



STEEL FRAMING DESIGN



Efficient Structural Design

3D BIM Model

Material Take-Off

Wall Panel Elevations

Project Support

Practical Engineering for a Complex World

www.fdr-eng.com



FDR offers a range of structural engineering design services for cold-formed steel framing. Architects, engineers, general contractors, and framing contractors obtain greater insight into their projects with FDR on their team. FDR offers Comprehensive Shop Drawings and Advanced BIM Shop Drawing & Estimation Packages. FDR is comprised of the industry's most knowledgeable, trusted team of CFS design experts to support Shop Drawing and BIM projects.

Comprehensive Shop Drawings:

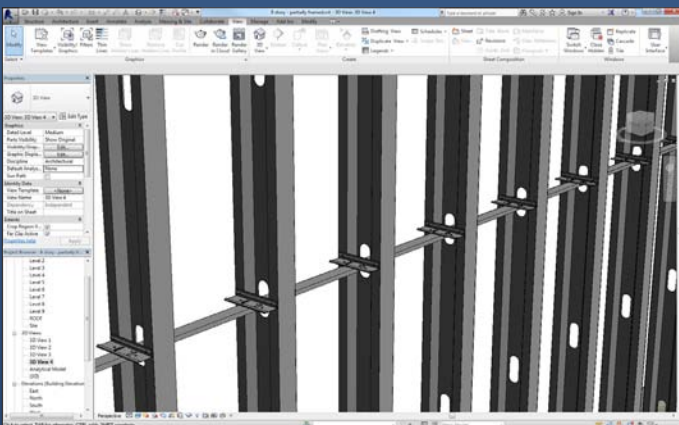
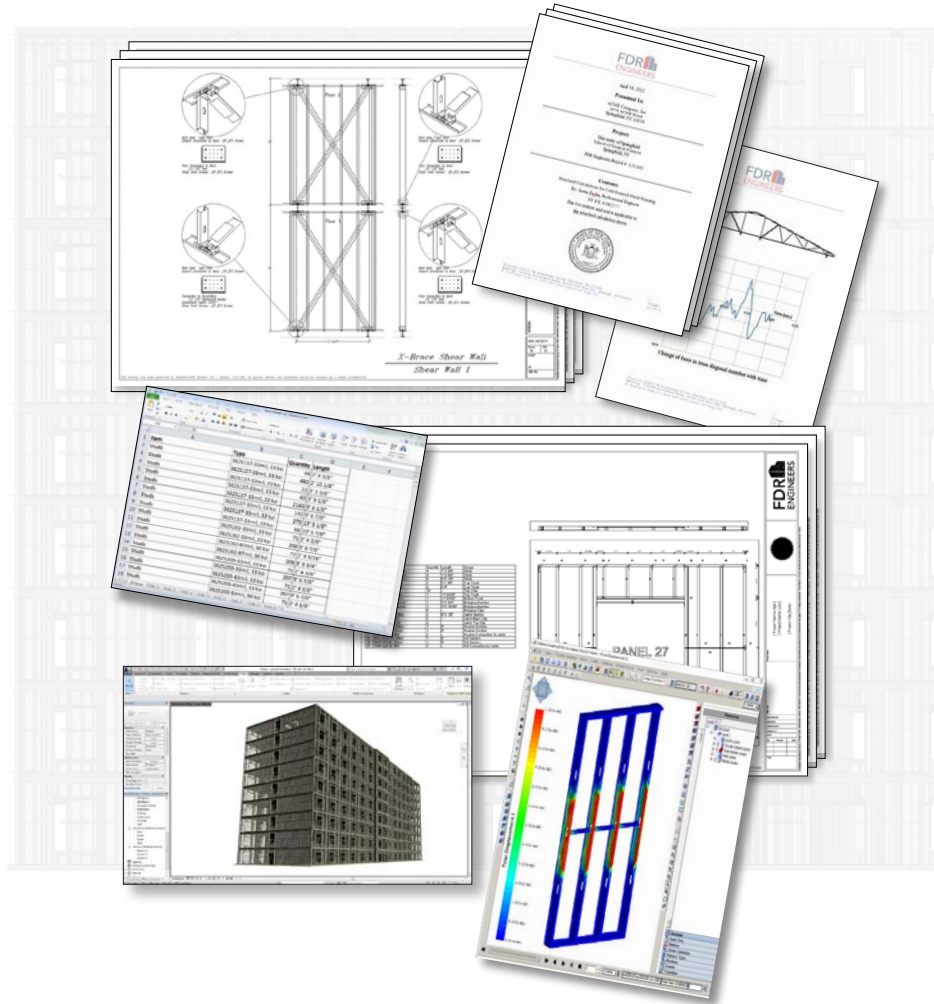
- Engineered Shop Drawings
- Structural Calculation Package
- Sealed by a Licensed Professional Engineer

Advanced Design & Estimating:

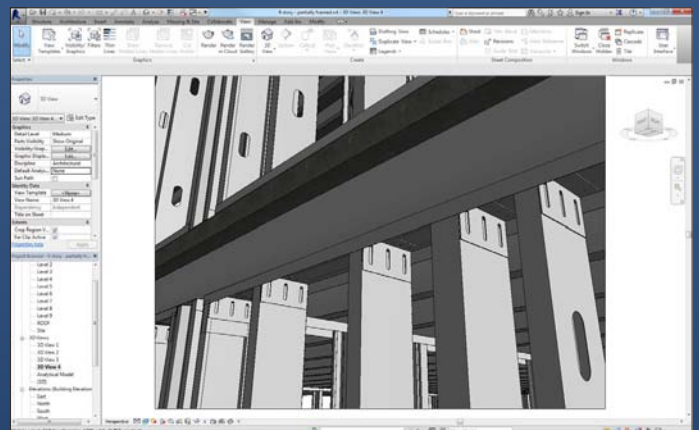
- 3D BIM Model
- Material Take-Off in excel format for all framing & connectors
- Plan Layouts
- Panel Drawings

Advanced Analysis:

- Performance Based Design
- Progressive Collapse Analysis
- Blast Analysis of Wall and Roof Truss Systems to DoD Requirements

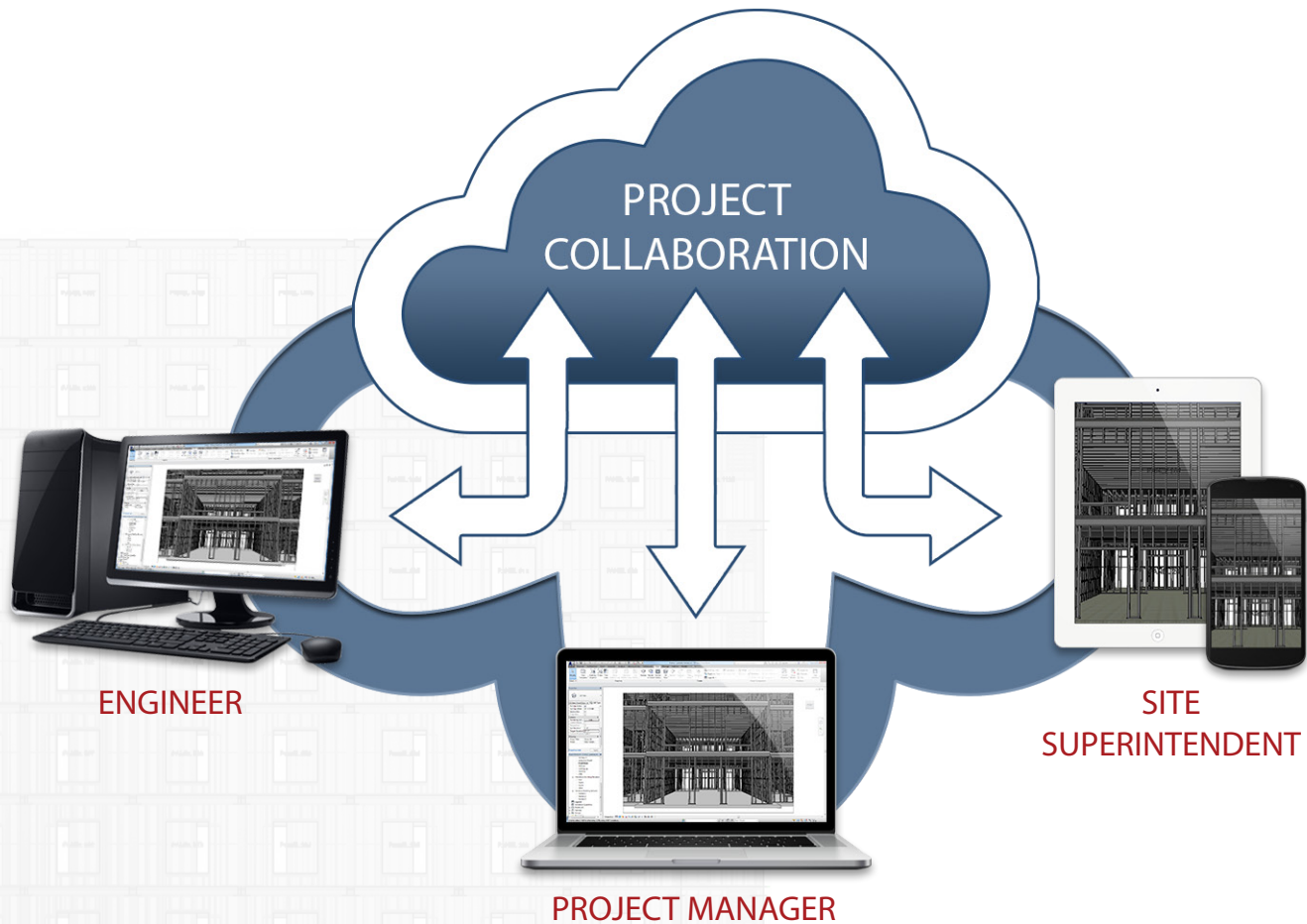


Bridging Connection Detail



Vertical Deflection Connection Detail

3-D Cloud Based Project Collaboration



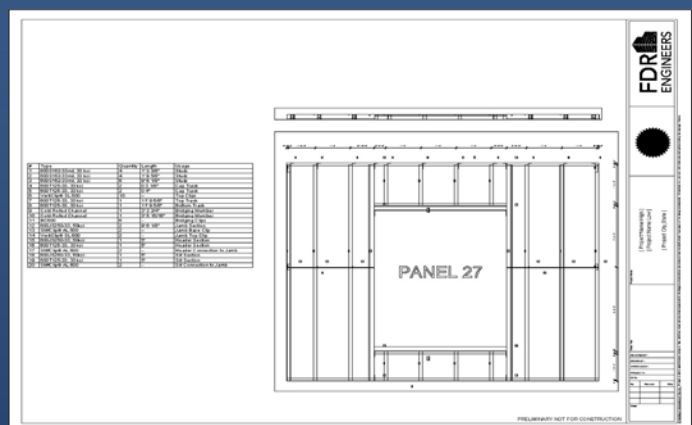
FDR Engineers' comprehensive BIM modeling services provide the design and construction team a centralized workspace to efficiently collaborate on the construction of your next steel framing project.

Benefits of 3-D Cloud Based Project Collaboration:

- Comprehensive 3-D model that includes all steel framing and connections.
- Review and comment on a full 3-D model from anywhere using your computer, tablet, or mobile phone.
- Project plans are updated instantly for the entire team to ensure the most accurate information.
- Improved quality and accuracy in the field.

Item	Type	Quantity	Length
1 Studs	362S137-33mil, 33 ksi	49	2' 4 3/8"
2 Studs	362S137-33mil, 33 ksi	480	2' 10 1/8"
3 Studs	362S137-33mil, 33 ksi	22	3' 3 3/8"
4 Studs	362S137-33mil, 33 ksi	60	3' 9 1/8"
5 Studs	362S137-33mil, 33 ksi	2160	9' 6 1/8"
6 Studs	362S137-33mil, 33 ksi	142	9' 6 7/8"
7 Studs	362S137-33mil, 33 ksi	270	10' 5 1/8"
8 Studs	362S137-33mil, 33 ksi	66	10' 5 7/8"
9 Studs	362S162-33mil, 33 ksi	71	2' 4 3/8"
10 Studs	362S162-33mil, 33 ksi	208	9' 6 7/8"
11 Studs	362S162-97mil, 50 ksi	72	2' 4 5/16"
12 Studs	362S162-97mil, 50 ksi	208	9' 6 3/4"
13 Studs	362S200-33mil, 33 ksi	71	2' 4 3/8"
14 Studs	362S200-33mil, 33 ksi	207	9' 6 7/8"
15 Studs	362S200-43mil, 33 ksi	71	2' 4 3/8"

Material Take-Off



Panel Drawing with Cut List



REALISTIC RENDERING

FDR can also provide realistic rendering and walkthrough animation for client presentations and communications.

FDR Engineers, PLLC, is a full-service structural engineering consulting firm, whose engineers are known for their creativity and technical excellence. Our engineering approach looks at facilities and structures from the perspective of structural performance under a variety of possible loads that the structure will encounter throughout its life cycle rather than conventional design methods alone.

Structures can easily be over-designed using a conventional design approach that may neglect the contribution of significant structural components. A performance based approach takes the structure as a whole with all of its components into account to provide not only a more efficient but more cost effective design solution.



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Phone: 919-957-5100

Fax: 919-957-5101