MOLDTEK

Little Elm HS Additions And Renovation

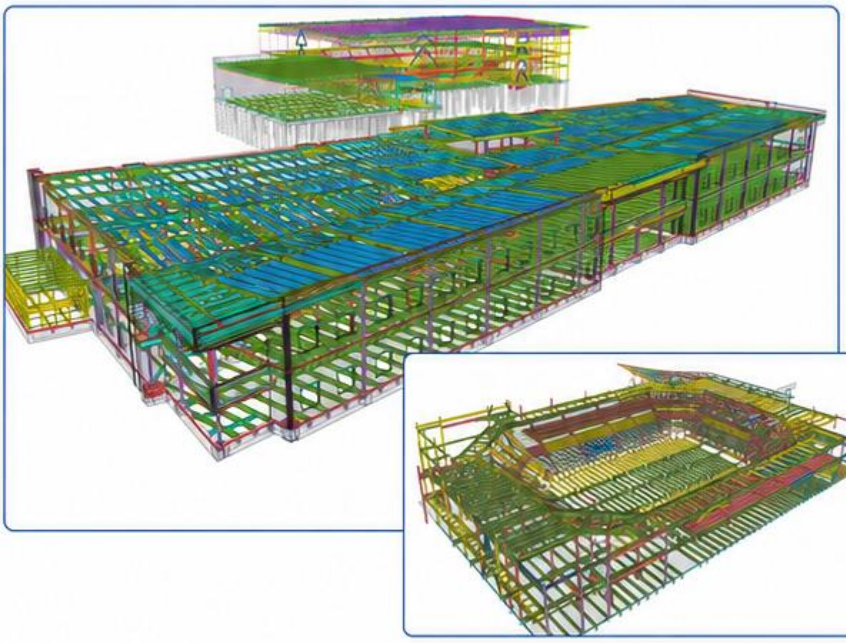
Educational Steel Detailing Case Study

LOCATION	TYPE	TONNAGE	SCHEDULE
Texas	Educational	1700	21 Weeks

EXECUTIVE SUMMARY

This educational building comprises multiple areas (A–F), each with three levels. Every floor includes sloped framing. Areas A and B are especially complex due to raker beams and sloped framing geometry.

Roof joists are used in Areas A, B, D, E and F, and Area A also includes an additional pop-up roof framing plan with joists. Coordination with the joist supplier and framing of sloped members were critical to project success.



PROJECT SNAPSHOT

Moldtek delivered precise main steel and miscellaneous steel detailing for this complex educational expansion—navigating sloped framing challenges, coordinating closely with joist suppliers, and managing time-sensitive RFIs to keep the project on track.

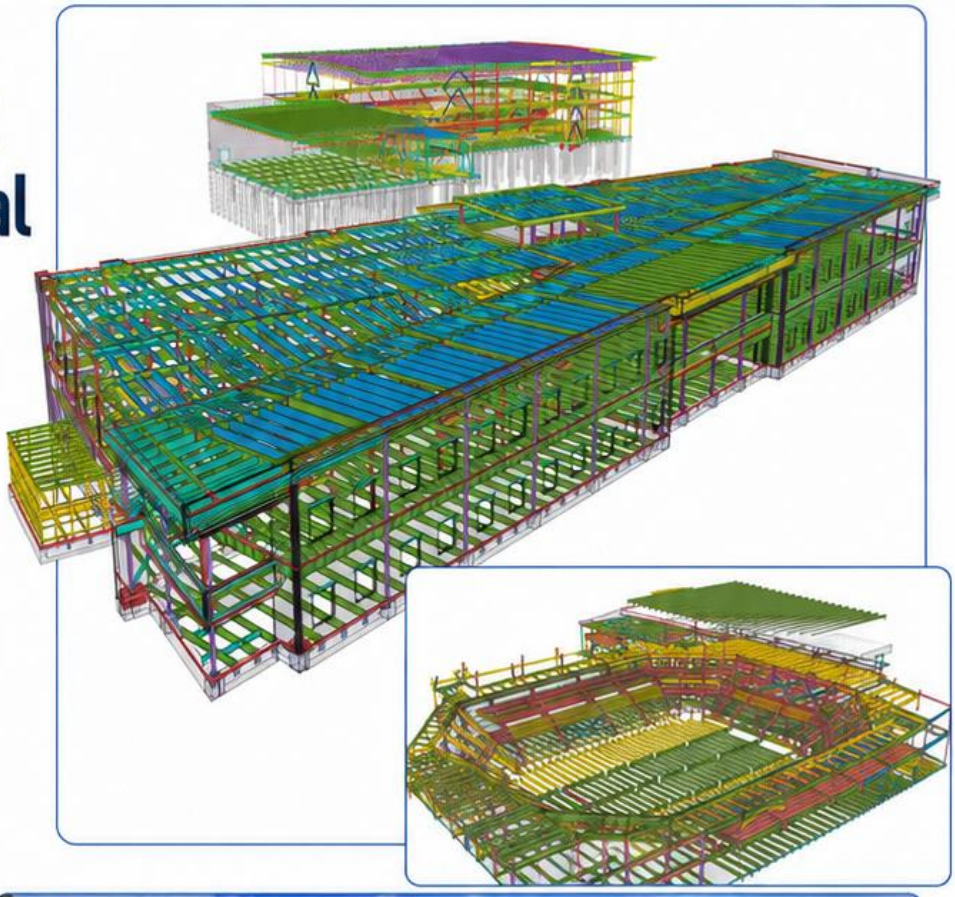
3	1700	21	Educational
Levels	Tonnage	Weeks	

PROJECT OVERVIEW

Built for complex sloped educational steel delivery.

This educational building spans multiple areas, each with three levels, and features sloped framing on every floor to meet the architectural design intent.

Areas A and B are particularly complex due to raker beams and slope-driven framing geometry. Roof joists are used in Areas A, B, D, E, and F. Area A also includes an additional pop-up roof framing plan with joists.



PROJECT SNAPSHOT

- Educational building with multiple areas (A–F)
- Three levels across all areas
- Sloped framing on every floor
- Areas A & B feature raker beams and complex slope-driven geometry
- Roof joists used in Areas A, B, D, E, and F
- Area A includes an additional pop-up roof framing plan with joists

1700	21	Educational	3
Tonnage	Weeks		Levels

LOCATION	TYPE	TONNAGE	SCHEDULE
Texas	Educational	1700	21 Weeks

Scope of Work

Scope of work across main steel, miscellaneous steel, joists and sloped framing coordination.

Main Steel
Moldtek's scope included all main steel modeling, detailing and shop drawings.

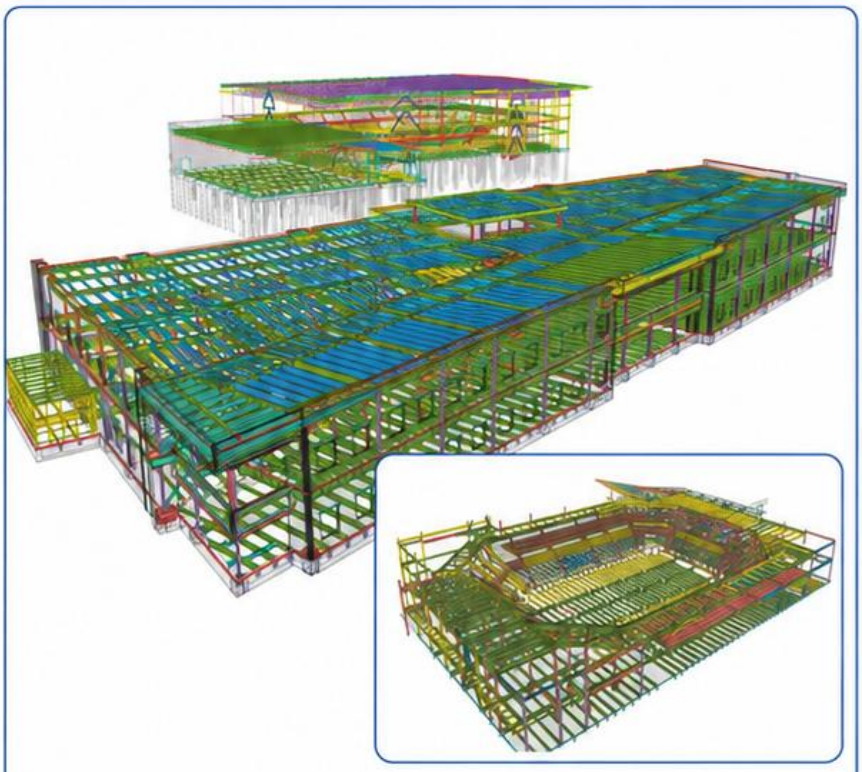
Miscellaneous Steel
All miscellaneous steel, including stairs, handrails and embeds, was modeled and detailed by Moldtek.

Roof Joists
Joist coordination was important across all roof framing areas for accurate spacing and placement.

Sloped Framing
Sloped framing was detailed and coordinated across all floors including roof levels.

Raker Beam Connection Areas
Connections at sloped beams with rakers required careful coordination with other trades and disciplines.

Finish / Paint Management
All steel was fireproofed except the first floor, where shop primer was applied per project requirements.



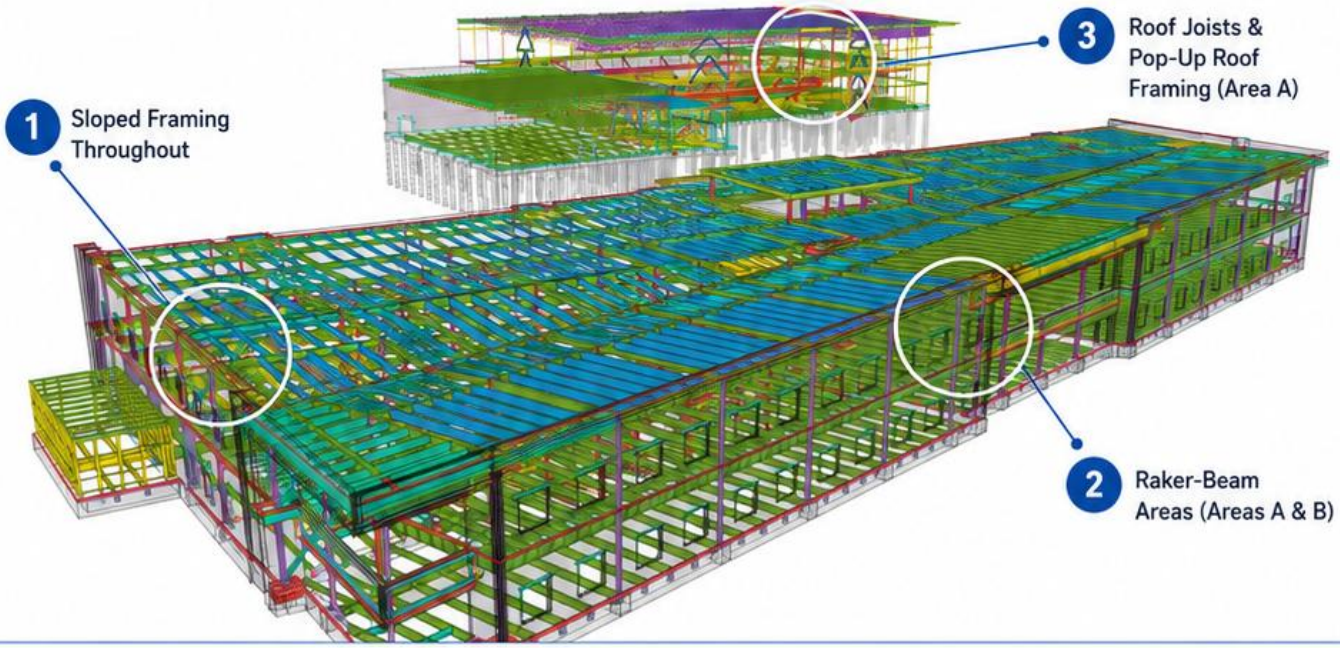
1700	21	Educational	Sloped Framing / Joist Coordination
Tonnage	Weeks		

DELIVERY APPROACH

01 Review Scope & Requirements > 02 Model Framing > 03 Coordinate Joists > 04 Resolve Raker / Slope Conditions > 05 Release Drawings

COORDINATION CHALLENGES

Managing raker-beam geometry, joist coordination and sloped framing across a fast-track school project.



1 

SLOPED FRAMING GEOMETRY

Extensive sloped framing throughout the project added significant complexity to steel detailing and coordination.

2 

RAKER-BEAM CONDITIONS

Areas A and B included raker beams that required special attention for accurate modeling and detailing.

3 

JOIST SUPPLIER COORDINATION

Roof joists and the pop-up roof framing in Area A required close coordination with the joist supplier to ensure fit-up and deliverability.

4 

TRADE COORDINATION AT SLOPED CONNECTIONS

Connections at sloped beams with rakers required coordination with other trades to avoid conflicts and ensure constructability.

5 

PROACTIVE RFI MANAGEMENT

The team proactively initiated RFIs to address coordination concerns within the given time frame and keep the project on track.

IMPACT & VALUE

Improved Clarity
Early identification of sloped framing and raker-beam challenges improved model accuracy and documentation clarity.

Better Coordination
Close collaboration with suppliers and other trades minimized conflicts and supported smooth execution.

Reduced Rework
Proactive issue resolution through RFIs reduced rework and on-site changes.

Delivery Readiness
Timely coordination and detailing ensured the project stayed aligned with the fast-track schedule.

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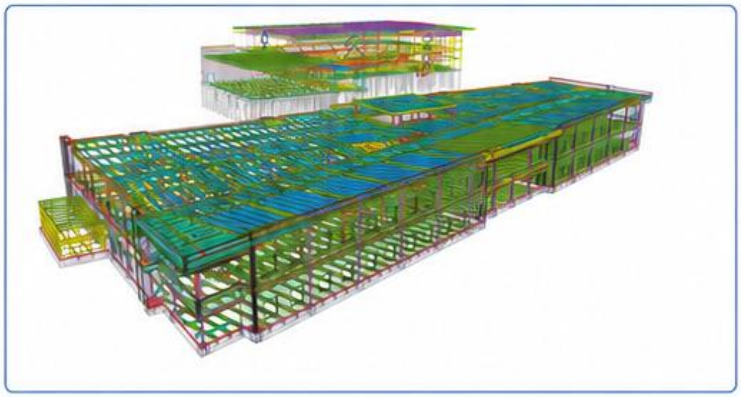
DELIVERY FRAMEWORK

Coordinated steel detailing support across a 21-week programme.

Moldtek supported the Little Elm High School additions and renovation through comprehensive steel detailing and coordination services. Our team delivered accurate models, resolved site and design challenges, and ensured release-ready drawings on time.



- Moldtek supported delivery through modelling, joist coordination, RFI tracking, trade coordination, and release-ready detailing.
- Scope included main steel and miscellaneous steel.
- All steel was fireproofed except the first floor, where shop primer was used.
- Strong coordination with the joist supplier was essential.
- The team addressed sloped framing and raker-beam challenges while maintaining schedule.

TONNAGE	DURATION	LEVELS	SECTOR
1700 Ton	21 Weeks	3 Levels	Educational

Main steel

Complete 3D modelling and detailing of structural steel including columns, beams, girders, bracing, and purlins.

Miscellaneous steel

Detailed modelling of stairs, railings, canopies, embed plates, supports, and other miscellaneous steel.

Joist coordination

Close coordination with the joist supplier to align reactions, bearing conditions, and framing geometry.

Drawing release / RFI management

RFI tracking, issue resolution, QA/QC, and release-ready drawings delivered on schedule.

21-WEEK PROGRAMME

01 Kickoff
Project alignment, scope review, and planning.

02 Inputs & setup
Receive inputs, standards review, and model setup.

03 Modelling
3D steel modelling and preliminary detailing.

04 Coordination
Trade coordination, joist integration, and clash checks.

05 QA/QC + RFIs
Quality checks, RFI tracking, and issue resolution.

06 Release-ready output
Release-ready drawings, GA sets, and model deliverables.

VALUE DELIVERED

- **Proactive coordination**
  Minimized clashes and rework through early coordination and RFI management.
- **Complex framing handled**
  Effectively addressed sloped framing, raker beams, and site-specific challenges without impacting the schedule.
- **Joist-supplier alignment**
  Close alignment with the joist supplier ensured accurate reactions and smooth installation.
- **On-time, quality delivery**
  Release-ready deliverables provided on schedule with high quality and accuracy.