



**JacksonRoxborough** Pty Ltd  
Steel Detailing Consultants

# IMPLEMENTING NEW TECHNOLOGIES AND PROCESSES





**JacksonRoxborough** Pty Ltd  
Steel Detailing Consultants



**STEELCAD DRAFTING** PTY LTD  
Specialising in Materials Handling and Structural Steel Shop Detailing

- Steel Detailer – Structural and Mechanical
- Based in Brisbane since 1993
- Began using Tekla 1998
- 100% Tekla since 2004



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- National Industry Representative Body
- Established 2001
- National Forum 2010
- Consensus for Industry focus on Early Engagement



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## Contract Document's Completion Checklist

### Architectural

The purpose of this document is to allow steel detailers & design consultants to determine that the architectural contract drawings are complete to acceptable industry standard.

Project:..... Project Number:..... Date:.....

Consultant:..... Drawing Numbers:.....

Item	Description	Yes / No	Comments
A.1	Are drawings co-ordinated with structural and mechanical documents?		
A.2	Are all drawings, details & sections appropriately cross-referenced? Refer AISD Journal Vol.29 No.3 Section 3.3.5		
A.3	Are Grid Lines labelled & dimensioned?		
A.4	Are sufficient dimensions for skewed or curved building elements provided?		
A.5	Are Springing Points and roof slopes clearly shown?		
A.6	Is box gutter information (depth & width) specified and are downpipes located?		
A.7	Are columns dimensionally located with orientations shown?		
A.8	Are building floor levels given? TOC, FFL, set-downs, hobs, falls etc...		
A.9	Are blockwork and precast panel sizes & levels given?		
A.10	Are ceiling & soffit levels given and eaves overhangs dimensioned?		
A.11	Is all door & window steelwork dimensionally located with structural clear opening sizes given?		
A.12	Is cladding specified on the drawings? eg: Trimdeck, Custom Orb, etc...		
A.13	Are all cladding components and construction details clearly shown? ie: 1:5 scale details preferred.		
A.14	Is all secondary steelwork adequately located and dimensioned? Platforms, awnings etc...		
A.15	Is sufficient information given for stairs and ladders? eg: a specific code plus goings, rises, nosing line & construction details.		
A.16	Are all roof and wall cladding penetrations sized and dimensionally located?		

Reviewed by:

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For further explanation of criteria please



## Technology Integration

The Categories listed below identify detailer deliverables in technological format only. No attempt has been made to quantify or qualify the material aspects of the output such as, drawing sheet size, number of copies, scope of work etc, nor the method of information transfer; i.e. email, CD, FTP etc.

Unless specified, the default deliverable is Category One.

### Category One

- Hard copy only
- Hold Down Bolt details & layouts
- Marking plans for erection of structural Steel
- Fabrication shop detail drawings
- Field bolt lists & summaries
- Noting of surface treatment requirements

### Category Two

All of the above plus

- Fitting Sheets

### Category Three

All of the above plus

- DWF, Excel, PDF & DXF files available:
- Fitting Sheets drawn to scale

### Category Four

All of the above plus

- CNC Data files for shafts available in DSTV format
- CNC Data files for plates available in DSTV or DXF format
- Isometrics Arrangements
- Report files such as Material List, Assembly List, Parts List, Assembly Parts List, and Handrail List available in PDF format.

### Category Five

All of the above plus

- Bar-coding on drawings
- Report files such as Material List, Assembly List, Parts List, Assembly Parts List, Handrail List available in customisable comma delimited files for import into programs such as Microsoft Access, Excel etc.
- 3D model available for statusing in proprietary software eg, X-Steel, Strucad, Pro-steel etc.
- Web viewer model available for project management tool.
- SDNF file transfers available
- CIMsteel
- IFC – (3D software integration referencing file)
- 3D DXF
- 3D DGN



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Why are we here?



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## Poor Steel Experience

- Management Issues
- Delays
- Costs
- Risk Profile
- It's Just too Hard



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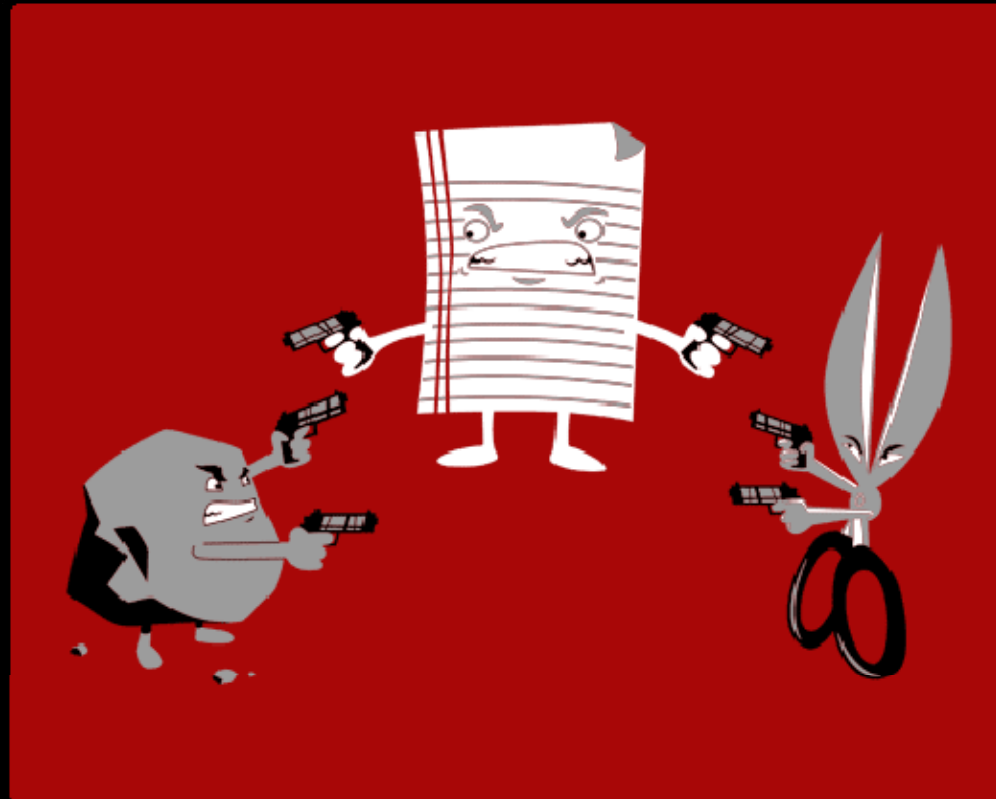
# Traditional Process

- Commercial
- Mining



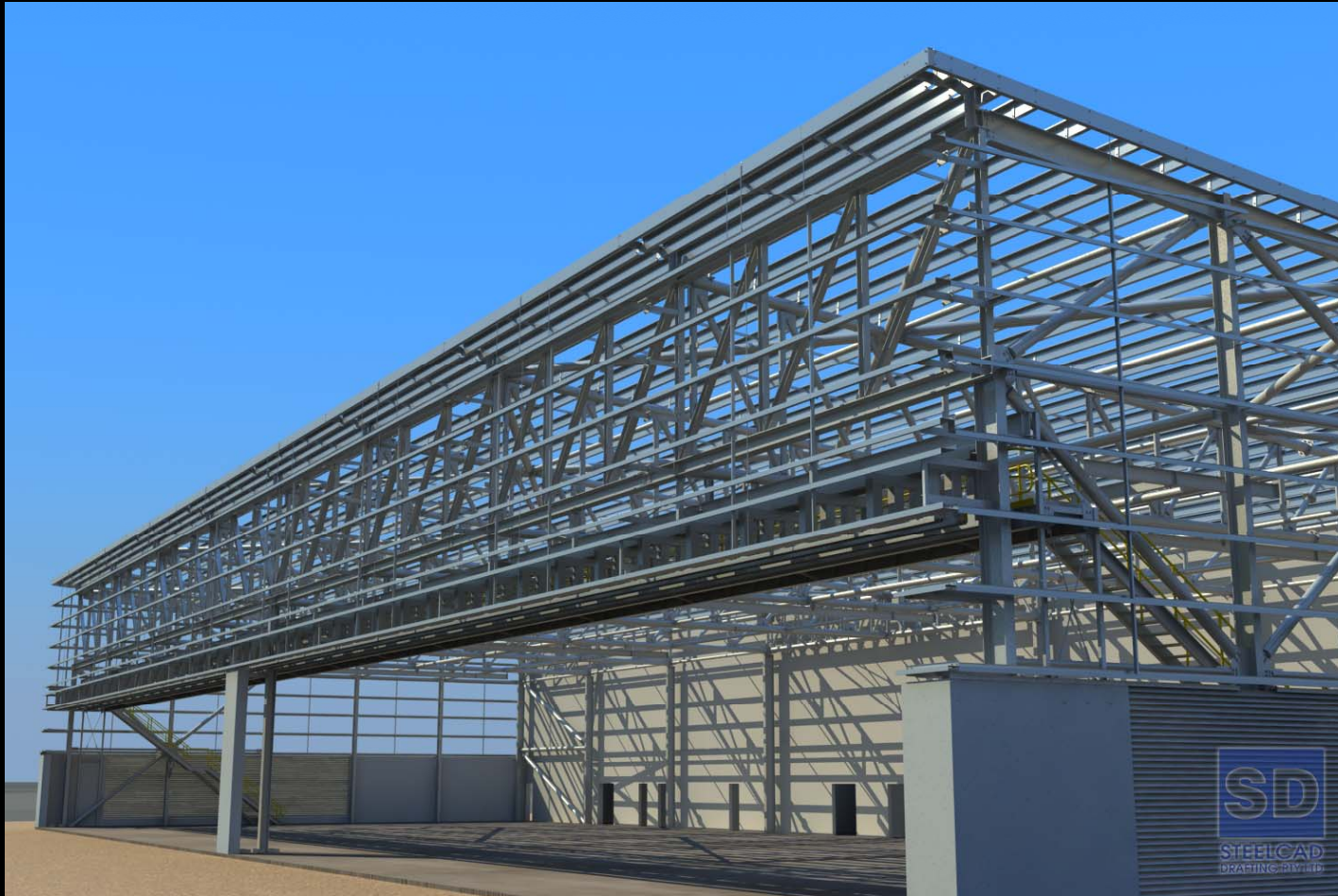


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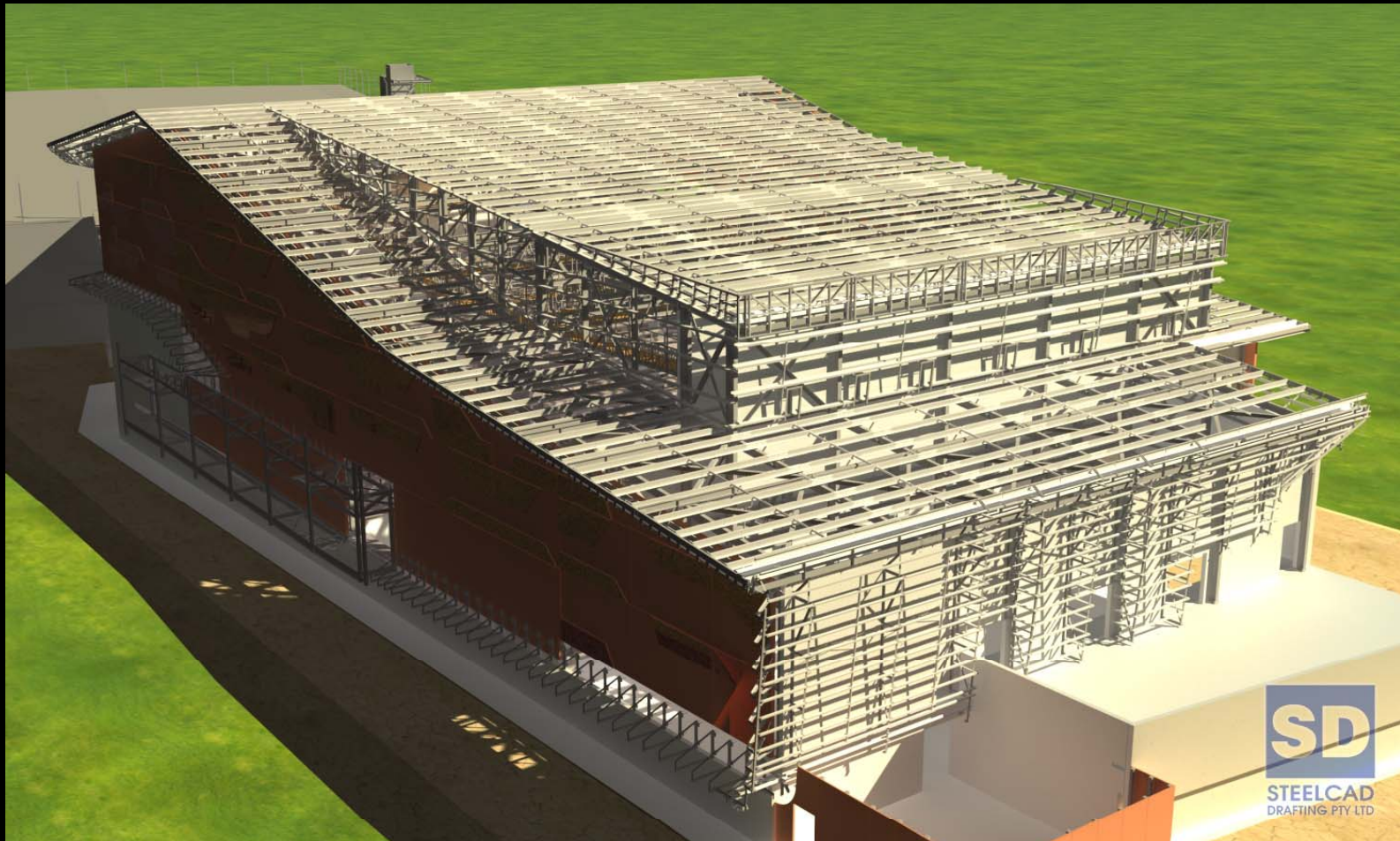


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# Traditional Process





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## Traditional Process

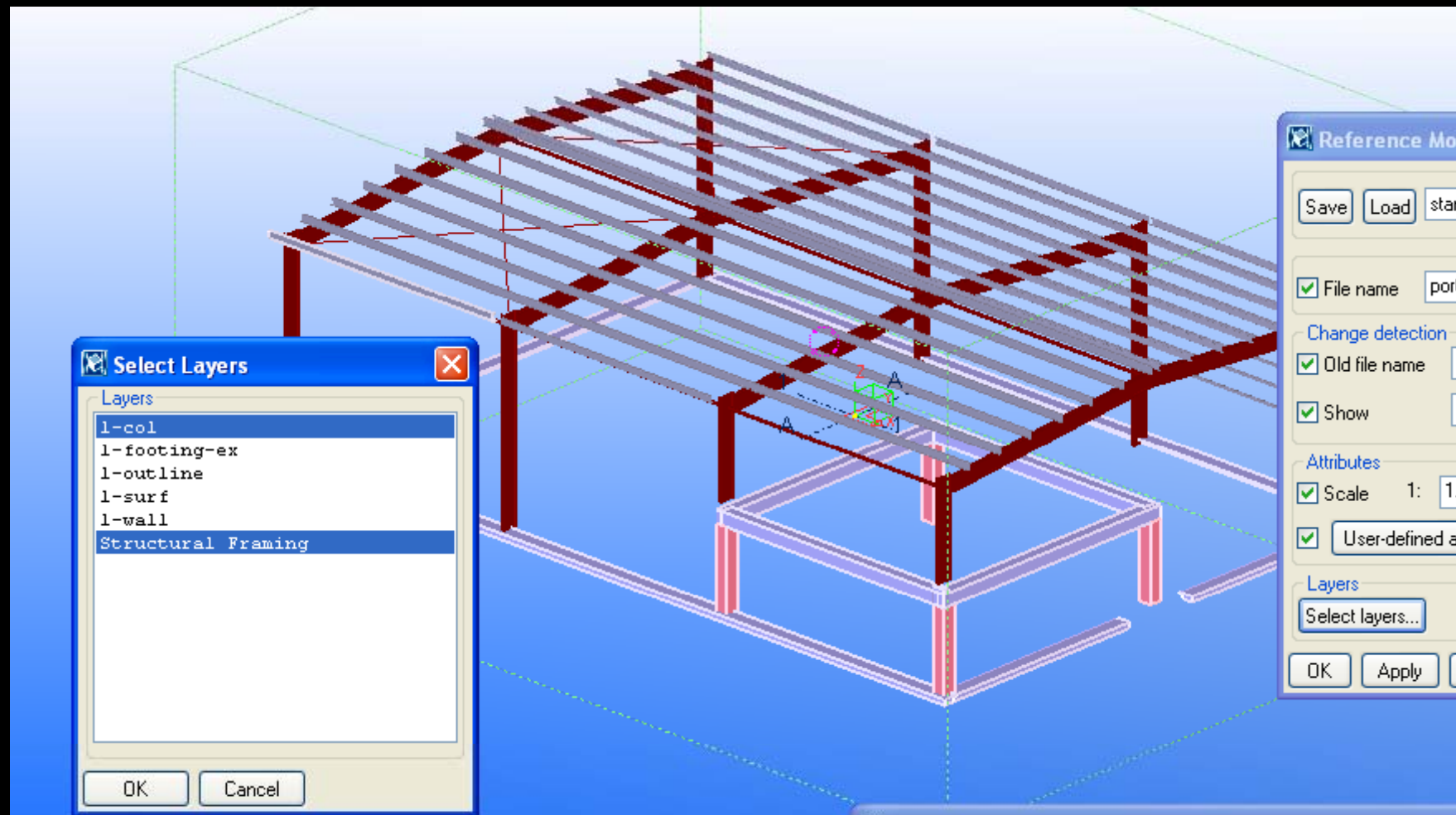


## Collaborative Process





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admin@jrobx.com.au  
www.jrobx.com.au

**Request For Information**

**RFI - 1**

To:	BORNHORST AND WARD	Project No:	AA1008
Attn:	Brett Taylor	Date:	30-Apr-10
Project:	WITH BORNHORST AND WARD	Fax No:	07 3013 4611
		Ans. Required	04-May-10

Sender: Philip Shanks

Failure to provide adequate response to this RFI by the required date may impact on the delivery schedule and cause additional cost to the project.

Project Sequence: Portal Frame Building

Information Requested: Fascia Position

Attachment: ☒

Client RFI No:

References:

Design Ref.: 99999-S010 Rev B

**Query:**

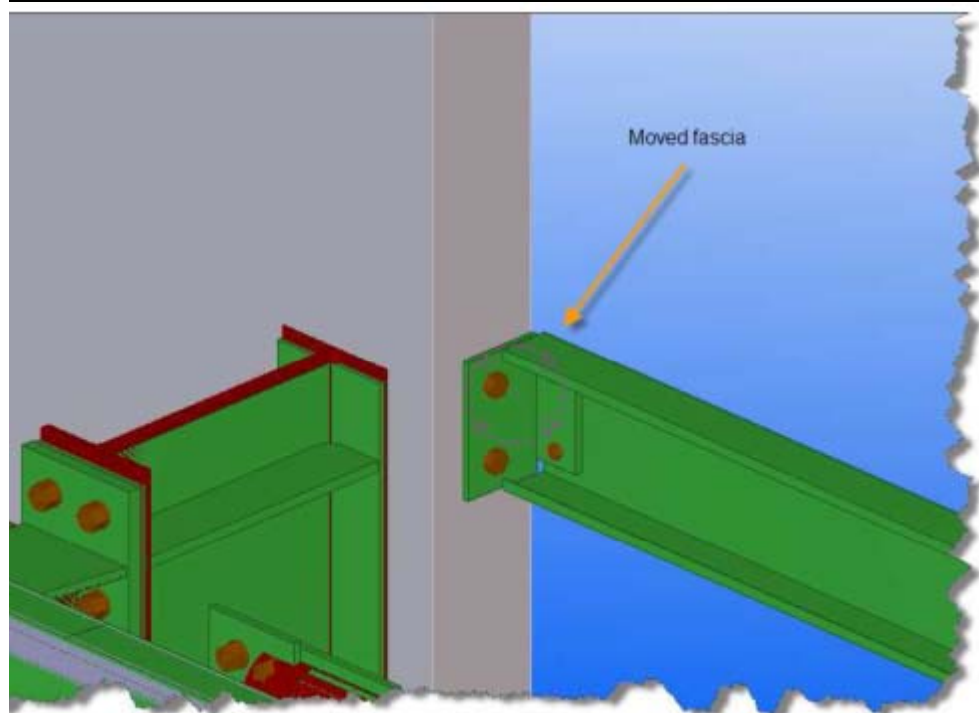
Refer to the design dwg noted and the attached detail.

We have moved the fascia (grid intersection 3-C) so it is in line with the outside face of the panel, as per the Architect's details and provided a connection to the end of the panel thus:

10 plate angle, 2-M20 chemsets to end of panel.

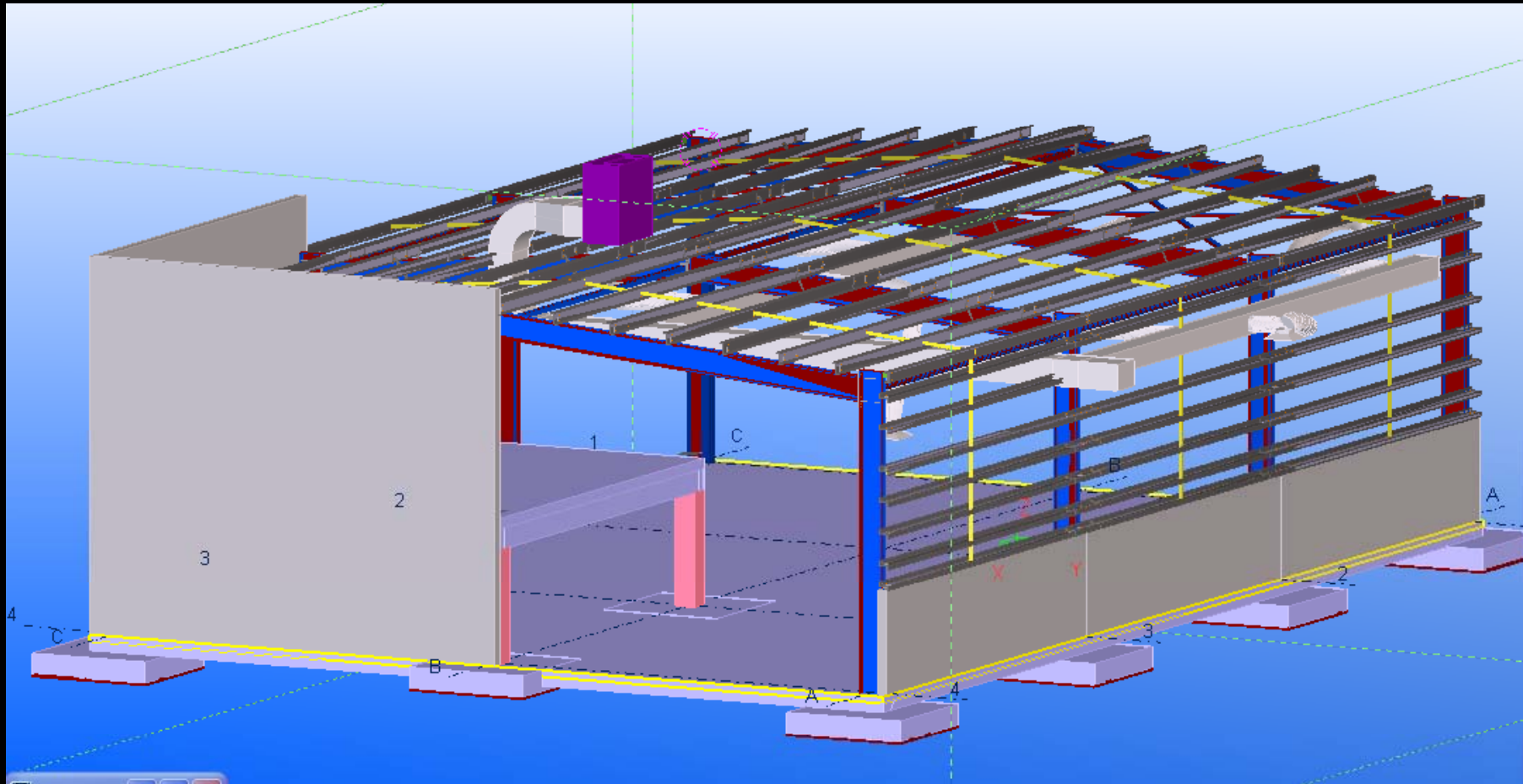
Advise if this is acceptable?

**Answer:**





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# Why Should We Change?

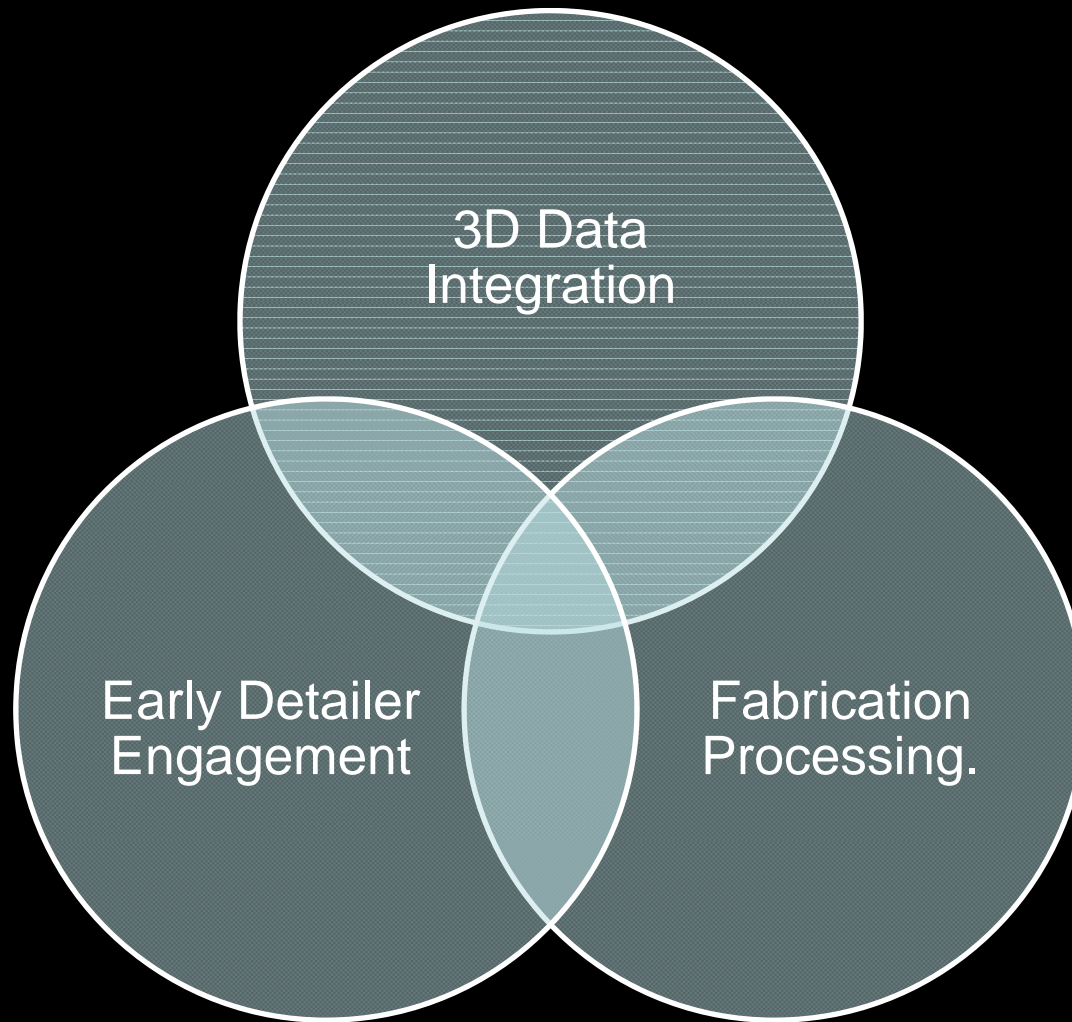


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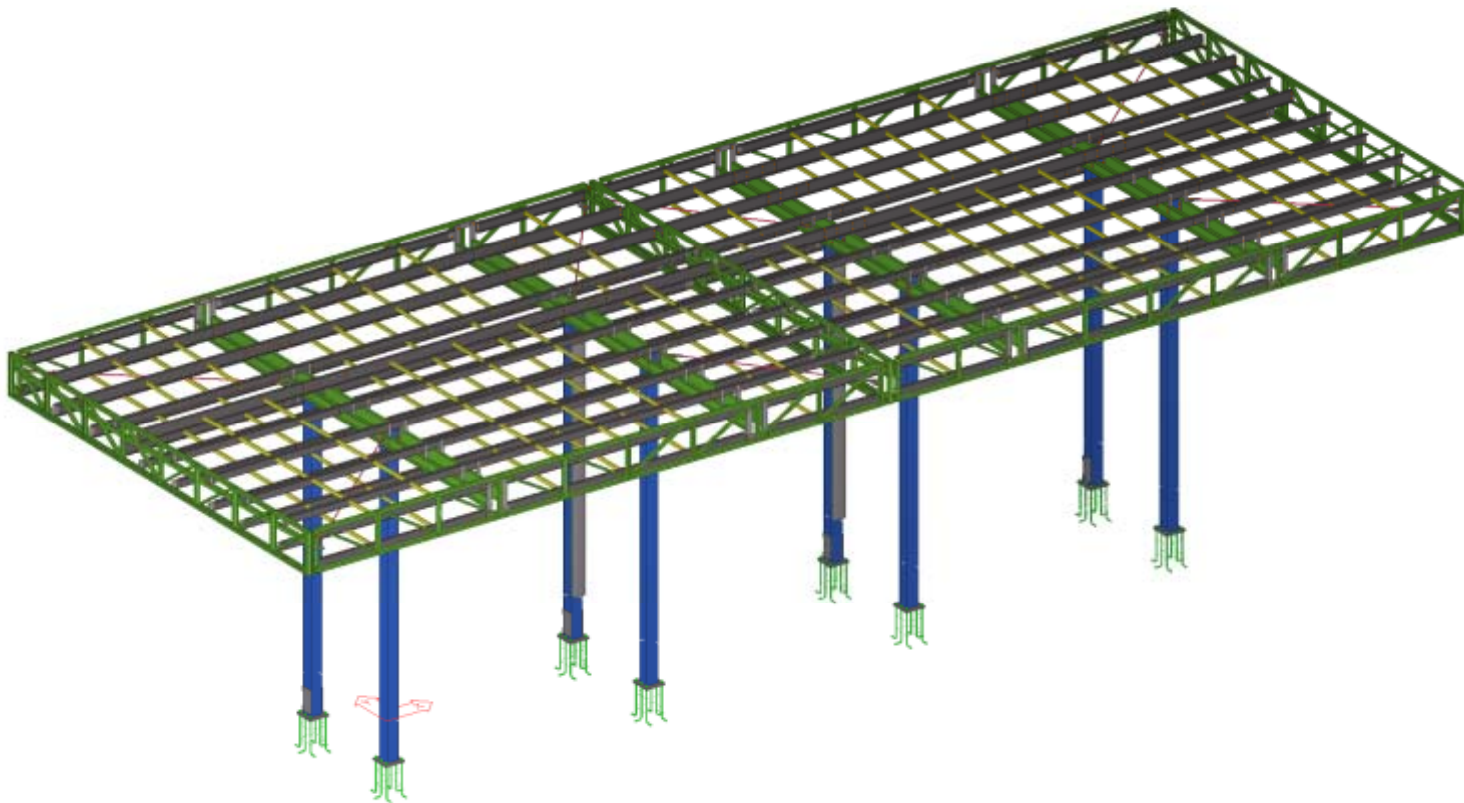


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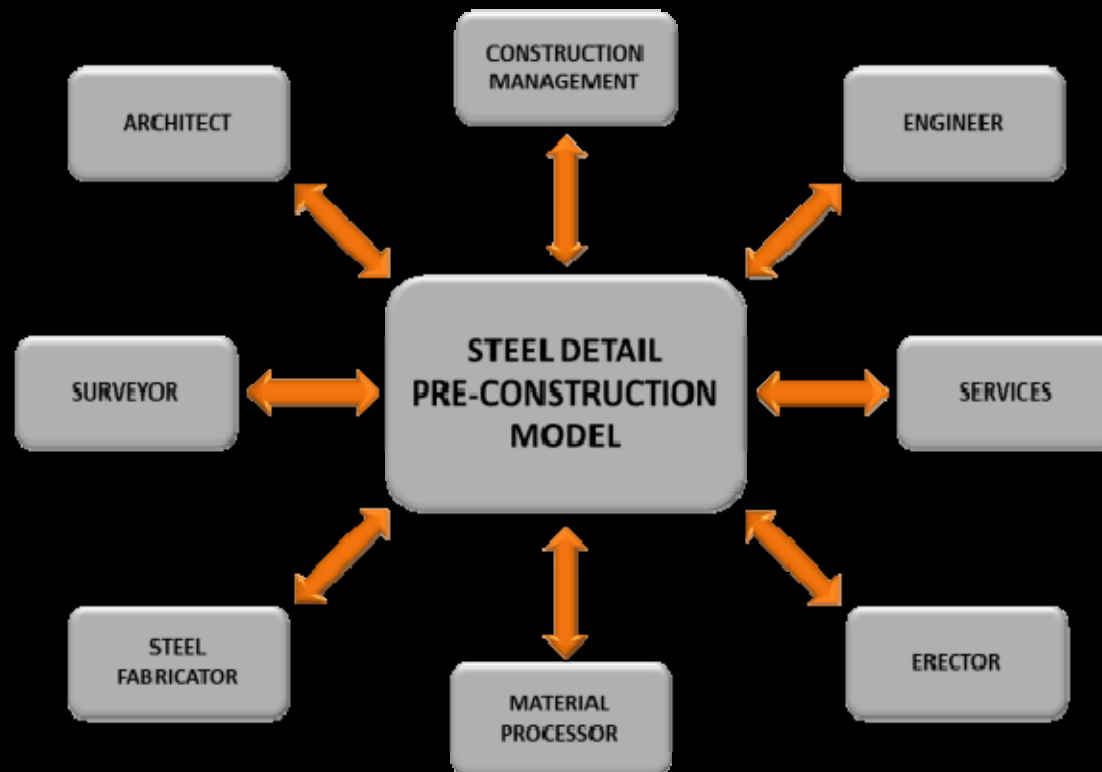
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# Process Controls





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Don't confuse Technology with Knowledge



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## Advances in *fabrication management* technology and BIM

*... Maximising Value from the Structural  
Supply Chain.*

**Australian Steel Institute Conference 2010**

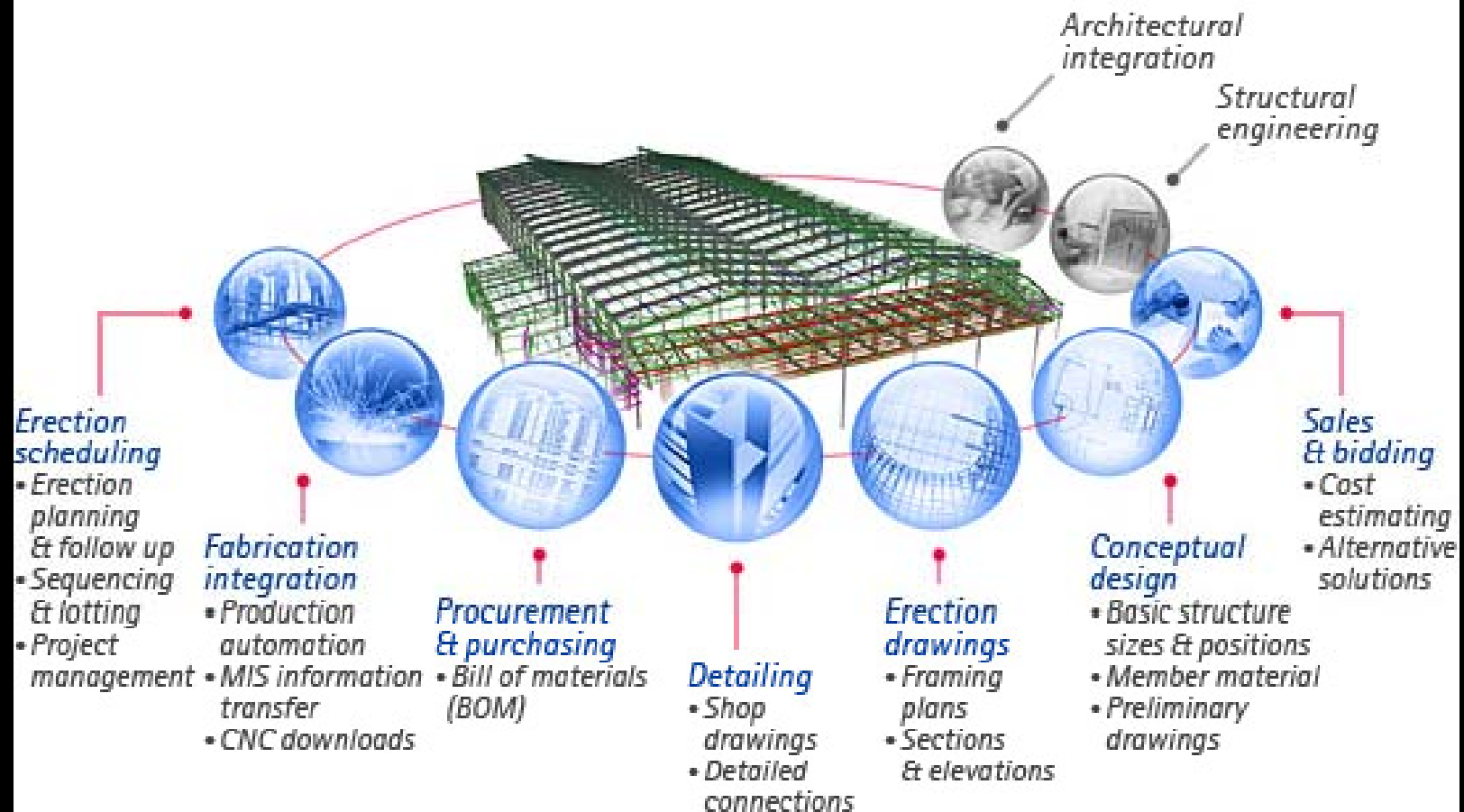
Paul Daynes  
Head of EPC Division  
AceCad Software





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 **TEKLA** Structures





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## Tekla interoperability with Revit

Throughout the construction project, the building information models of different disciplines need to be coordinated. Export from Revit and Export to Revit are tools for Revit and Tekla users to easily and effectively coordinate their building information models.

Export to Revit / Export to Tekla free download

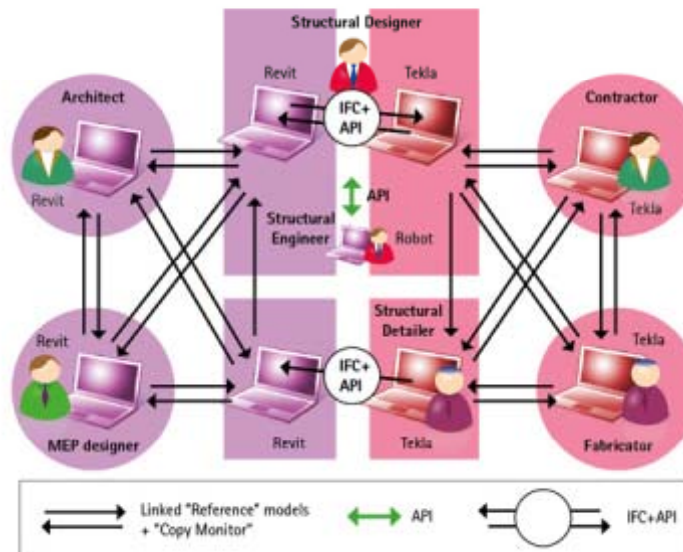
for Revit users

2011

for Tekla users

16.1

### Tekla - Revit BIM workflow





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**SD**  
STEELCAD  
DRAFTING PTY LTD



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# Alliances

- Project Timelines
- Committed Capacity
- Commitment to Quality Products & Services – Reliable Outcomes
- Managing Client Risk
- Responsive to Needs & Variable Conditions
- Increase Flexibility
- Deliver Greater Value for Money



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Get yourself a team with star quality

# Opportunities

- Knowledge Based Alliances
- Add value to Technology (ROI)
- Increase Confidence in Documentation, Estimates and Material Utilisation
- Improve Collaboration, Coordination and RFI Reduction
- Better control of Project Deliverables
- Traceability through status and tracking through all phases
- Reduce risk across the whole supply chain



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- Early Engagement of Steel Detailers
- Design Collaboration
- 3D Model Data Integration
- NC Files and Reports



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Thank You

Q & A

