



EDUCATION WEBINAR

THE BIM ADVANTAGE: REDUCING PROJECT RISK

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LEARNING OBJECTIVES

1

What is BIM (Introduction to BIM)

2

Benefits of BIM

3

Examples of Benefits & Issues Found Early (Risk Mitigation)

4

Successful Implementation in Projects

CMAA WEBINAR

What BIM Is — and Why It Matters

Building Information Modeling as a delivery tool: reducing risk, protecting schedule, and turning coordination into a competitive advantage for owners and construction managers.

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What we'll cover today

1

What BIM actually is

A plain-language definition, how models and drawings connect, and Level of Development.

2

The key benefits

Fewer RFIs and rework, protected schedule, and reduced change orders.

3

Real-world early detection

Live Revizto fly-throughs and project examples of issues caught early.

4

Implementing BIM successfully

Mindset shifts, front-end documents, and where CM precon adds value.

What BIM is

A model, to develop drawings

Building Information Modeling is the practice of building a project digitally — as an intelligent, coordinated 3D model — before it's built in the field. Every wall, duct, pipe, and beam carries data, not just lines on a sheet.

It's a delivery tool — not a documentation exercise.

The model becomes the single shared source of truth that owners, designers, and contractors all work from.



Coordinated

Trades model their scope into one federated model, so conflicts surface digitally — not in the field.



Visual

Owners and teams see the building and its progress interactively, instead of interpreting static drawings.



Connected

Model data ties directly to RFIs, submittals, costs, and schedule — one flow from design through handover.

Models and drawings work together

We coordinate in 3D — then the drawings come out more accurate.



1. Build the digital world

Designers and trades build the project as an intelligent 3D model — a coordinated digital version of the building before it exists.



2. Coordinate & resolve

Conflicts are found and fixed in the model, where changes are cheap. Everyone is working from the same coordinated reality.



3. Convert to 2D drawings

The drawings are pulled from the coordinated model — so the sheets crews build from are accurate and conflict-free.

Why it matters: the model is the coordination space; the drawings are the output. Fixing it in the model means it's already fixed on the sheets — and it streamlines communication between designers and trade partners working at different levels of detail.

Level of Development (LOD)

How much detail the model carries — and why detail grows as the project matures.

LOD 100 Schematic	LOD 200 Design Development	LOD 300 Construction Docs	LOD 400 Fabrication
<i>Massing & concept</i> Generic placeholders showing size, location, and orientation. Enough to study options and test the big idea — not yet real geometry.	<i>Approximate systems</i> Elements modeled with approximate size and shape. Systems take form so the design intent can be evaluated and refined.	<i>Accurate design intent</i> Specific, accurate geometry tied to real products. This is the design model that anchors the construction documents and permit set.	<i>Shop-drawing level</i> Trade-level detail with connections, fittings, and installation specifics — accurate enough to fabricate and build directly from.

Detail increases as the project moves from idea to installation. We coordinate trades up to LOD 400 against the LOD 300 design model — driving conflicts out before they reach the field.

The key benefits of BIM

Coordination done early — in the model — pays off three ways downstream:



Fewer RFIs & rework

Early collaboration and improved coordination catch conflicts before they reach the field — and open the door to prefabrication.



Schedule protected

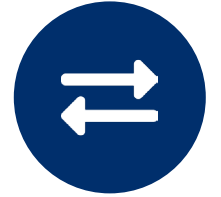
Work keeps flowing. Delays and claims are avoided, and underground utility issues are identified before they stop a crew.



Fewer change orders

Discrepancies are resolved upfront, design and coordination models stay aligned, and scope is visualized clearly for everyone.

Reducing RFIs & Design Rework



Early collaboration

Critical trades enter the model during design — not after award — so questions get answered while changes are still cheap.



Improved coordination

Clashes are driven out of the federated model before submittal. The constructability review becomes a model-driven exercise, not a checklist.



Prefabrication opportunities

A coordinated, trade-level model lets work be built off-site with confidence — faster installation, higher quality, fewer field surprises.

Mitigating schedule impacts



Keep work flowing

When conflicts are resolved in the model, crews aren't stopped mid-install waiting on answers. Continuity is the schedule.



Avoid delays and claims

Issues solved before they reach the field don't become stacked delays — or the disputes and claims that follow them.



Catch underground utilities early

Verified existing conditions surface below-grade conflicts before excavation, not after a crew hits something unexpected.



Reducing change orders



Resolve discrepancies upfront

Documents that don't agree become visible in the model early — and get reconciled before they become a field-driven change.



Align design & coordination models

Maturing the design model with trade-level detail keeps everyone working from the same coordinated reality.



Visualize scope clearly

When owners and teams can see exactly what's included, fewer assumptions slip through — and fewer surprises become extras.

PART 3

Real-world early issue detection

How BIM uncovers risk before it becomes a costly problem — shown live, in the model.



LIVE DEMO 1

Clash detection in the federated model

- Fly through congested ceiling cavities and MEP rough-in zones
- Show a structural-to-MEP penetration conflict caught in the model
- Demonstrate the issue-tracking workflow: flag, assign, resolve

LIVE REVIZTO FLY-THROUGH



LIVE DEMO 2

Existing conditions digital twin

- Overlay record drawings, LiDAR, and GPR-verified below-grade utilities
- Show a new utility run validated against real-world constraints
- Highlight an underground conflict identified before excavation

LIVE REVIZTO FLY-THROUGH

What this looks like on real projects



Existing conditions digital twin

On an active, occupied campus with utilities in and around the work area, record drawings + LiDAR + GPR built a verified digital twin — capturing what's actually below grade, not just what the as-builts claim. The design team validated new utility runs against real constraints before any digging.



BIM-to-field visualization

On a multi-phase school build, augmented-reality overlays let crews align the coordinated model onto the as-built environment — confirming rough-in and sleeve locations before installation. Conflicts that would have triggered an RFI or rework cycle got resolved at the wall.

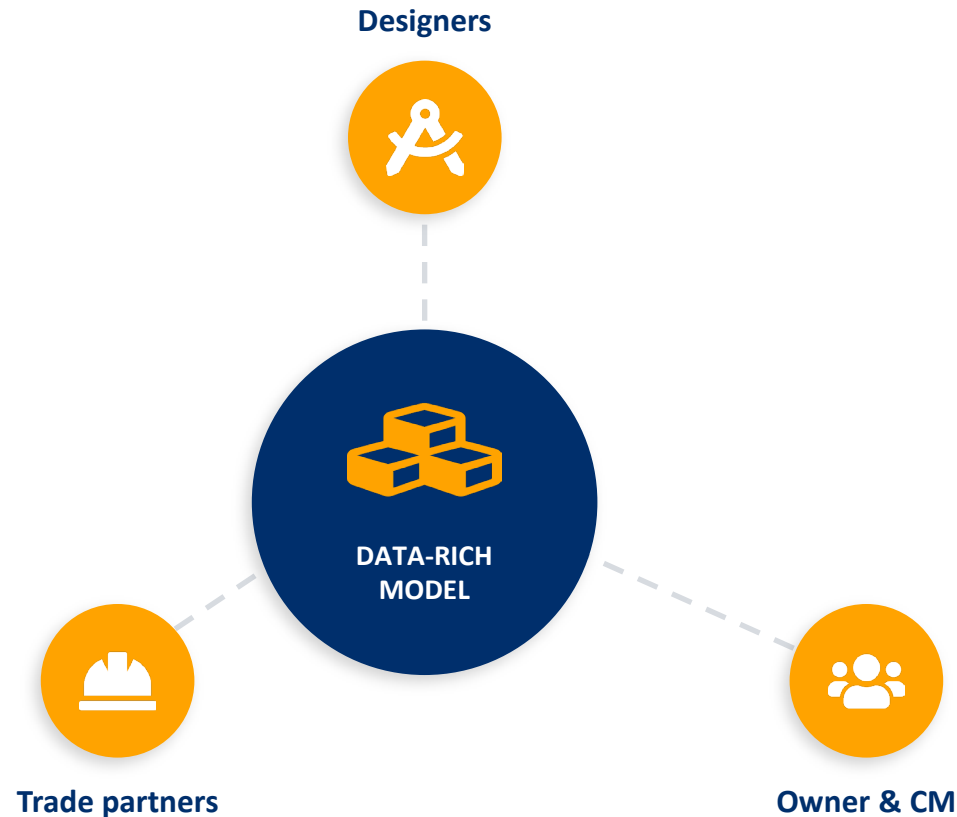
PART 4

Implementing BIM successfully

Getting the value out of BIM is less about software and more about how — and when — the team engages.

Center everything on a data-rich model

The shift isn't to new software — it's to treating one shared, data-rich model as the project's source of truth.



When the model is the center of gravity:

- Decisions are made against shared data, not separate interpretations of the drawings.
- Each partner contributes at their own level of detail — and the model reconciles them.
- The information built during design carries straight through to construction and handover.
- Coordination becomes a habit the whole team shares — not a task one party owns.



Start with a Collaboration Infrastructure

This should answer “how do we work?” before the project starts — shared up front so owners, designers, and trades arrive aligned on the model-centered approach. It's the on-ramp to the mindset shift.

Four levers for success



Shift mindsets

The big one: everyone treats the data-rich model as the shared source of truth — a collaboration, not a contractor deliverable.



Strengthen front-end docs

Contracts and expectations set early — in the kickoff — are what make the BIM workflow actually executable downstream.



Define where CM precon adds value

Design-phase model review and tech-enabled site investigations are where a CM turns BIM into measurable risk reduction.



Get BIM costs approved

Position BIM and reality capture as part of constructability services — a proactive design input, not a reactive line item.

Where CM preconstruction earns its keep



Design-phase model review

Bringing the model under review during design — maturing it with trade input — so constructability issues are caught while they're still drawings, not field work.



Tech-enabled site investigations

Reality capture (LiDAR + GPR) turns a site investigation allowance from a reactive cost item into a proactive design input the whole team can build on.



Framing the cost conversation

When BIM is presented as part of constructability services, the spend is tied to avoided RFIs, protected schedule, and fewer change orders — value owners can see.

THE BOTTOM LINE

BIM is how we already build

Fewer RFIs and rework. Schedule protected. Fewer change orders.

The model catches what drawings miss — early, when it's still cheap to fix.

Questions & discussion