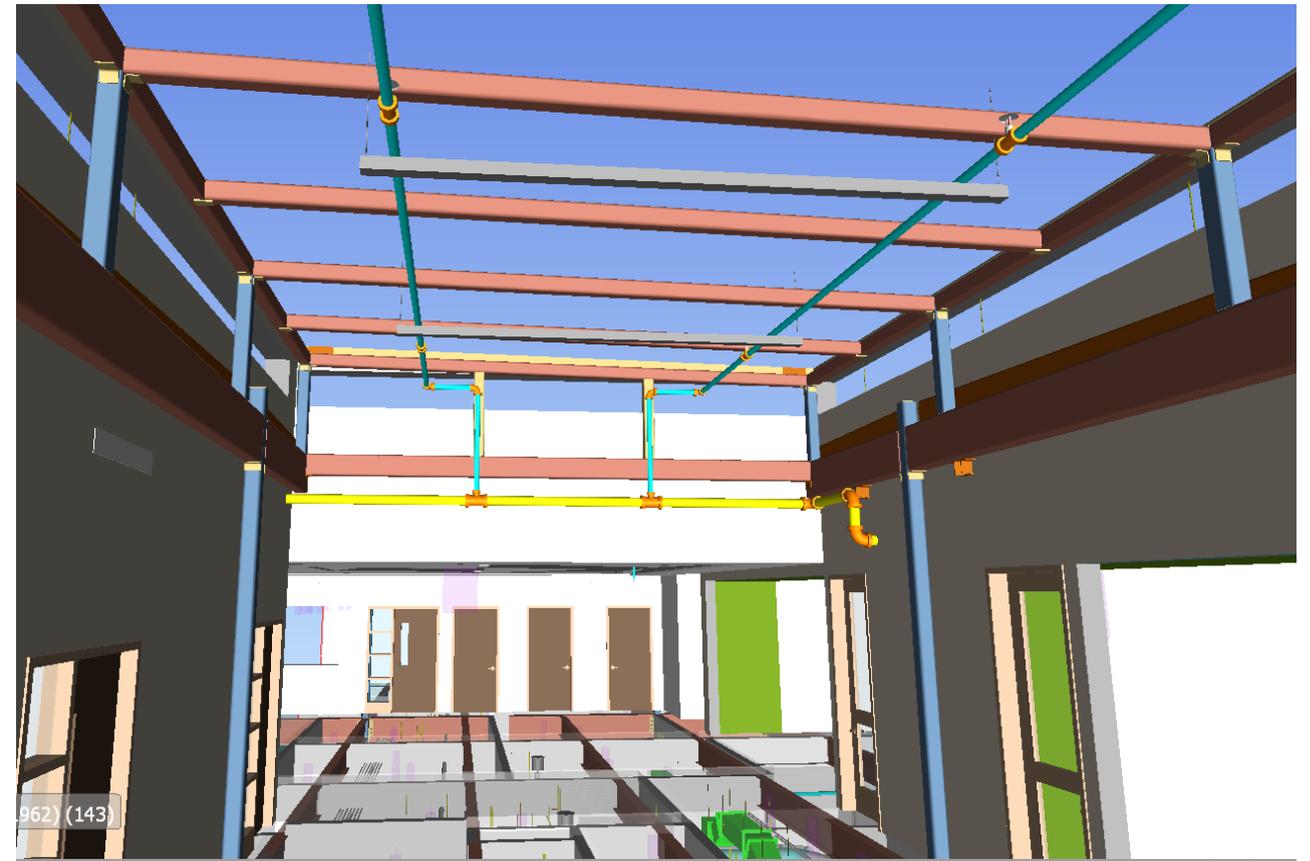
Illinois Association of School Business Officials | Friday, March 6, 2026 | Drury Lane Events, Oakbrook Terrace



Playing Nice in the Sandbox



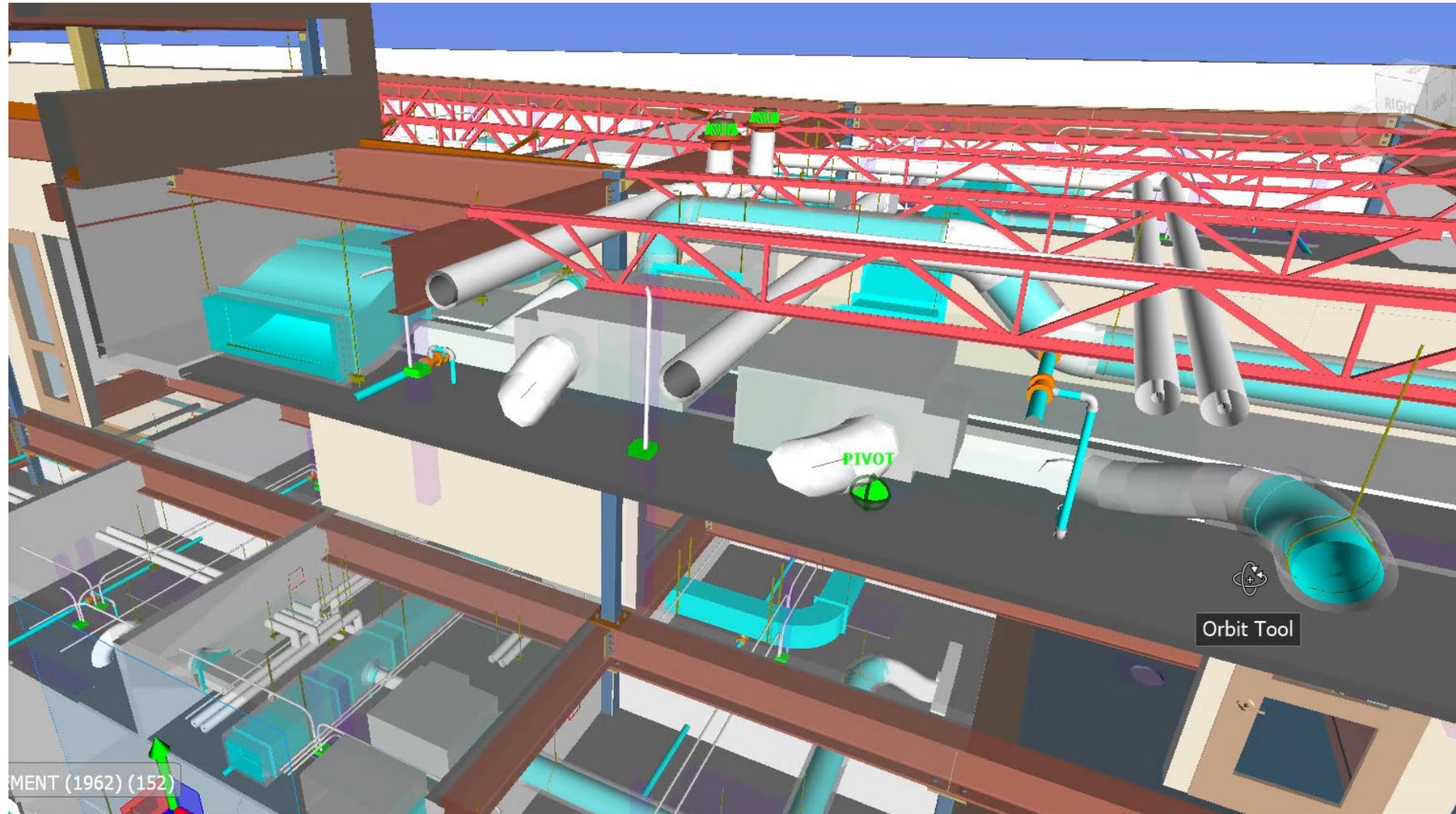
Maintaining Design Intent



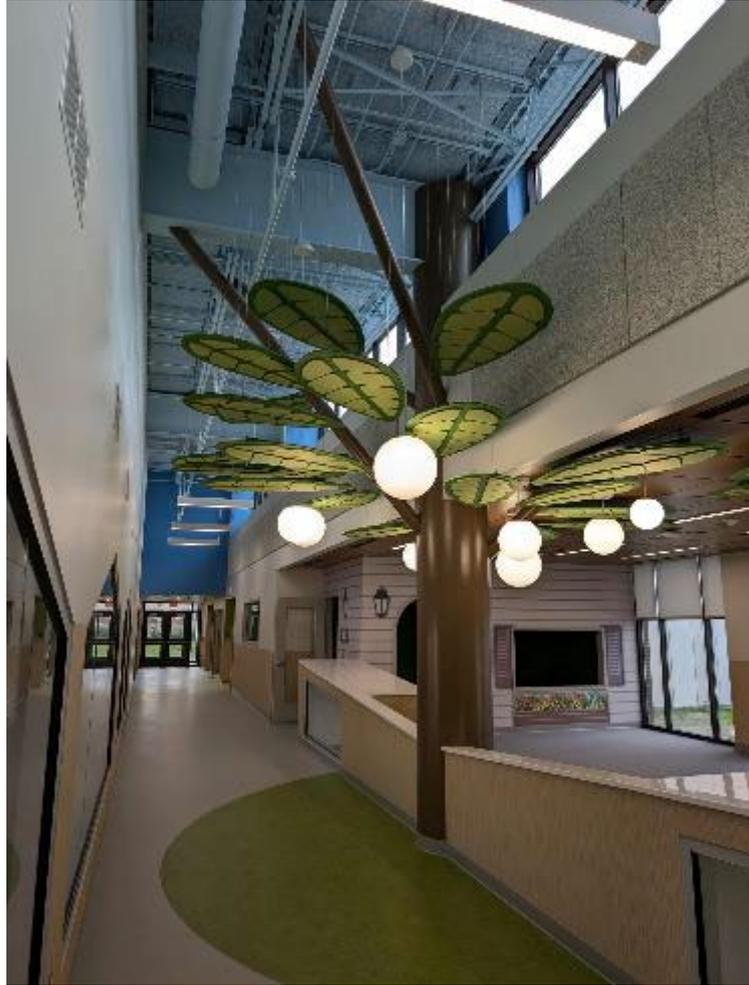
Illinois Association of School Business Officials | Friday, March 6, 2026 | Drury Lane Events, Oakbrook Terrace



Maintenance and Operations



Benefits for Schools & Owners



- Important to the Facility Operations Team to provide long term efficiency
- Save costs, avoid change orders, speed up installation
- No surprises- can plan for access requirements and clearances
- Quality – system operates as intended, not joists being cut, field fixes etc.
- BIM improves quality and reduces risk.



Benefits from design perspective

- During design:
 - More confident owner decisions
 - Better coordination (ceiling heights, structural systems)
- During construction / handover:
 - Preserves design intent & alignment with owner expectations
 - Eliminates design/aesthetic surprises
 - Minimizes change orders due to design/coordination issues
 - Maintenance planning in advance of ribbon-cutting
- Can be included as a requirement in project specs



The Future Of VDC & BIM



Free Navisworks Freedom
viewer download



Sample projects download



Questions and Answers

We thank you for your time!



Illinois Association of School Business Officials | Friday, March 6, 2026 | Drury Lane Events, Oakbrook Terrace



Presenters:

Josh Curran, Vice President, F.H. Paschen
(773) 968-7648; jcurran@fhpaschen.com

Mike Lopez, Director of Facility Operations, Valley View SD 365U
(331) 425-8880; lopezmm@vvsd.org

Athi Toufexis, Principal, Studio GC
(224) 522-5122; a.toufexis@studiogc.com



Illinois Association of School Business Officials | Friday, March 6, 2026 | Drury Lane Events, Oakbrook Terrace

