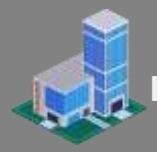
Founded in 2004, a leading engineering & detailing services provider helping Steel Fabricators, General Contractors & Trade Fabricators become more agile and competitive

PAN GULF TECHNOLOGIES

600+ Team Strength



46,000 sq. ft. Headquarters

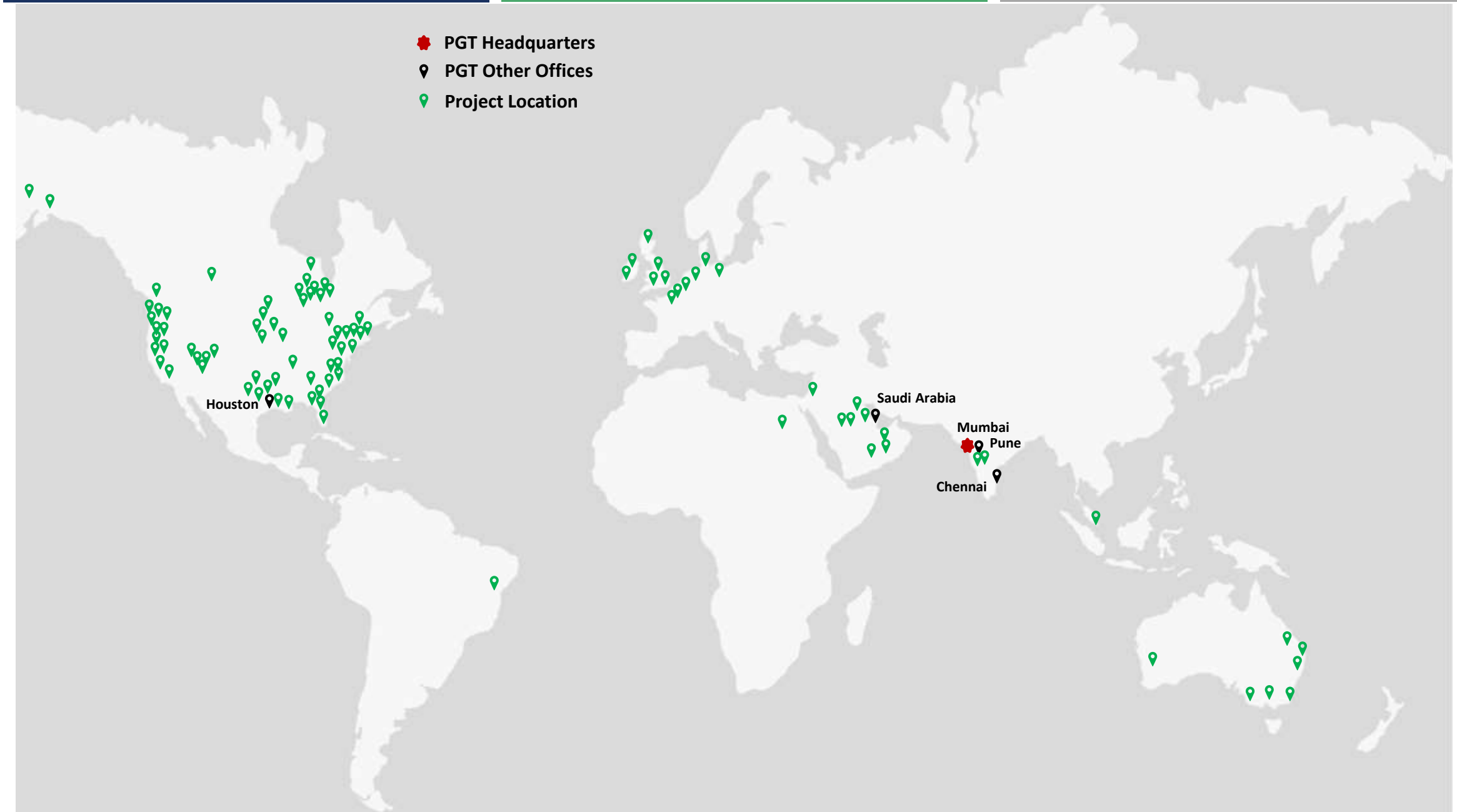
ISO 9001 Certified

Latest Software & Platforms

Preferred Employer

OFFICE PHOTOS

GLOBAL FOOTPRINT



ISO 9001 CERTIFICATION

CERTIFICATE
OF REGISTRATION

This is to certify that:

PAN GULF TECHNOLOGIES PVT LTD

6th Floor, A Wing Lodha I-think Techno Campus, Pokharan Road No 2,
Behind TCS Thane (W) Maharashtra – 400607. INDIA

(Refer to Attachment to Certificate of Registration dated 10 April 2020 for additional certified sites)

operates a

QUALITY MANAGEMENT SYSTEM

which complies with the requirements of

ISO 9001:2015

for the following scope

Structural Steel Detailing, Rebar & Precast Detailing in the field of Oil and Gas Refineries, Petrochemicals, Pharmaceuticals, Fertilizer Plants, Power Generation, other Industrial Plants and 'Residential, Industrial and Commercial Buildings
Site Specific Scope

Certificate No: QMS42587

Issued: 10 April 2020 — Originally Certified: 28 March 2017
Expires: 9 April 2023 — Current Certification: 9 April 2020

Heather Mahon
Global Head of Technical Services
SAI Global Assurance

Certified System
ISO 9001

JAS-ANZ

SAI GLOBAL

ATTACHMENT TO
CERTIFICATE
OF REGISTRATION

These sites are registered under certificate No: QMS42587 issued on 10 April 2020.

PAN GULF TECHNOLOGIES PVT LTD

SAI Site Cert no.	Certified Site Details	Effective Date
C-337495	Hiranandani Estate, Thane West, Dist Thane Mumbai, Maharashtra -400607 INDIA Site Scope: Precast Detailing in the field of Oil and Gas Refineries, Petrochemicals, Pharmaceuticals, Fertilizer Plants, Power Generation, other Industrial Plants and 'Residential, Industrial and Commercial Buildings'	9 April 2020

These registrations are dependent on PAN GULF TECHNOLOGIES PVT LTD maintaining their scope of registration to ISO 9001:2015.

SAI GLOBAL

Page 2 of 2

OUR COMPLIANCE TO ISO PROCESSES ENSURES THOROUGH QA / QC

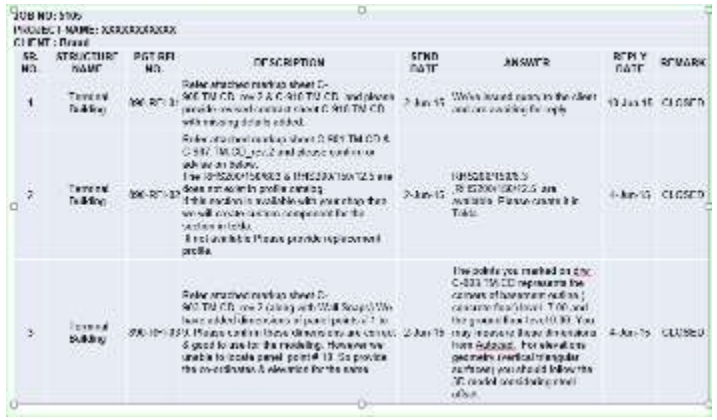
JOB STUDY CHECK LIST

PROJECT SPECIFICATION SHEET

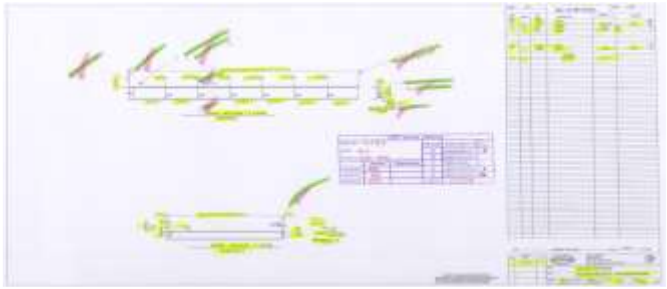
CHECK LIST FOR ERECTION DRAWING

CHECK LIST FOR ASSEMBLY DRAWING

MODEL COMMENT LIST



RFI Register



Sample Check print (Checker)

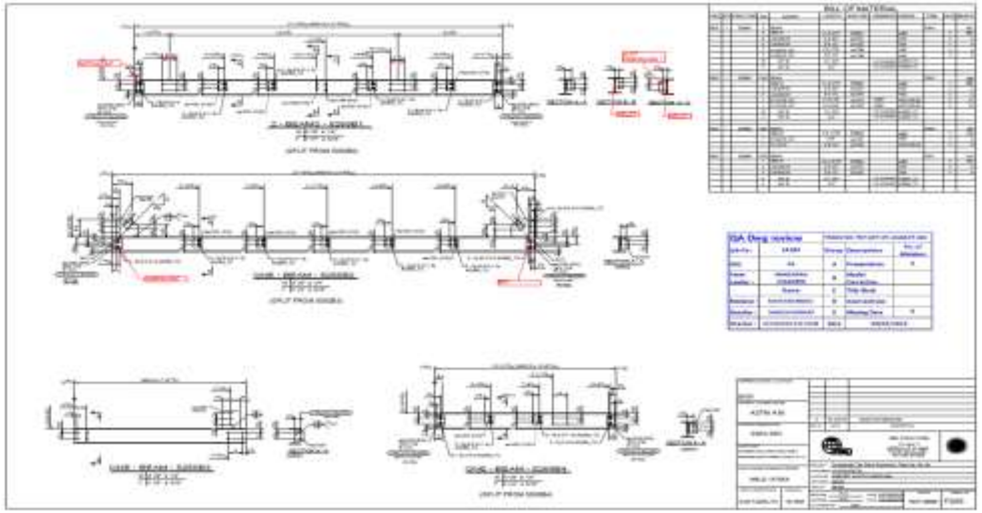
Group	Desc.	Type of Error
D	Incorrectness	Dimension Pick point errors
		Inacurrate Dimension
		Incorrect weld size, type, weld note
		Hole/slot hole/GOL/gage description incorrectly typed
		Incorrect Elevation measure, i.e.meters / mm
		Position (N/S, F/S, B/S, CNTR) incorrectly specified
		North symbol incorrect
		NS/FS/BS paint masking incorrectly indicated
		Incorrect projection view
		Incorrect User Defined Attributes in Bill of material

Error Categorization

SDT Error Stamp					
Job No :			Group	Descriptions	No. of Mistakes
APM :			A	Presentation	
Team Leader :			B	Model Correction	
	Name	Sign	C	Title Block	
Modeler :			D	Incorrectness	
Detailer :			E	Missing Data	
Checker :			Date		

Error Stamping

PROJECT EXECUTION & QUALITY CHECKING & QUALITY ASSURANCE



QA Review

Sr. No	Job No.	seq	Main Description	Description	Dwg No	TL	Checker	Modeler	Editor	REV	DATE	TR. NO.
1	3239	PR-03	ERECTION DWG.	ERECTION DWG.	E-001	XX	YY	ZZ	AA	A	14-Dec-2015	PGT/SDT/DT-3239/FF/15-16/087
2	3239	PR-03	ERECTION DWG.	ERECTION DWG.	E-002	XX	YY	ZZ	AA	A	14-Dec-2015	PGT/SDT/DT-3239/FF/15-16/087
3	3239	PR-03	ERECTION DWG.	ERECTION DWG.	E-003	XX	YY	ZZ	AA	A	14-Dec-2015	PGT/SDT/DT-3239/FF/15-16/087
4	3239	PR-03	ERECTION DWG.	ERECTION DWG.	E-004	XX	YY	ZZ	AA	A	14-Dec-2015	PGT/SDT/DT-3239/FF/15-16/087
5	3239	PR-03	ERECTION DWG.	ERECTION DWG.	E-005	XX	YY	ZZ	AA	A	14-Dec-2015	PGT/SDT/DT-3239/FF/15-16/087
6	3239	PR-03	ASSEMBLY DWG.	BEAM	B1	XX	YY	ZZ	AA	A	14-Dec-2015	PGT/SDT/DT-3239/FF/15-16/088
7	3239	PR-03	ASSEMBLY DWG.	BEAM	B2	XX	YY	ZZ	AA	A	14-Dec-2015	PGT/SDT/DT-3239/FF/15-16/088

	Internal Error								External Error						
DWG. QTY	Total No. of Errors	A	B	C	D	E	REMARKS	BFA RECD. DATE	DWG.QTY	Total No. of Errors	A	B	C	D	E	REMARKS
1	0	0	0	0	0	0		DEC-15	1	0	0	0	0	0	0	APPROVED
1	0	0	0	0	0	0		DEC-15	1	0	0	0	0	0	0	APPROVED
1	0	0	0	0	0	0		DEC-15	1	0	0	0	0	0	0	APPROVED
1	0	0	0	0	0	0		DEC-15	1	0	0	0	0	0	0	APPROVED
1	0	0	0	0	0	0		DEC-15	1	0	0	0	0	0	0	APPROVED
1	1	0	0	0	0	1		DEC-15	1	0	0	0	0	0	0	APPROVED
1	3	0	0	0	0	3		DEC-15	1	0	0	0	0	0	0	APPROVED
1	3	0	0	0	0	3		DEC-15	1	0	0	0	0	0	0	APPROVED
1	3	0	0	0	0	3		DEC-15	1	0	0	0	0	0	0	APPROVED

Error Tracking: Monthly Performance Report

CONTINUATION OF ABOVE TABLE

Reason of Comment	Corrective Action(s)	Non Compliance Attended (Detail)	Preventive Action(s), if any
Confusion created due to change in sequence along the grid line after the submittal of fabrication package.	Replacement drawing was sent, By clouding in the BOM on seq.	YES	Always verify /Check the details provided before sending to client
Dimension missing & pick point error	Drawings revised & sent to client	YES	Editor & checker should verify if all the dimensions are provided. And pick points for all dimensions need to be verified.
Dimension pick point error	Revised drawing issued	YES	All pick points should be zoomed & checked in pdf. Editor should pay attention while updating the drawing after model changes. Checker should match the drawings with previous submitted drawings & see changes are incorporated.

Error Tracking: For Field Calls And Shop Calls

Comment Resolution Report

SOFTWARE LIBRARY

Tekla

SDS/2

AUTODESK AUTOCAD

ALLPLAN
A NEMETSCHEK COMPANY

AUTODESK NAVISWORKS

SOLIDWORKS

Tekla Model Sharing

STAAD.Pro

AUTOCAD PLANT 3D

BENTLEY STAAD.PRO

aSa

AUTODESK INVENTOR

REVIT

AUTODESK FABRICATION

AUTODESK CIVIL3D

AVEVA PDMS

RebarCAD

COLLABORATION & COMMUNICATION TOOLS

Collaboration

Communication

SERVICE SPECTRUM

Structural Steel Detailing

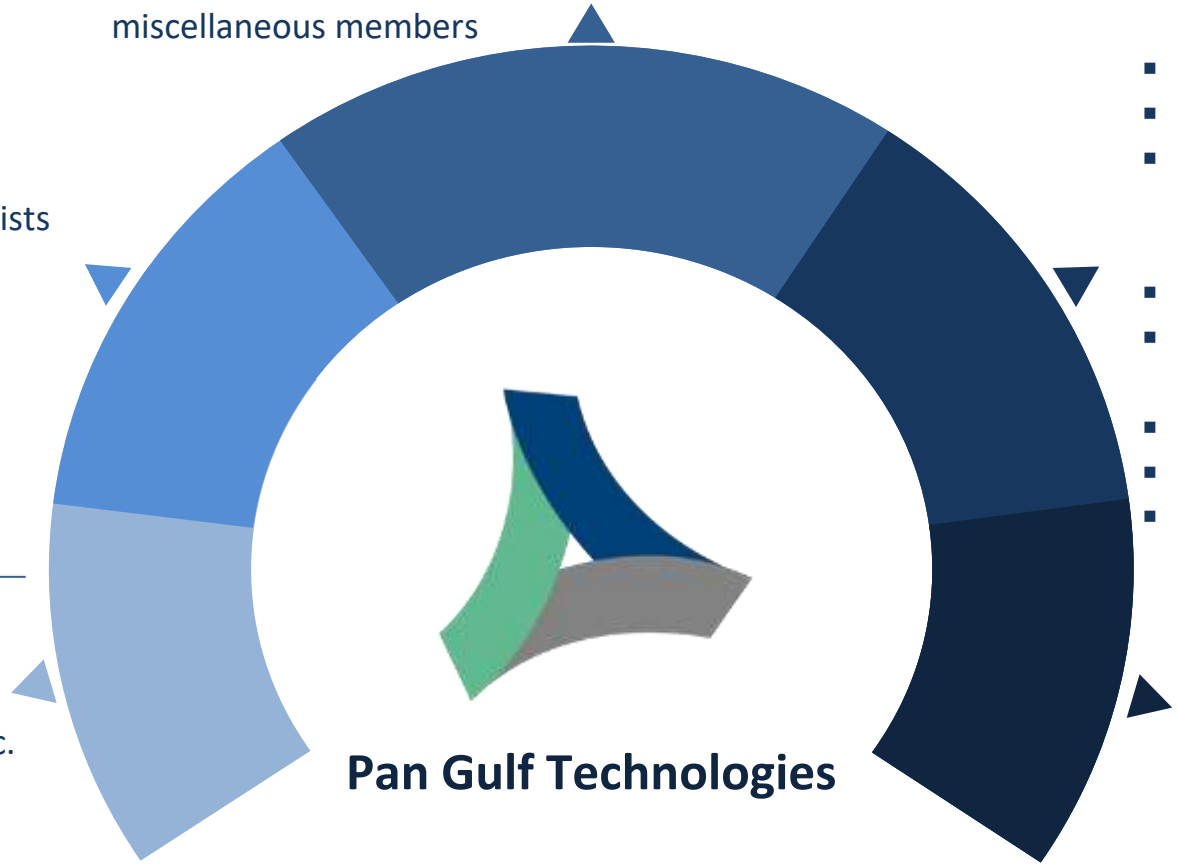
- Pre-bid engineering and advance MTO
- 3D Modelling and clash detection
- Framing Plan and GA drawings
- Bill of Material, Bolt lists, Anchor Bolt drawings and CNC files
- Erection and Fabrication drawings for structural and miscellaneous members

Rebar

- 3D Modeling and clash detection
- 2D Shop and placing drawings
- Bar bending schedule and aSa bar lists
- Mark-ups and as-built drawings
- Foam work modeling and detailing

Precast

- Tilt-Up Panel Engineering
- 3D Modelling and clash detection
- Erection and GA drawings
- Walls, Beams, Columns, Façade, etc.



Plant Engineering

- Process & Instrumentation Diagram (P&ID)
- Piping and System Engineering
- 3D Modeling, Isometric drawings and BOM
- Piping Layout and supports design
- Stress Analysis
- Static Equipment (Tanks, Heat Exchangers, Vessels, etc..) design and detail engineering
- Electrical and Instrumentation
- Structural Analyses (Static and Dynamic analysis /Blast resistance)
- Member and Connection design
- Foundation design and analyses
- FEA, Thermal design and CFD Analysis

Building Information Modelling

- Architectural and Interior
- Structural
- Façade
- Mechanical, Electrical, Plumbing & Firefighting
- 4D Simulations

SECTORS WE SERVE

Buildings

- Commercial
- Residential
- Healthcare
- Education



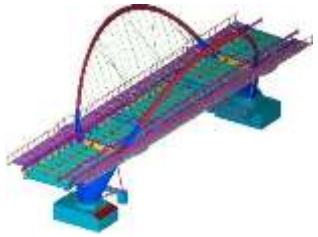

Industrial

- Oil and Gas
- Petrochemicals
- Nuclear
- Power
- Chemicals and Fertilizers
- Mining and Metals
- Food and Beverages




Infrastructure

- Water and Effluent Treatment
- Renewable Energy
- Land development
- Roads and Transportation
- Tunnels and Bridges




PARTNERING WITH STEEL FABRICATORS

OUR SERVICE OFFERINGS:

1. Structural steel detailing (2D and 3D)
2. Main Steel and Miscellaneous Steel Detailing
3. Estimation services using Stick Modeling
4. Structural design calculations (with PE Stamp)
   - 4.1 Connection design
   - 4.2 Stair design
   - 4.3 Handrail / guardrail design

WHAT WE DELIVER:

1. Advanced Bill of Materials
2. 2D Shop Drawings
3. 2D Erection Drawings
4. 2D Anchor Bolt Drawings
5. 2D Connection Sketches
6. DSTV Files for Cutting & Drilling
7. DXF Files for Plate Work
8. CNC Files
9. KISS Files
10. Field Bolt List
11. Specialist Reports
12. BIM Support files
13. Fabtrol reports

PAN GULF TECHNOLOGIES

CASE STUDIES

STRUCTURAL STEEL DETAILING

WAREHOUSE BUILDING IN OHIO, USA

Warehouse Building in Ohio, USA

Client Type:

Structural Steel Fabricator

Software Used:

Tekla

PGT Scope:

Model Creation in Tekla, Structural Steel detailing for Main & Misc. Steel, Connection Design Calculations, Stair and Handrail Structural Design Calculations

Tonnage:

Around 22,000 Tons

Project Deliverables:

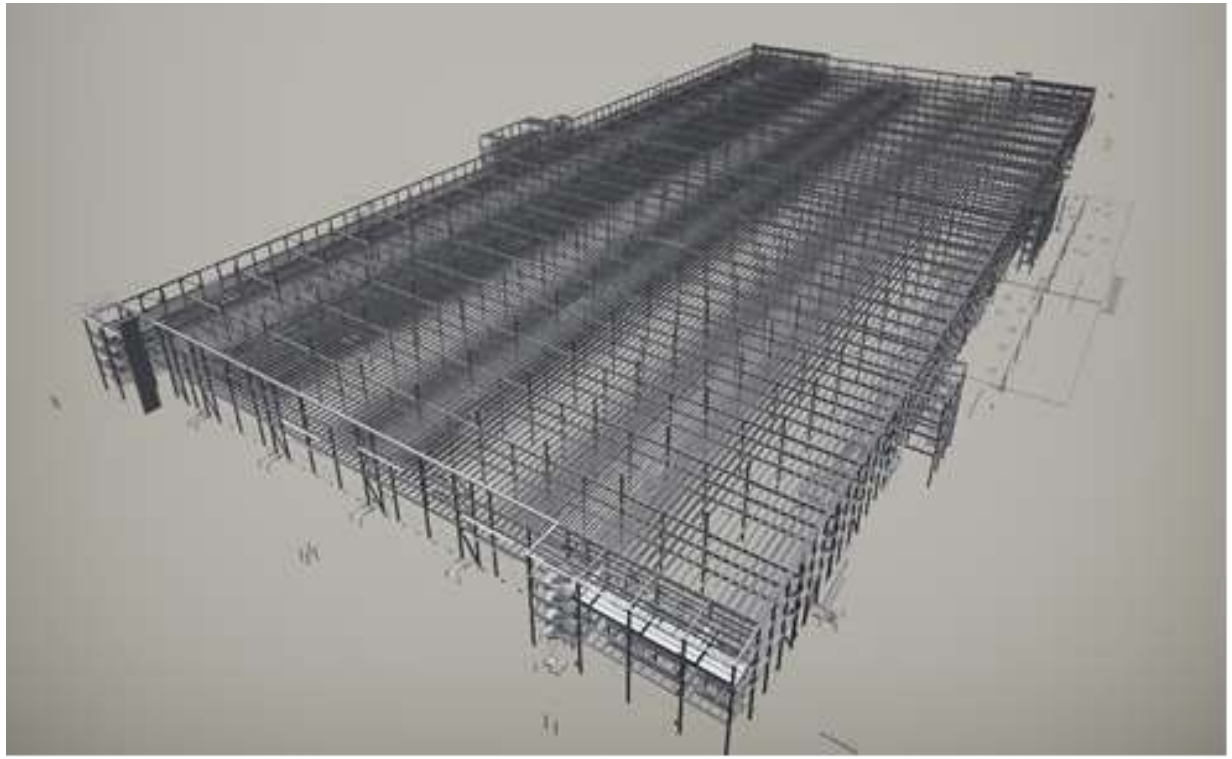
- 3D Model in Tekla
- Erection & Shop Drawings
- BOM
- KISS / NC Files
- Engineering Design and Calculations for Connections
- Design and Calculations for Stairs and Handrails

Solution provided by PGT:

The warehouse project was fast paced and was expected to be complete in 16 weeks' time. PGT stood up to the challenge by fast tracking modelling process with in-house automation tools developed in Tekla to expedite repetitive members. Manpower planning was a crucial part of the success of this project, as efficient management of resources on the critical areas helped eliminate bottlenecking.

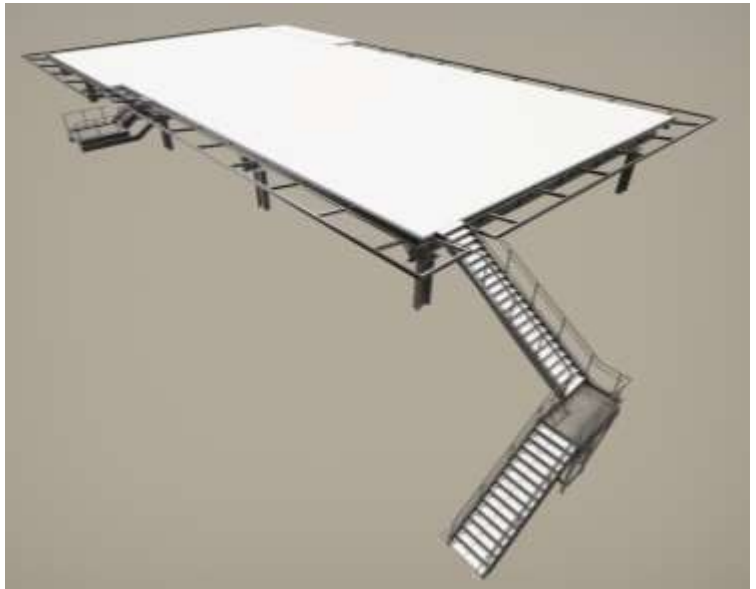
Benefits / Challenges:

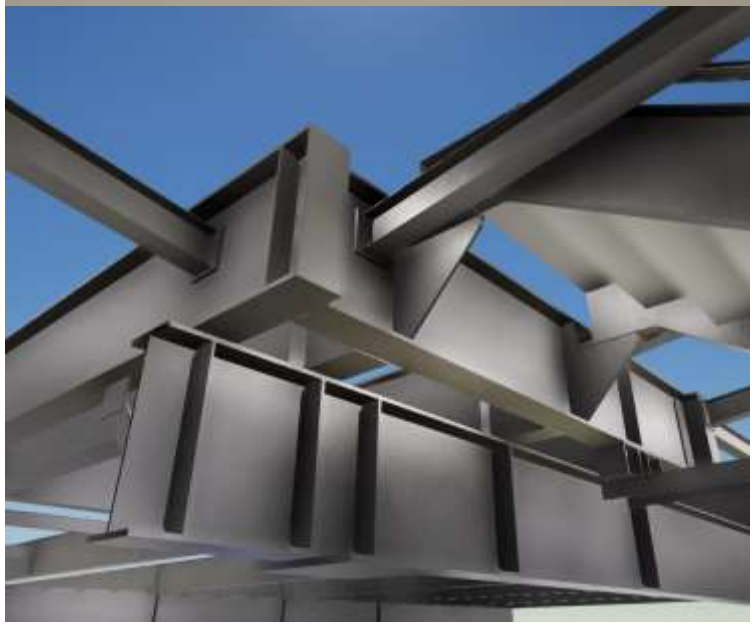
PGT was successful in progressing at a rapid pace of 1,350 tons of steel detailed per week. Sequence wise manpower planning as well as optimising connection design timelines to coincide before sequence submission dates helped keep the project under committed time frame until completion. Use of Tekla Automation tools ensured we enabled us to stay ahead right from ABM stage, giving us adequate time to check drawings to ensure error free submissions



HELIPADS

Project Name:
Helipad for a Healthcare Facility in Pennsylvania, USA
Client Type:
Structural Steel Fabricator
Software Used:
Tekla
PGT Scope:
Structural Steel detailing for Main & Misc. Steel
Tonnage:
60 Tons
Project Deliverables:
•3D Model in Tekla
•Erection & Shop Drawings
•BOM
•KISS / NC Files



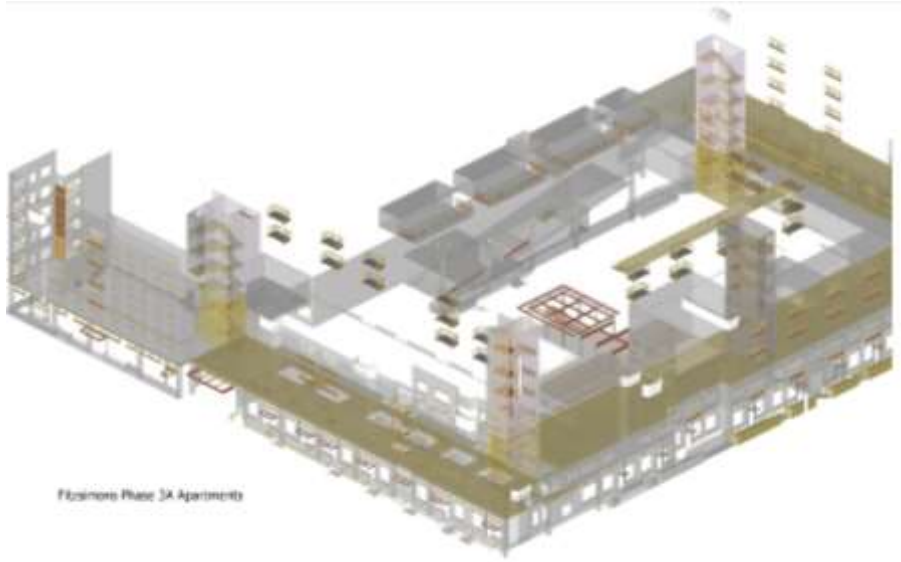


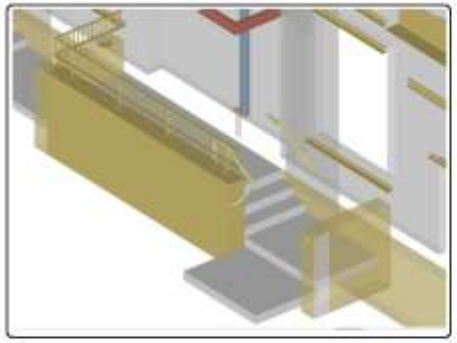
Solution provided by PGT:
Our client based in WI, USA is a preferred fabricator for many GCs in the East and Mid-west regions for Helipad projects due to their cost efficiency and quick delivery. PGT has been the preferred engineering partner for our client for Helipad projects. Although comparatively smaller in terms of size, PGT regularly executes multiple Helipads for our customer. Our strong internal ISO-9001:2015 process protocols ensure that each new project gets executed in the same manner without deviation from the ISO standards. This ensures consistent delivery from multiple teams on the same type of project.

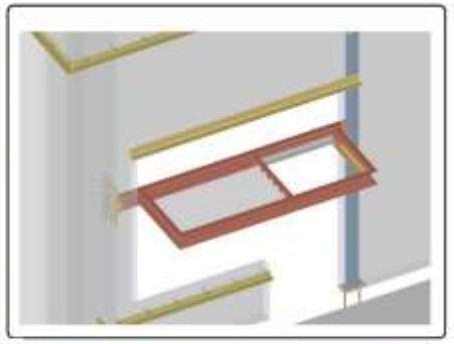
Benefits / Challenges:
PGT's internal documentation protocol on past Helipads Project Requirements, Client standards and requirements pertaining to helipads and internal Knowledge sharing among teams ensure that our teams are up to date with all relevant information including past project RFIs and client directions for similar future RFIs. This helps avoiding repetitive questions on similar projects. Multiple projects of the same type can be executed simultaneously among multiple teams. Submissions for similar projects can be optimized for fabrication from multiple teams. This ensures our customer can optimize fabrication schedule as well as have simultaneous projects with the same high-quality output.

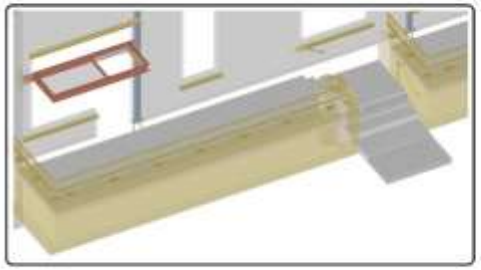
RESIDENTIAL PROJECT IN SDS/2

Project Name:
Residential Building in Denver, Colorado, USA
Client Type:
Structural Steel Fabricator
Software Used:
SDS/2
PGT Scope:
Model Creation in SDS/2, Structural Steel detailing for Main & Misc. Steel
Tonnage:
150 Tons
Project Deliverables:
•3D Model in SDS/2
•Erection & Shop Drawings
•BOM
•KISS / NC Files
Solution provided by PGT:
The project was a residential project in a downtown metropolitan area of Denver, CO. Our customer is a reputed fabricator in Front range region. The project was expected to show many changes post award and it was lacking in key dimensional information at the start of the project. PGT was up to the task of this challenge to drive the project controlling delays and thereby minimising delays from the lack of information and rapid changes to design. Due to our robust internal documentation protocol and extensive logging of project data, we were able to arm our customer with important information needed to deliver steel without impacting detailing.
Benefits / Challenges:
For a Steel fabricator, it is of utmost importance to keep fabrication schedule unchanged as bottlenecking in fabrication could leads to huge cost escalations. Working in tandem with the fabricator to ensure that the project moved steel to site on time, while also raising systematic and tracked RFIs meant we were able to ensure that the key information was pursued aggressively while at the same time, areas with available information were released for shop. Regular Co-ordination with the fabricator to reduce delays and costs were the key benefits we were able to achieve for this project.
Client feedback /appreciation if any?
Customer started a Dedicated Resource Center (Staff Augmentation) with us after successful execution of this project along with more projects with different challenges where we proved as a valuable partner.



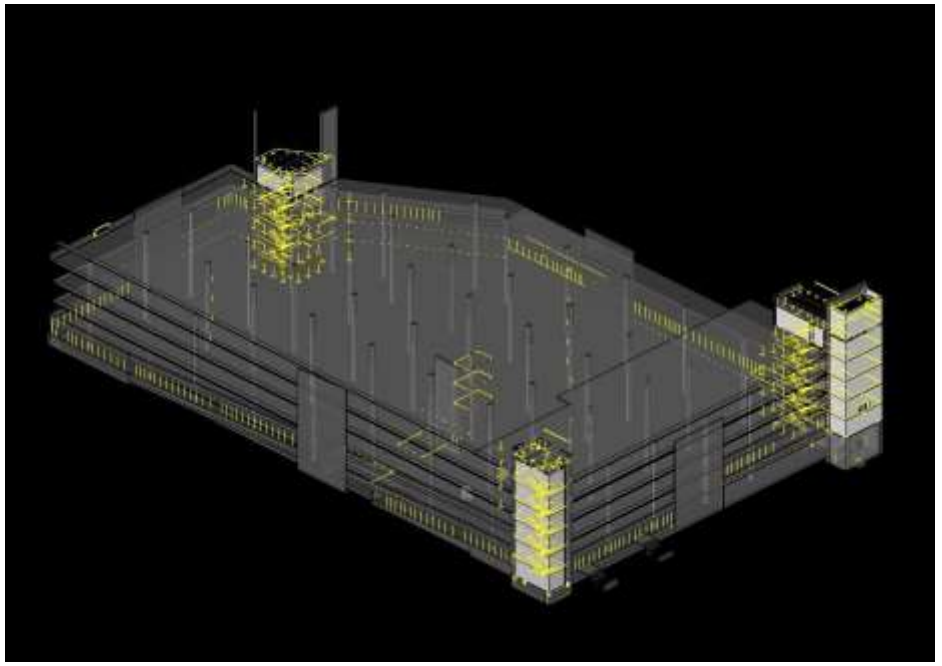


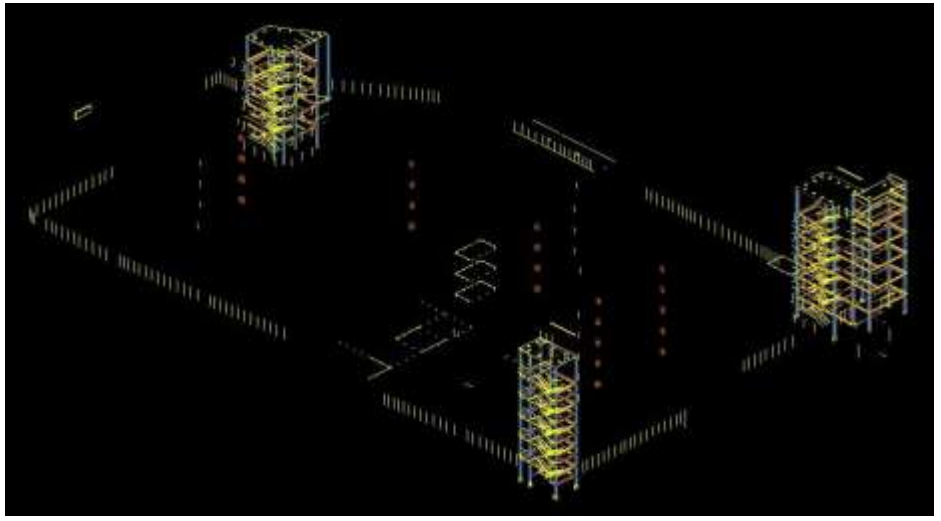




PARKING GARAGE IN SDS/2

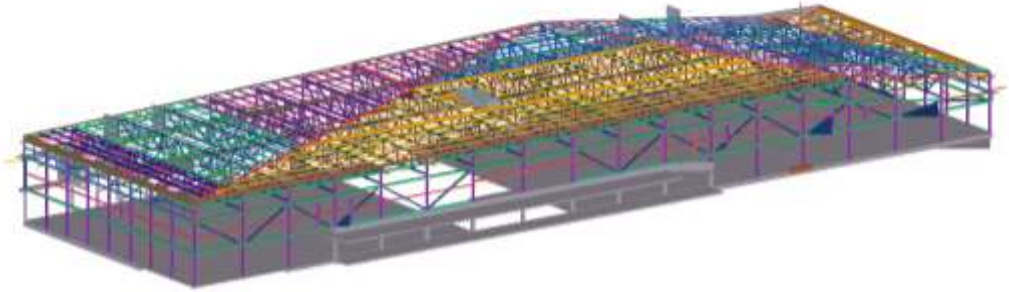
Project Name:
Metro Rail Station Parking Garage in Denver, Colorado, USA
Client Type:
Structural Steel Fabricator
Software Used:
SDS/2
PGT Scope:
Model Creation in SDS/2, Structural Steel detailing for Main & Misc. Steel
Tonnage:
200 Tons
Project Deliverables:
•3D Model in SDS/2
•Erection & Shop Drawings
•BOM
•KISS / NC Files
Solution provided by PGT:
It was a fast-paced project with majority of PGT scope being in the miscellaneous steel. PGT actively participated in Coordination with other trades for timely delivery and completed project on schedule
Benefits / Challenges:
Fast paced projects with majority of our work in miscellaneous steel as our scope meant, PGT had to be agile and proactive in making sure there were no issues related to coordination from other trades since the start of the projects. Actively participating in coordination meetings and pursuing pressing RFIs, seeking clarifications on conflicting information, we were able to speed up our miscellaneous steel detailing without slow down while covered in time with the main steel scope with the overall project completed within agreed schedule, save for few last minutes changes in design.
Client feedback /appreciation if any?
Customer started a Dedicated Resource Center with us after successful execution of this project along with more projects with different challenges where we continue to prove as a valuable partner

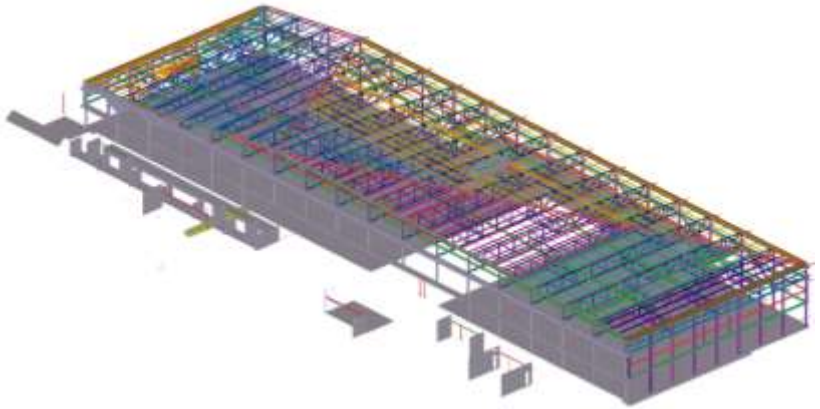




EDUCATIONAL BUILDING IN TEKLA

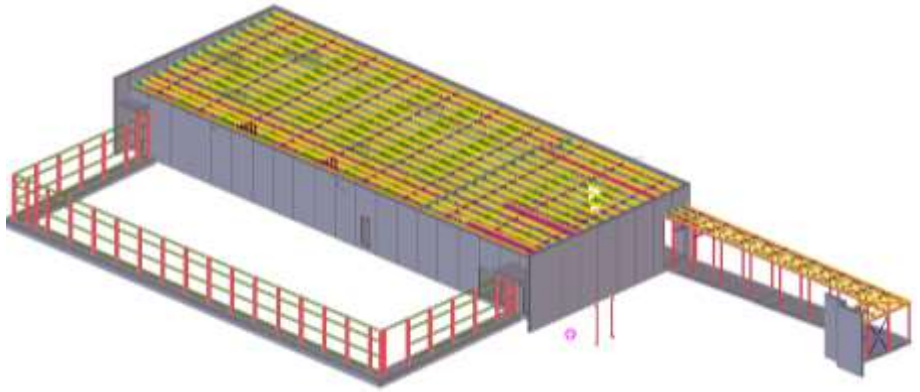
Project Name:
College Building in NSW, Australia
Client Type:
Structural Steel Fabricator
Software Used:
Tekla
PGT Scope:
Structural Steel detailing for Main & Misc. Steel
Tonnage:
Around 500 MT
Project Description:
Project had requirements for Cambering to be Modelled separately. There were unique slopes in different directions at various locations, which added to the complexity.
Project Deliverables:
•3D Model in Tekla
•Erection & Shop Drawings
•BOM
•KISS / NC Files
Challenges:
Fast track delivery, with Cambering experience.

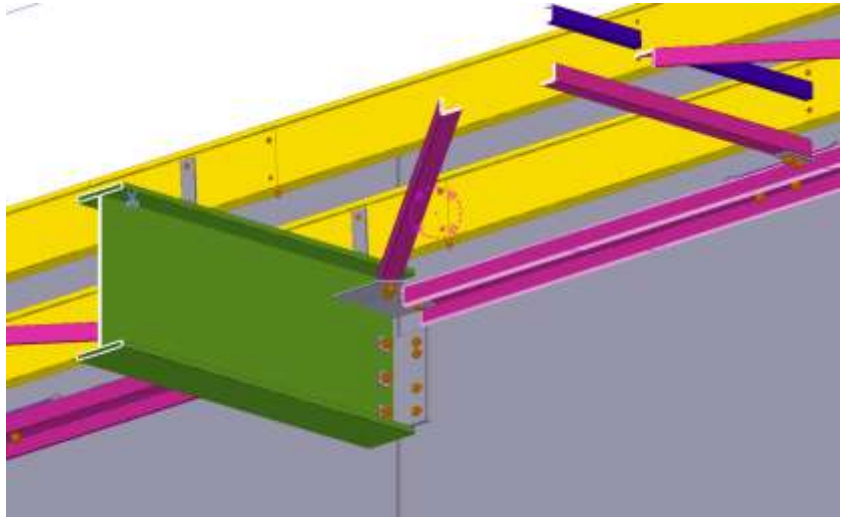




DATA CENTERS IN TEKLA

Project Name:
Data Center Building in Canberra, ACT, Australia
Client Type:
Structural Steel Fabricator & Precaster
Software Used:
Tekla
PGT Scope:
Structural Steel detailing for Main & Misc. Steel
Tonnage:
500 MT
Project Description:
Data centre project, which had requirements for Precast and Steel detailing to be done by in-house coordination.
Project Deliverables:
•3D Model in Tekla
•Erection & Shop Drawings
•BOM
•KISS / NC Files
Challenges:
At multiple locations, the connection details were unavailable, PGT used its past experience in suggesting those connections to the client and expediting the shop detailing process as the client was already late due to other reasons.





PROJECT SHOWCASE

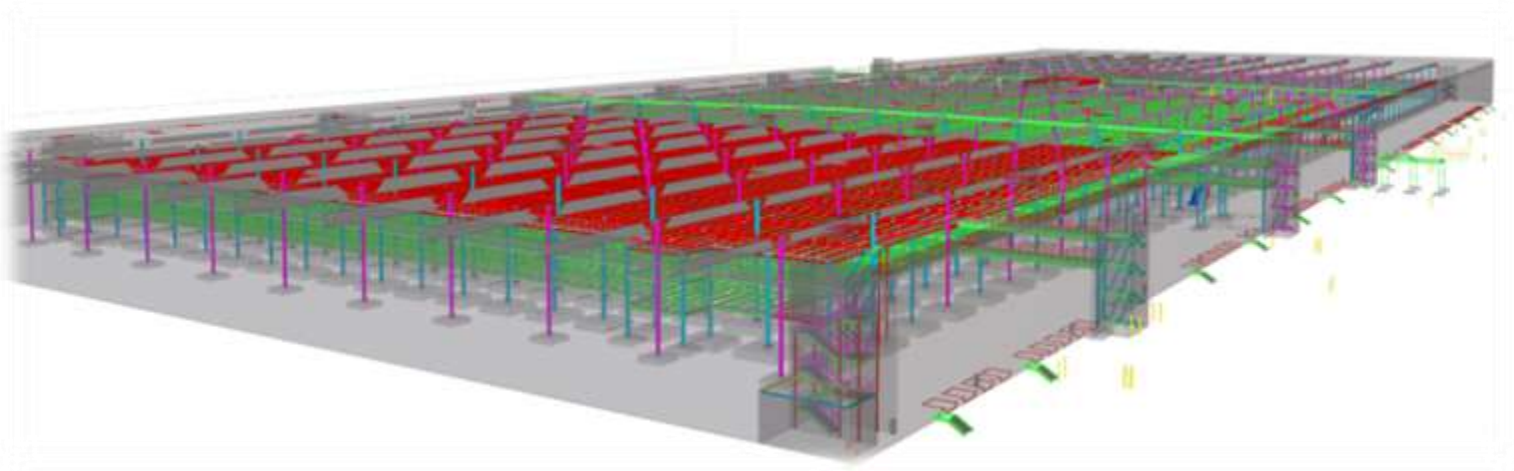
STRUCTURAL STEEL DETAILING

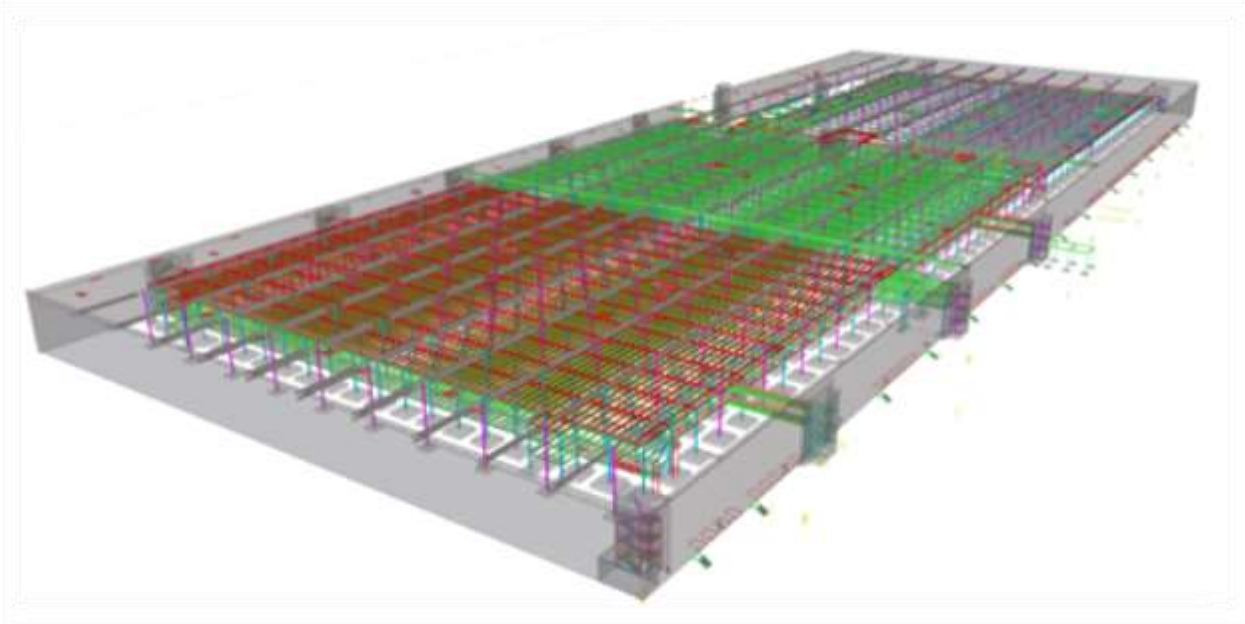
WAREHOUSE PROJECT 2

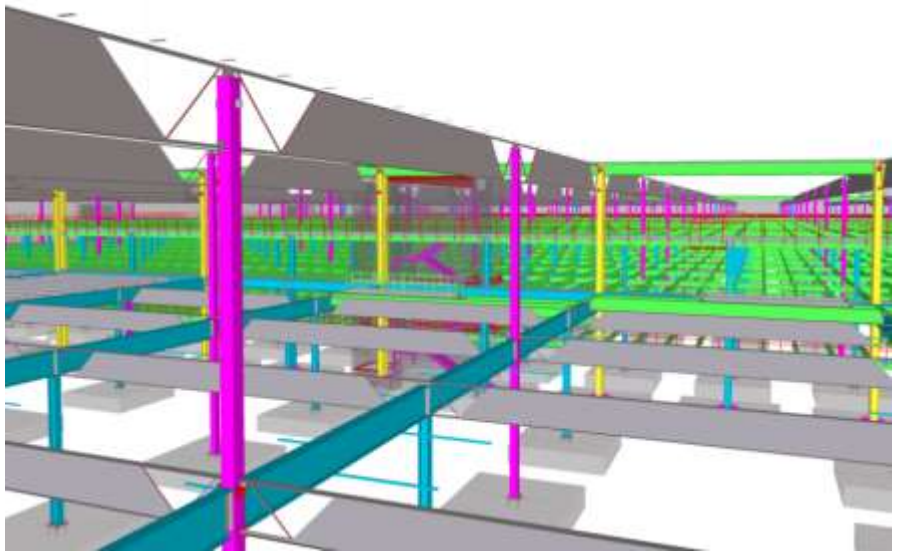
PGT has executed 7 large scale warehouses

Size of the job: 16,500 Tons

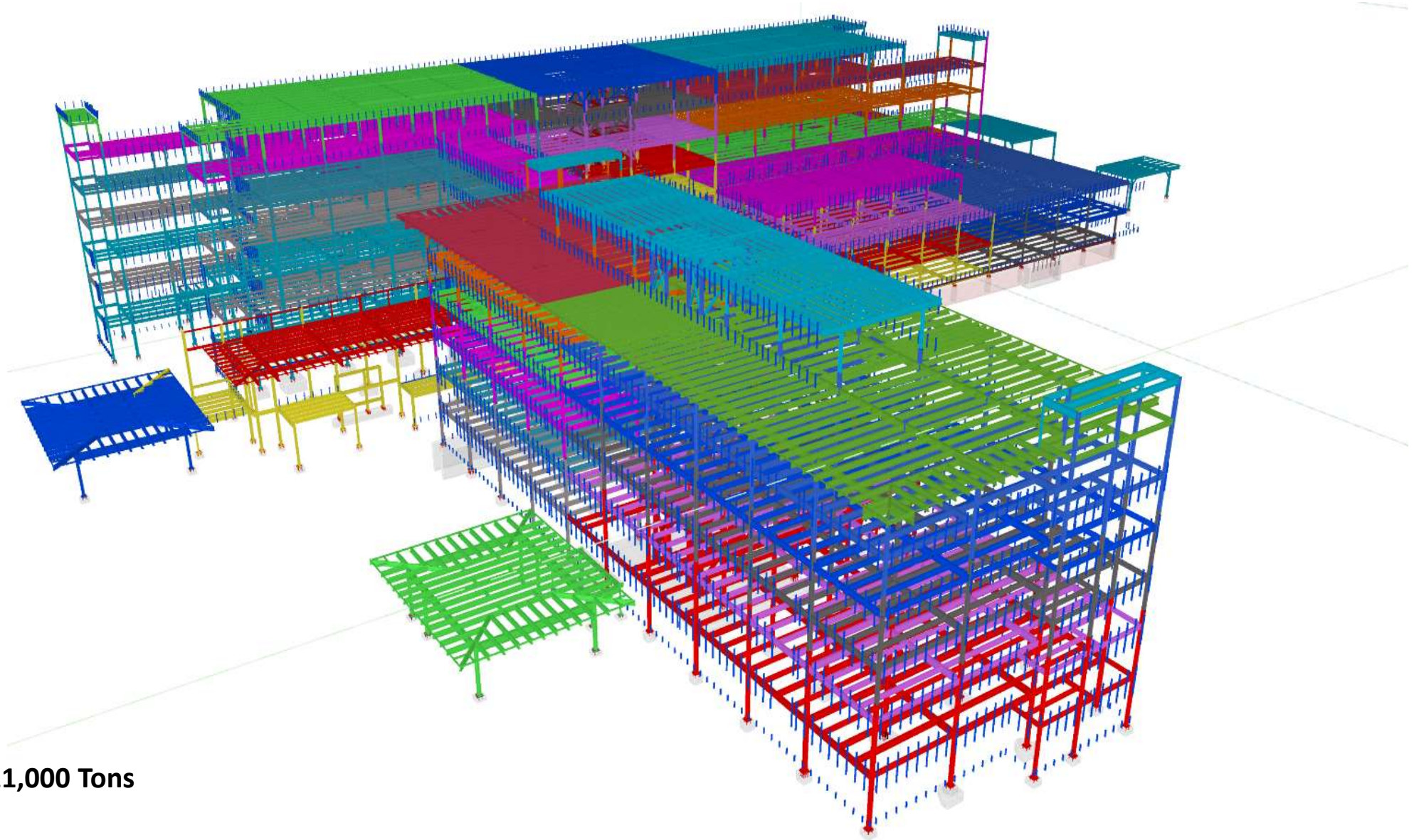
Delivery Schedule: 14 weeks





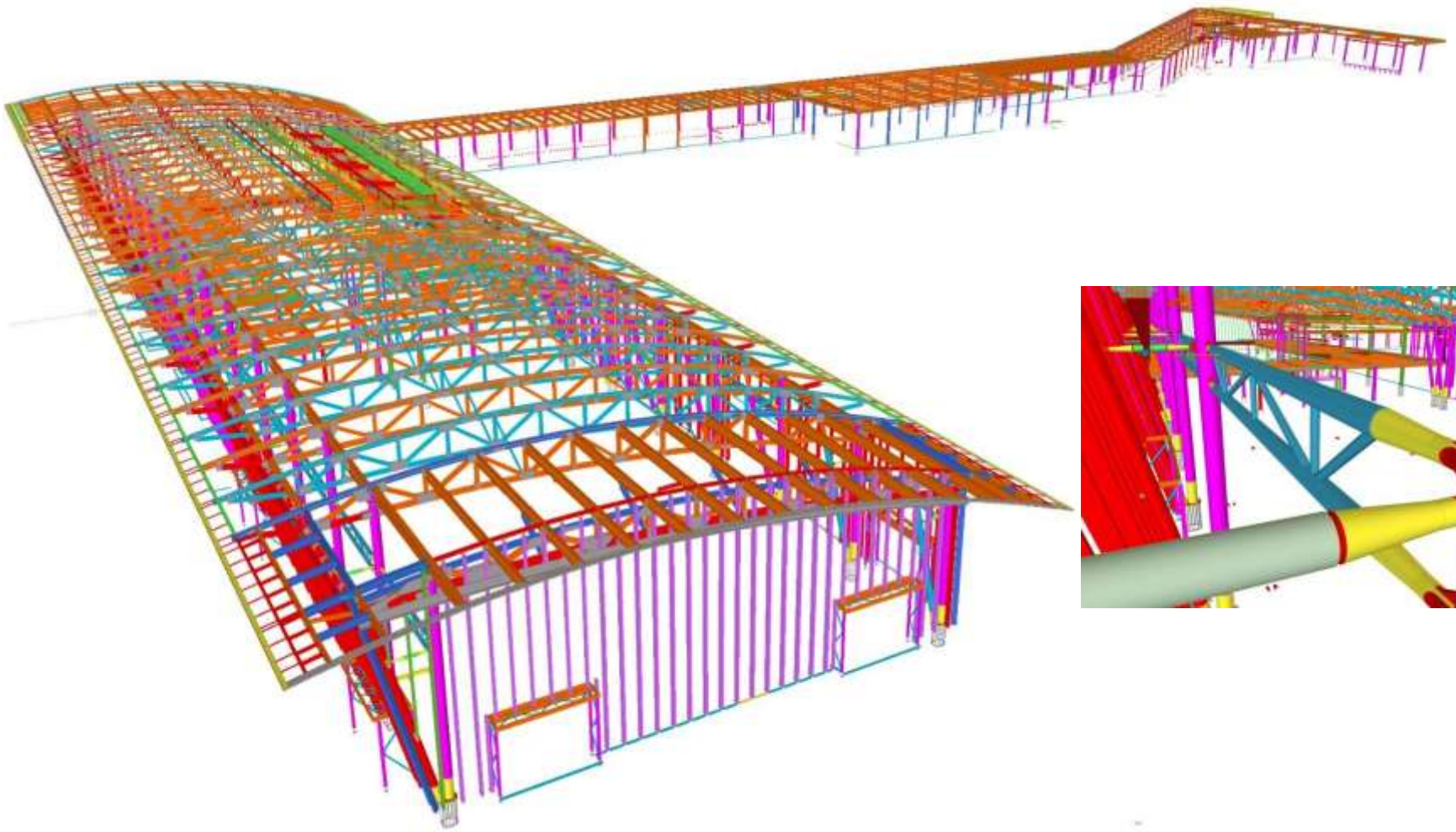


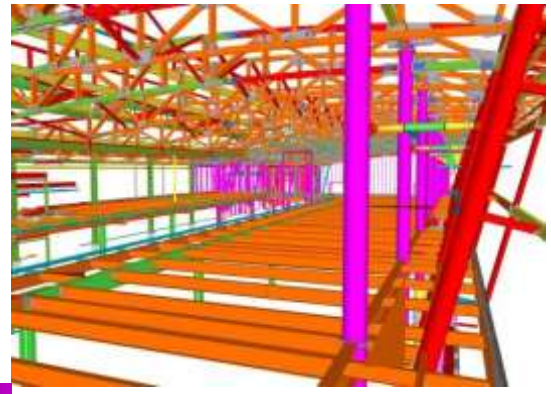
HOSPITAL BUILDING

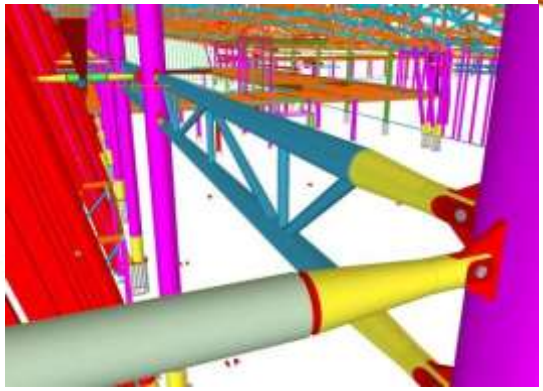


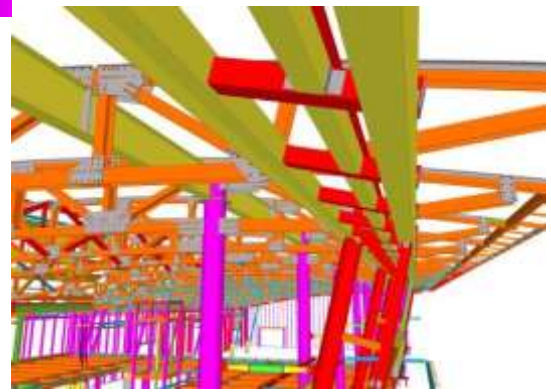
Size of the job: 11,000 Tons

AIRPORT TERMINAL BUILDING



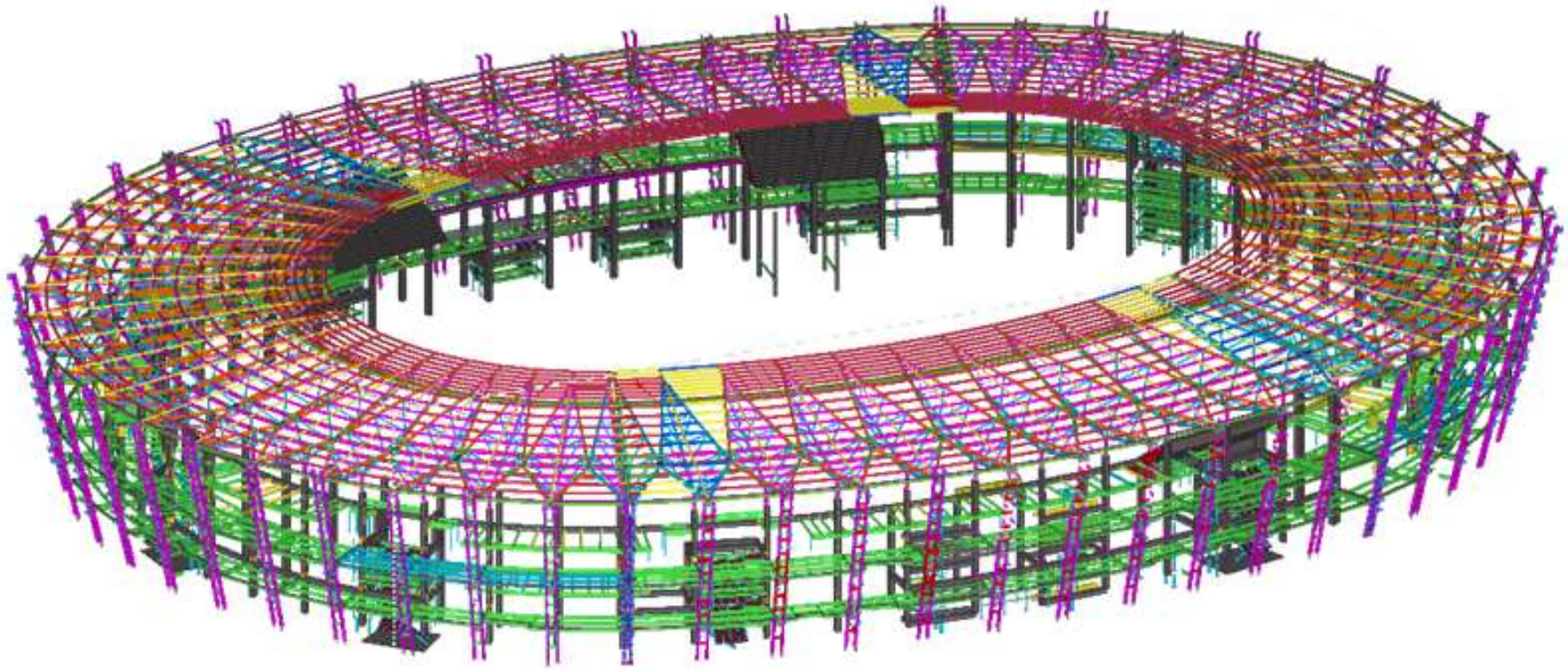






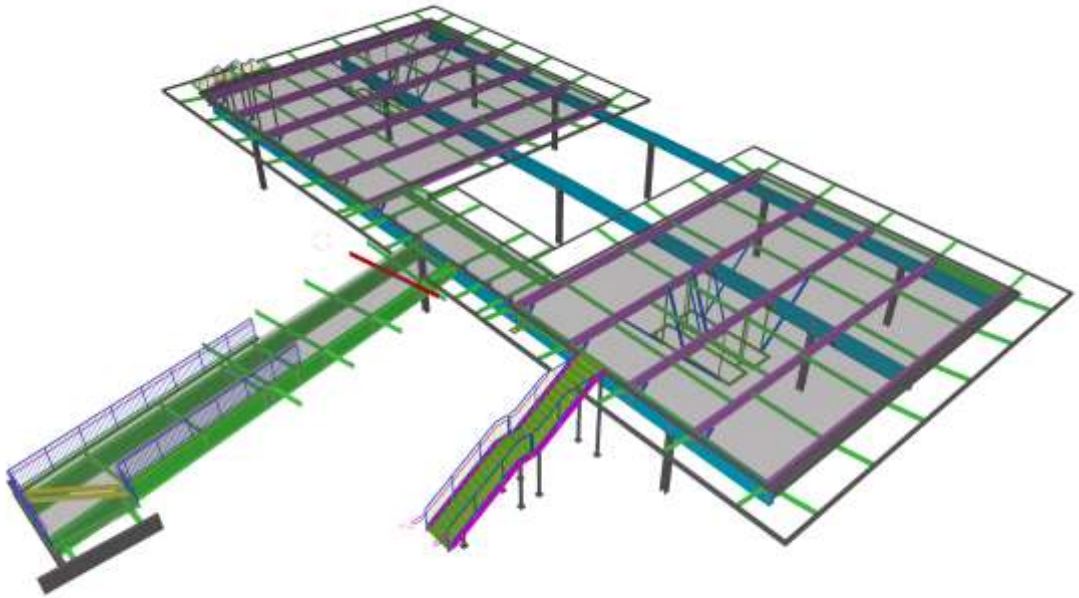
Size of the job: 2,500 Tons

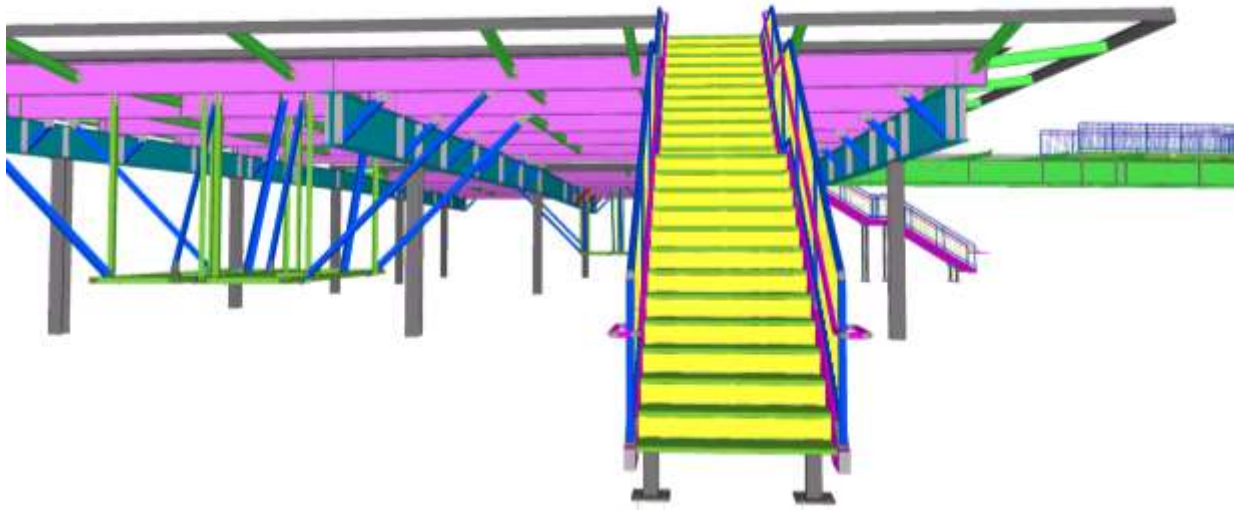
COMMERCIAL: DOME & STADIUM STRUCTURE



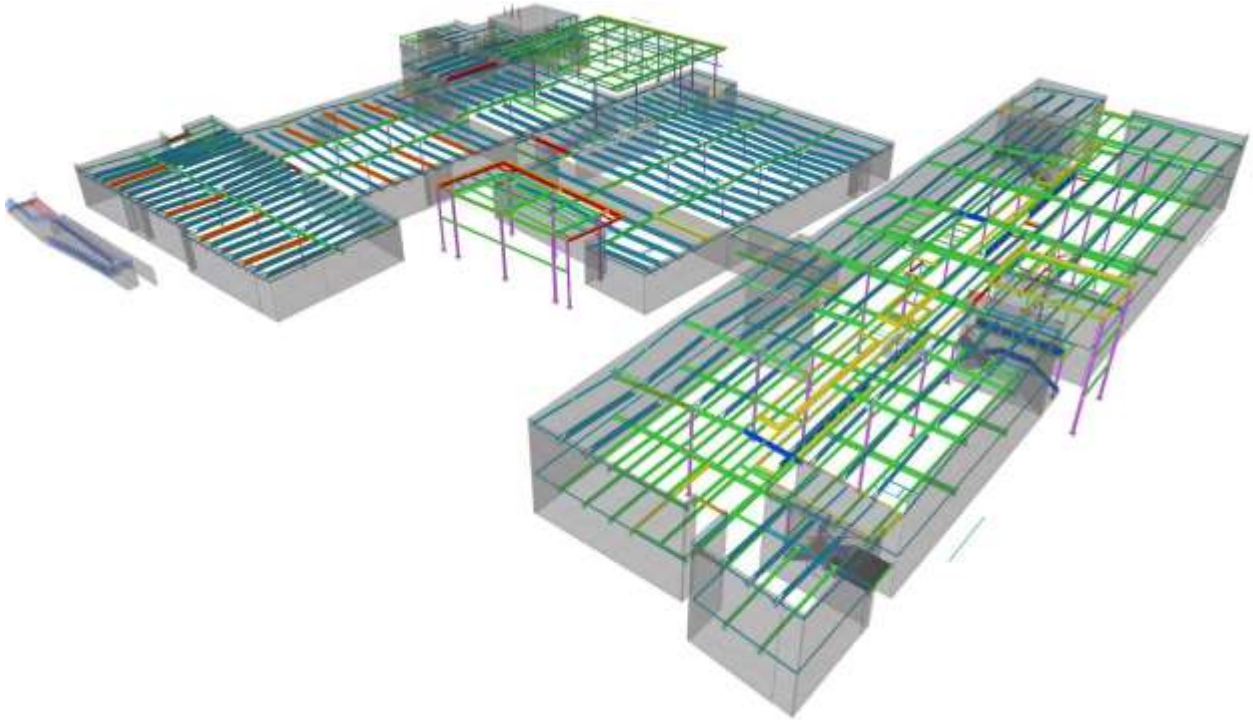
Tonnage: 9800 tons

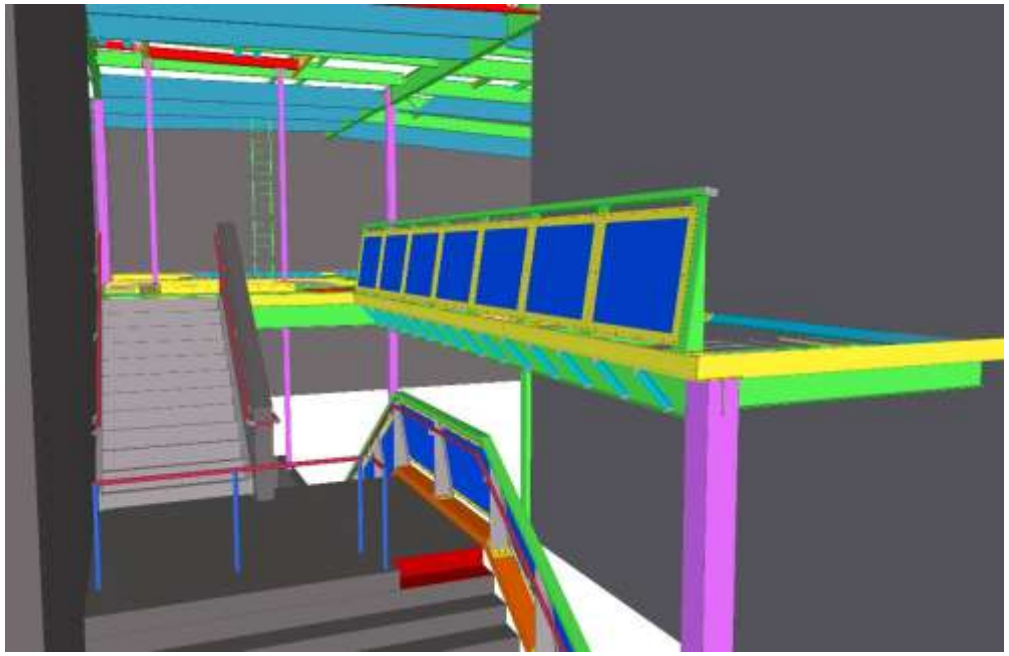
HELIPAD

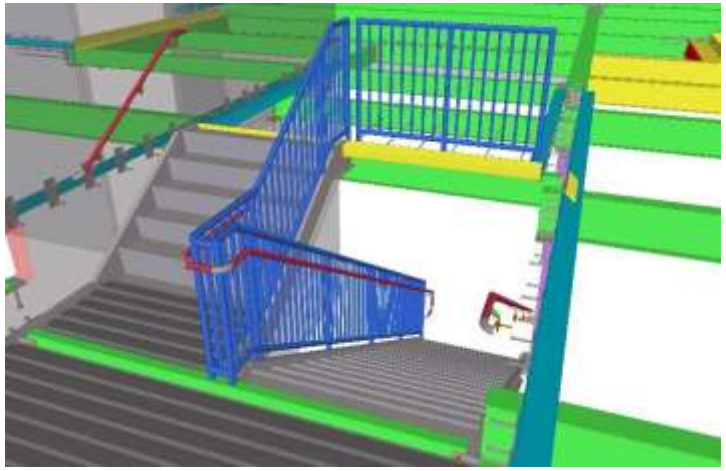


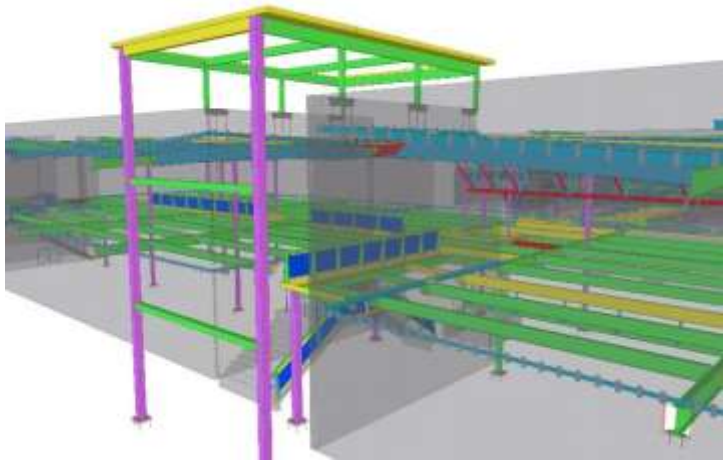


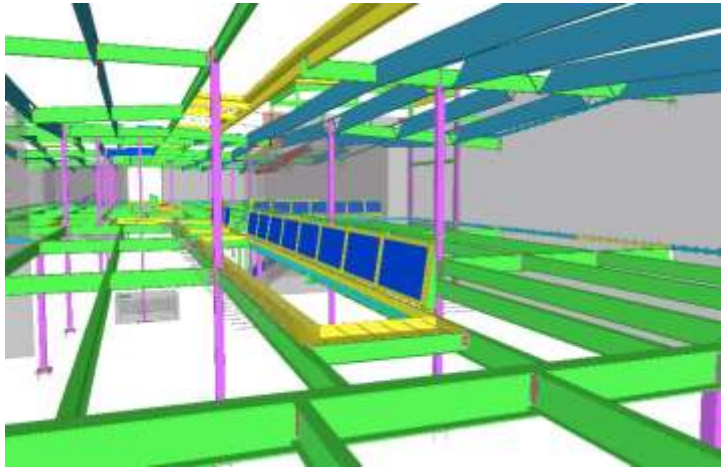
EDUCATIONAL BUILDING



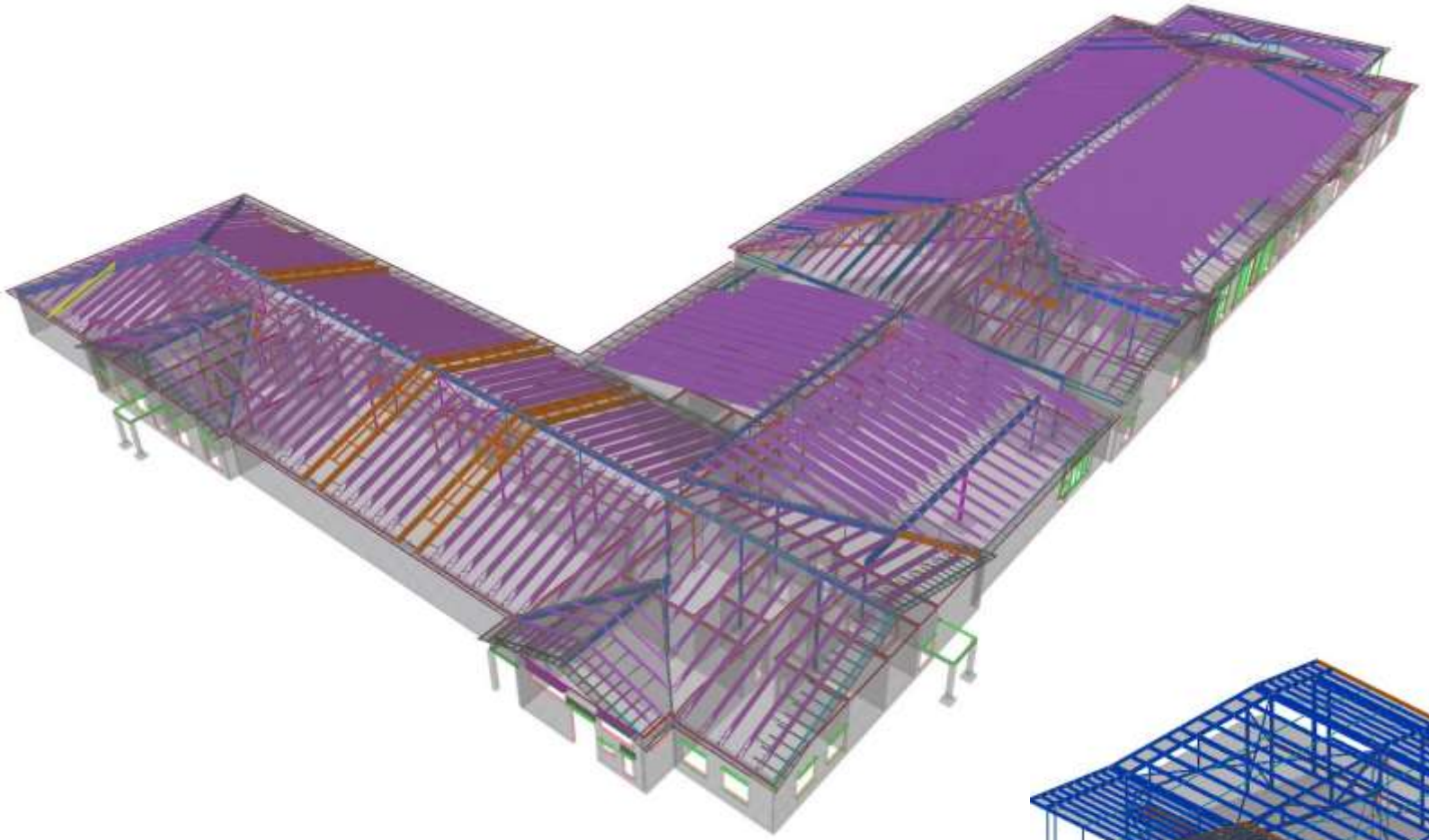


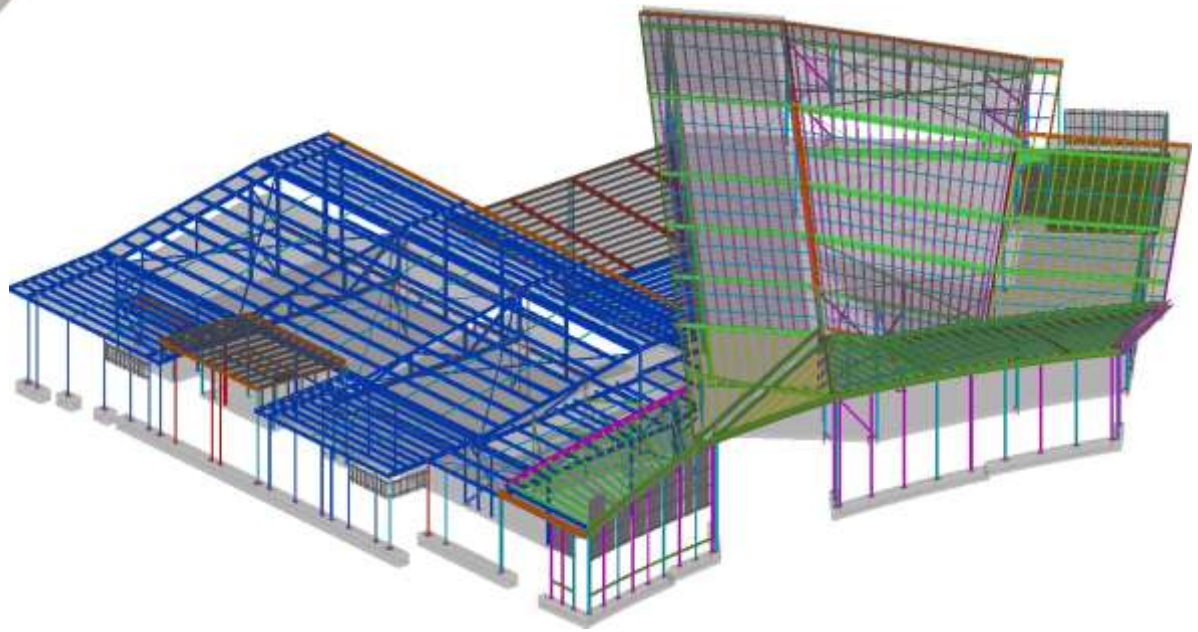






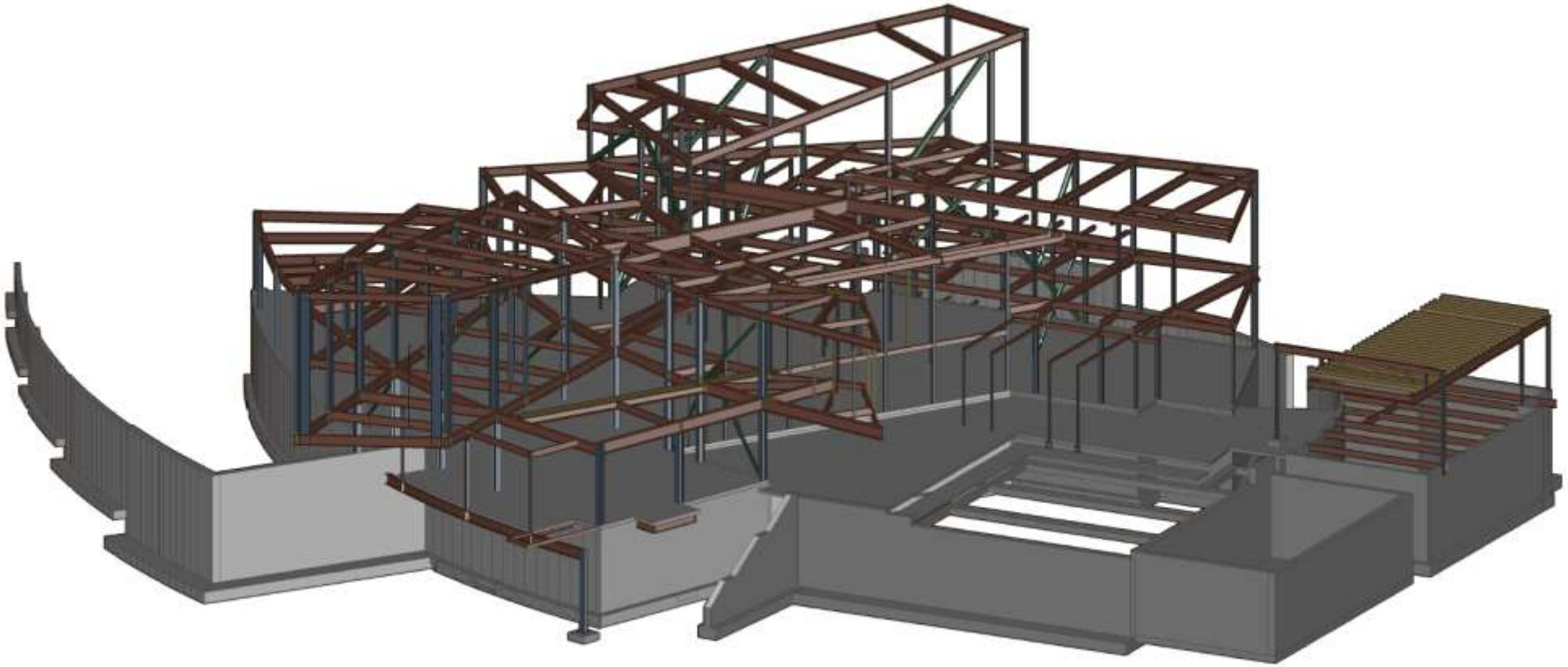
GOVERNMENT PROJECT





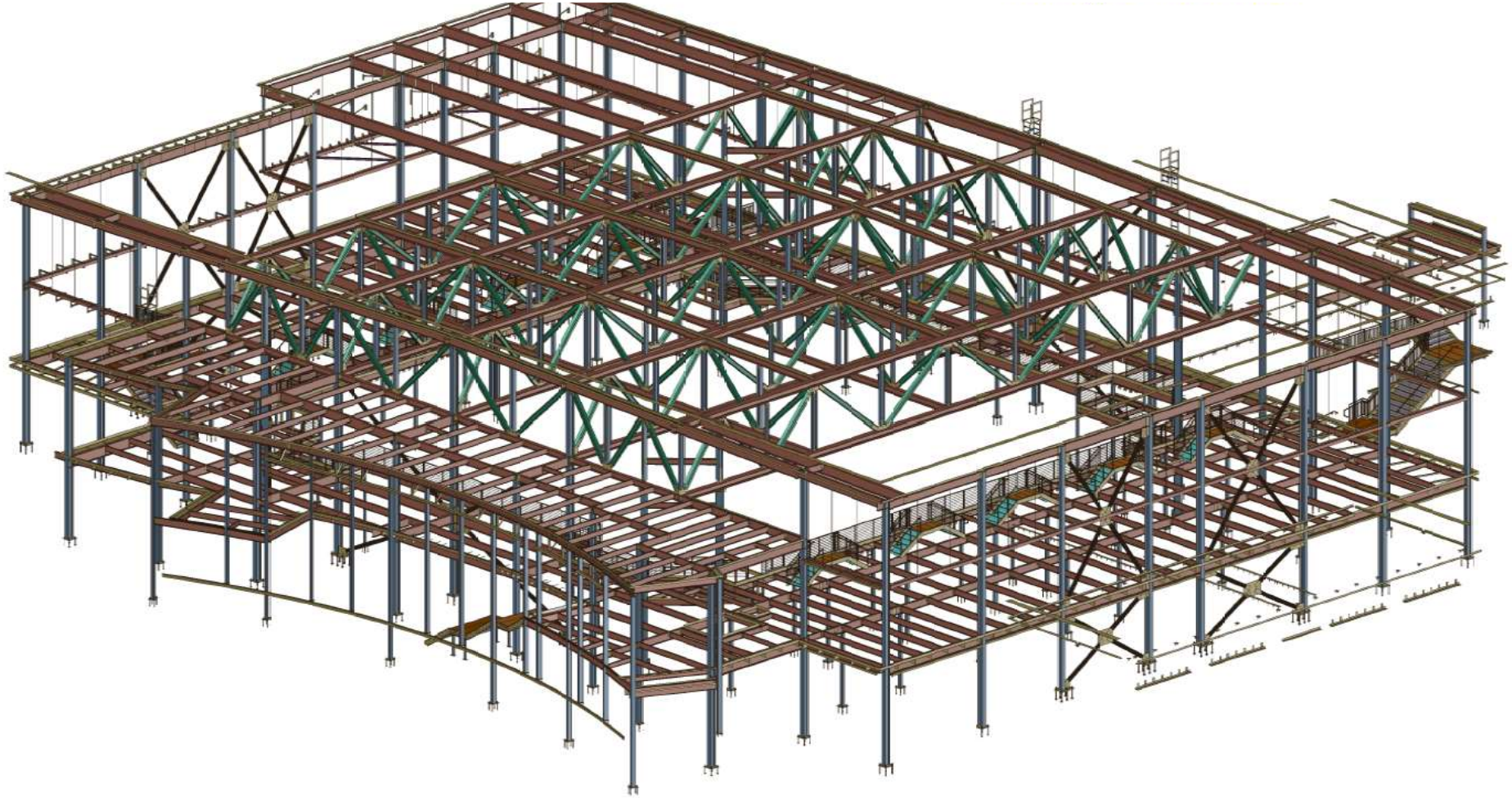
INDUSTRIAL PROJECT

CLUB HOUSE



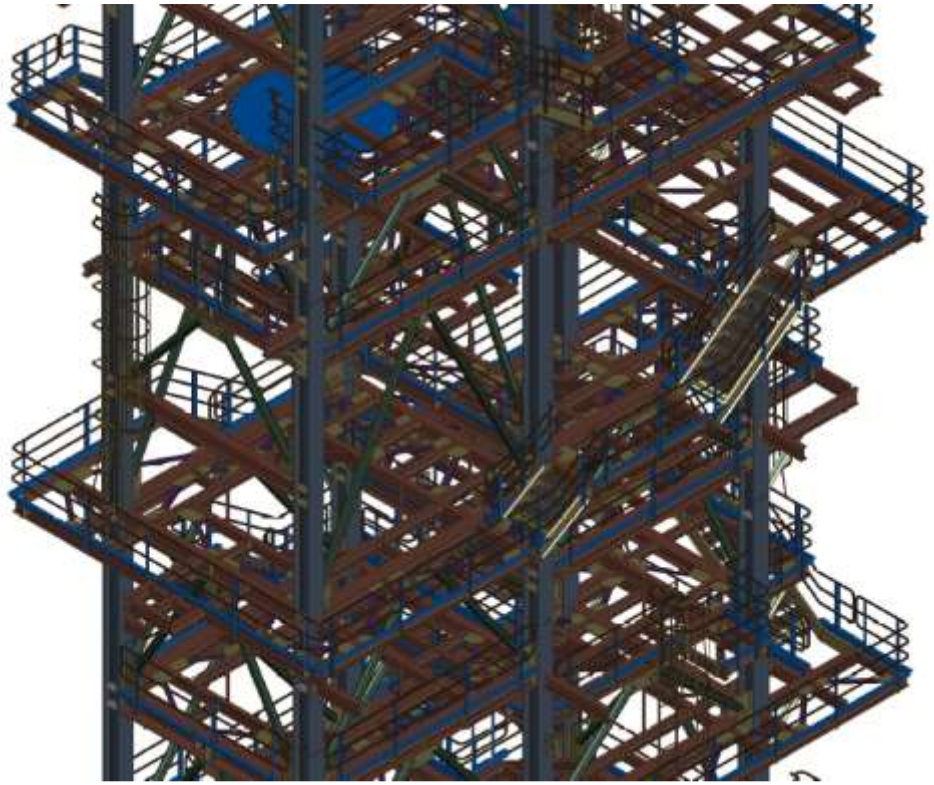
Size of the job: 150 Tons

SCHOOL BUILDING



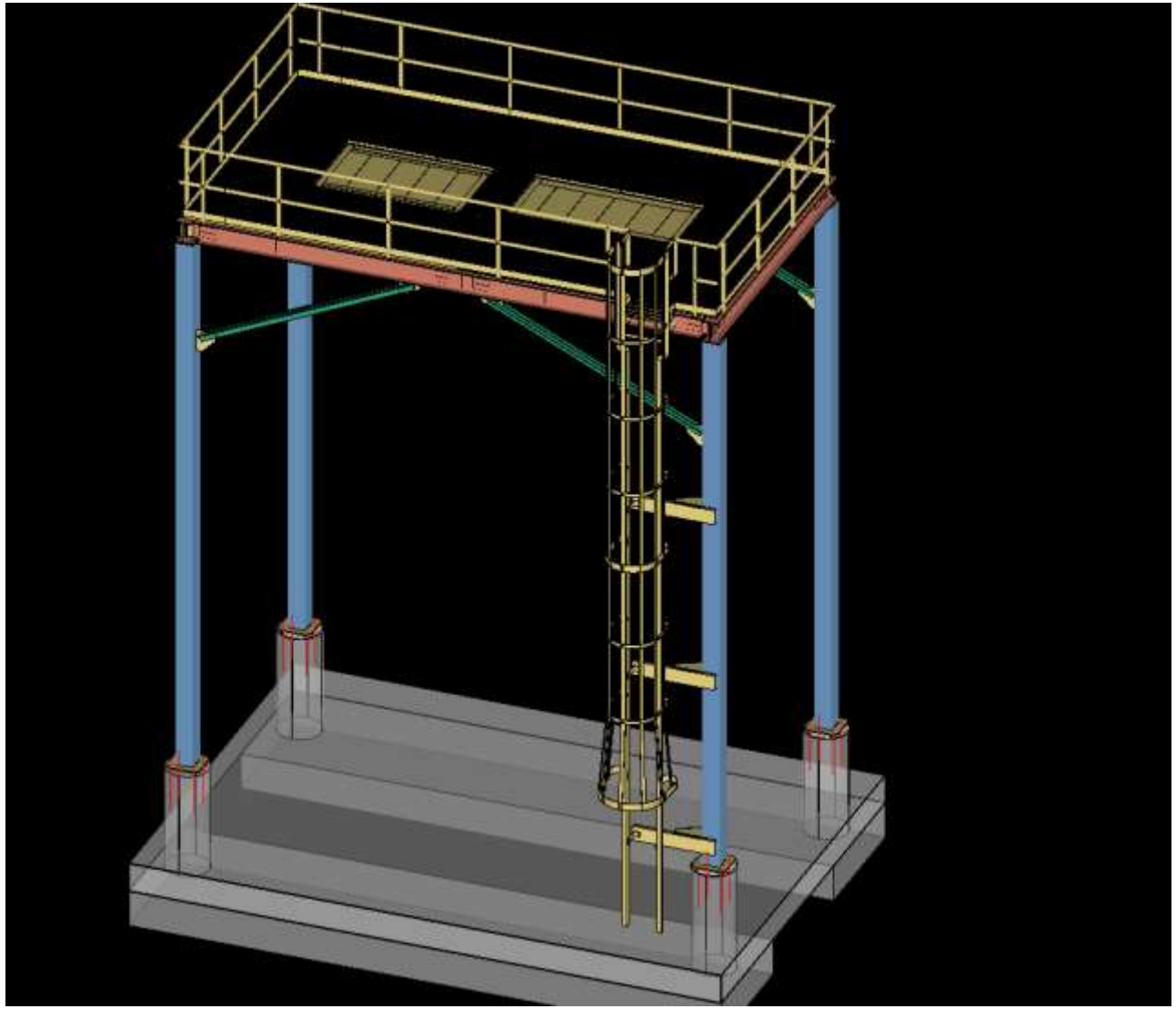
Size of the job: 550 Tons

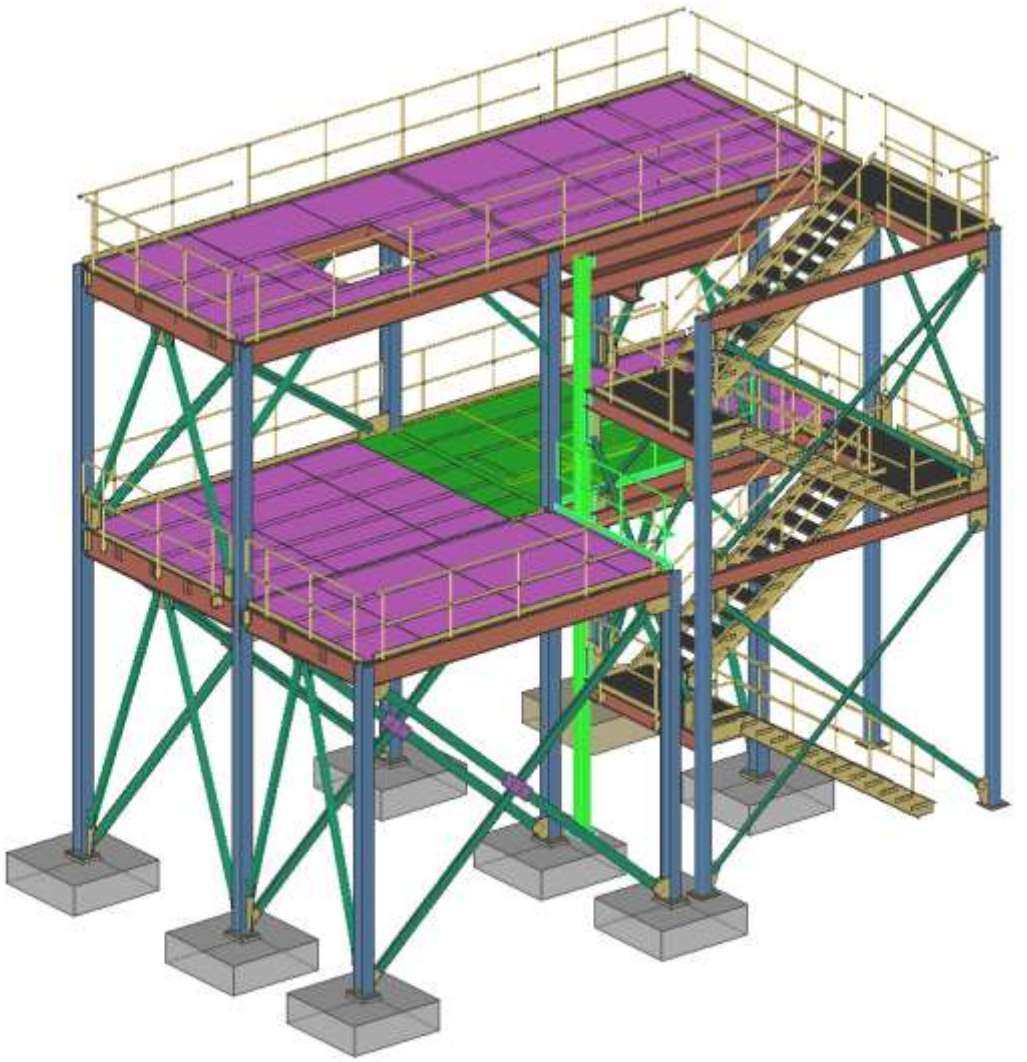
INDUSTRIAL PROJECT



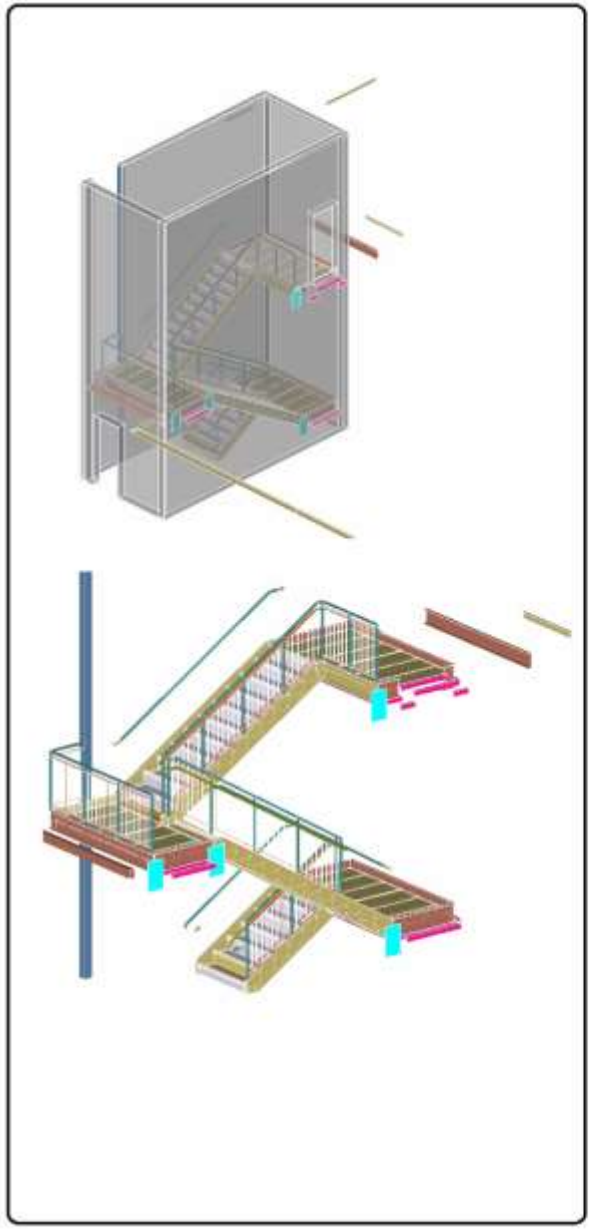
Size of the job: 700 Tons

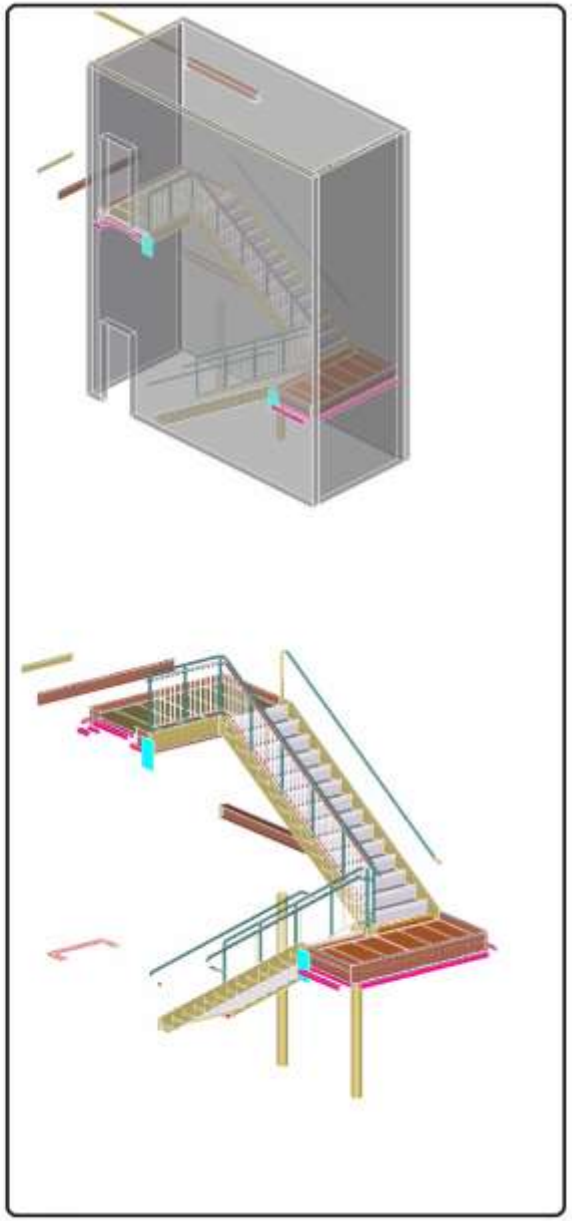
MISCELLANEOUS STEEL: PLATFORM AND GUARD-RAILS

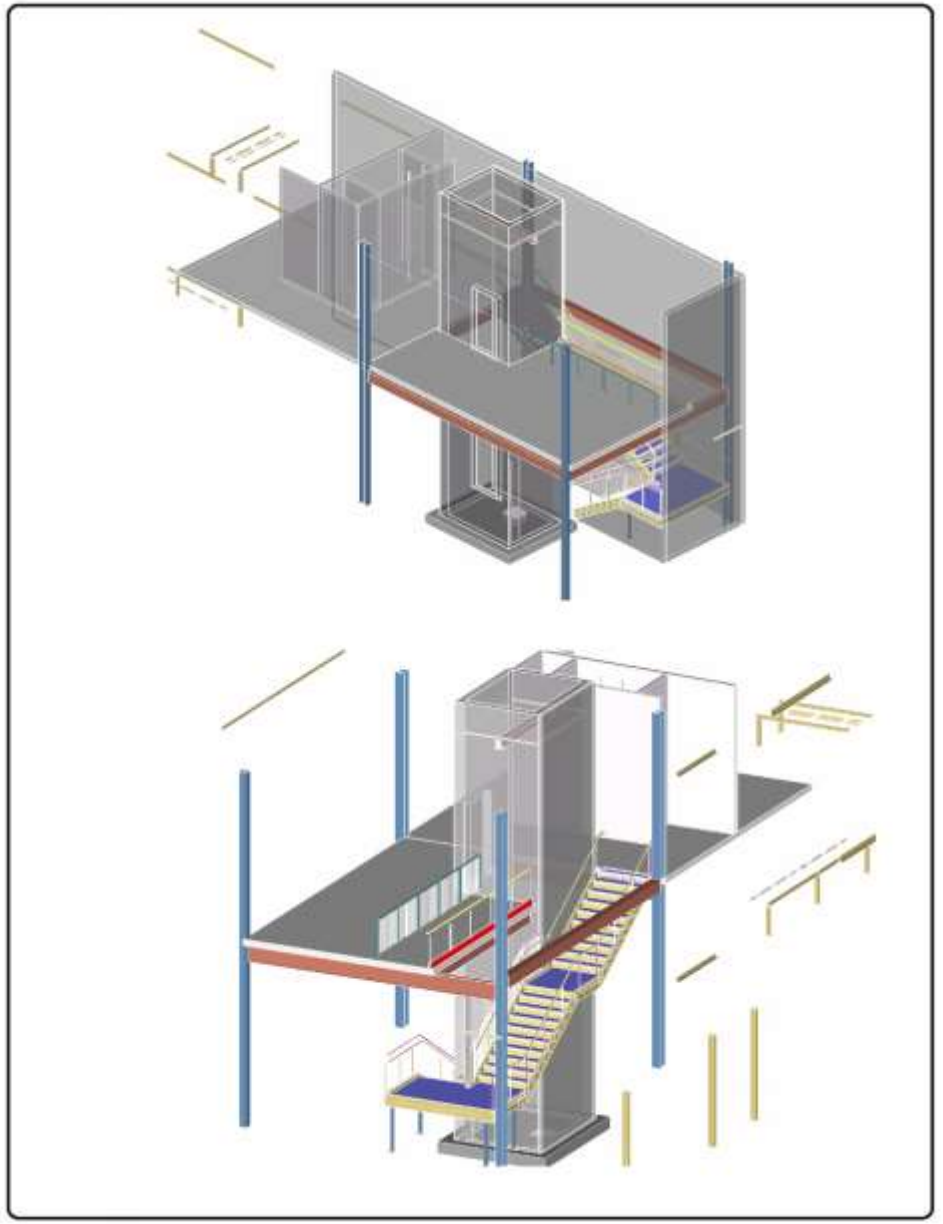




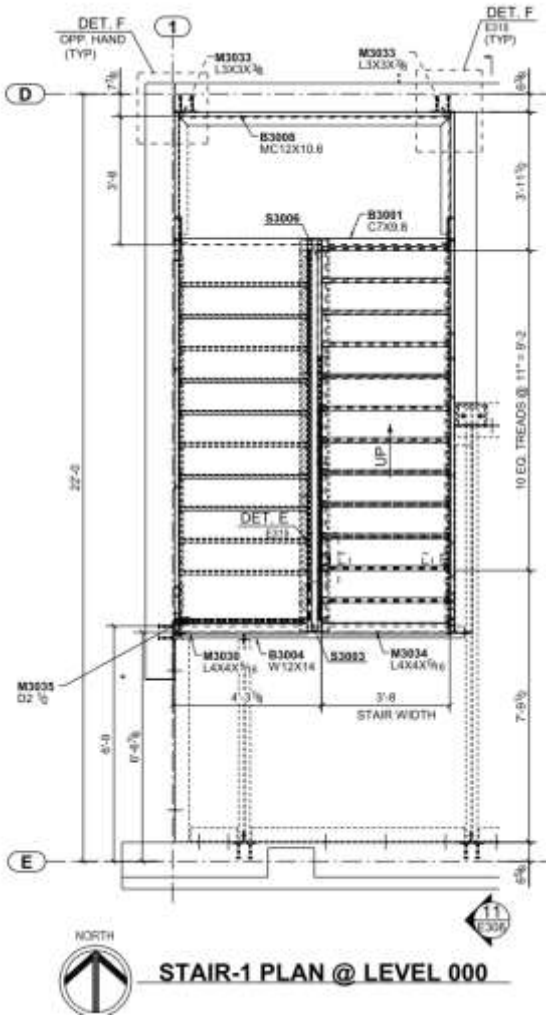
MISCELLANEOUS STEEL: STAIR AND GUARD-RAILS



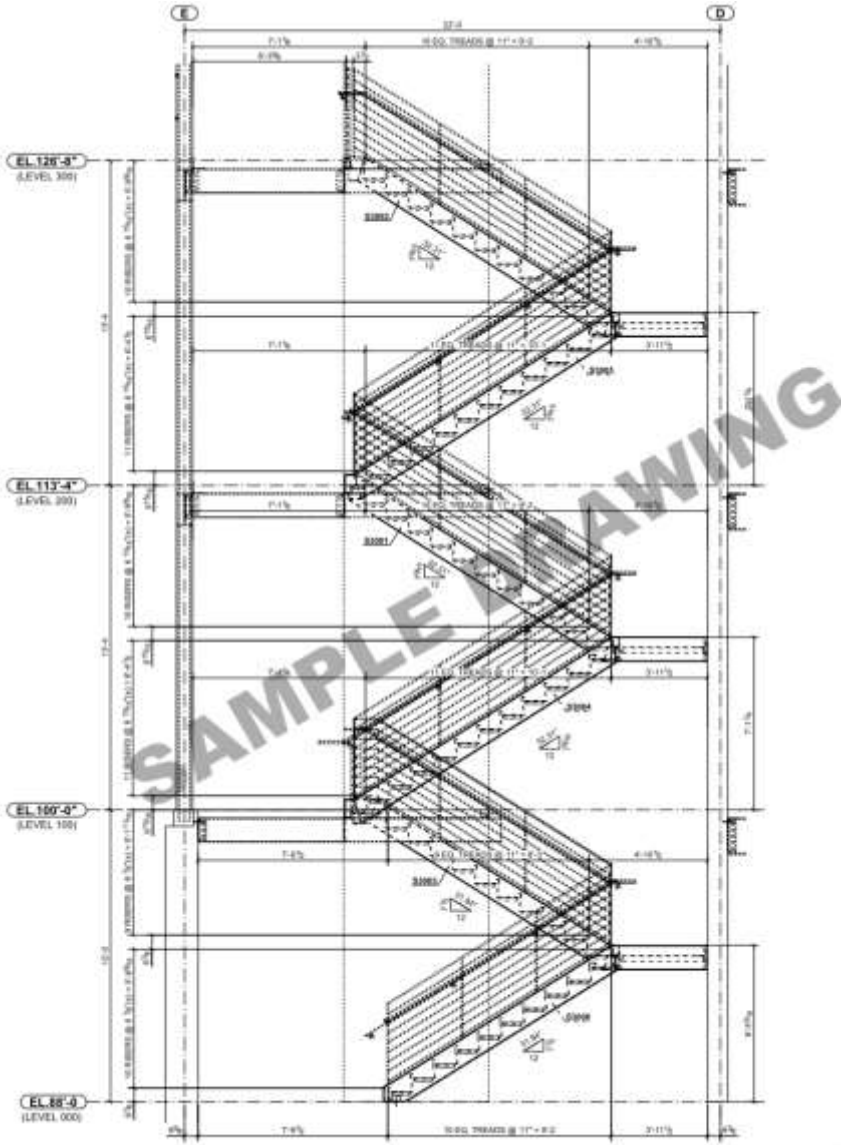




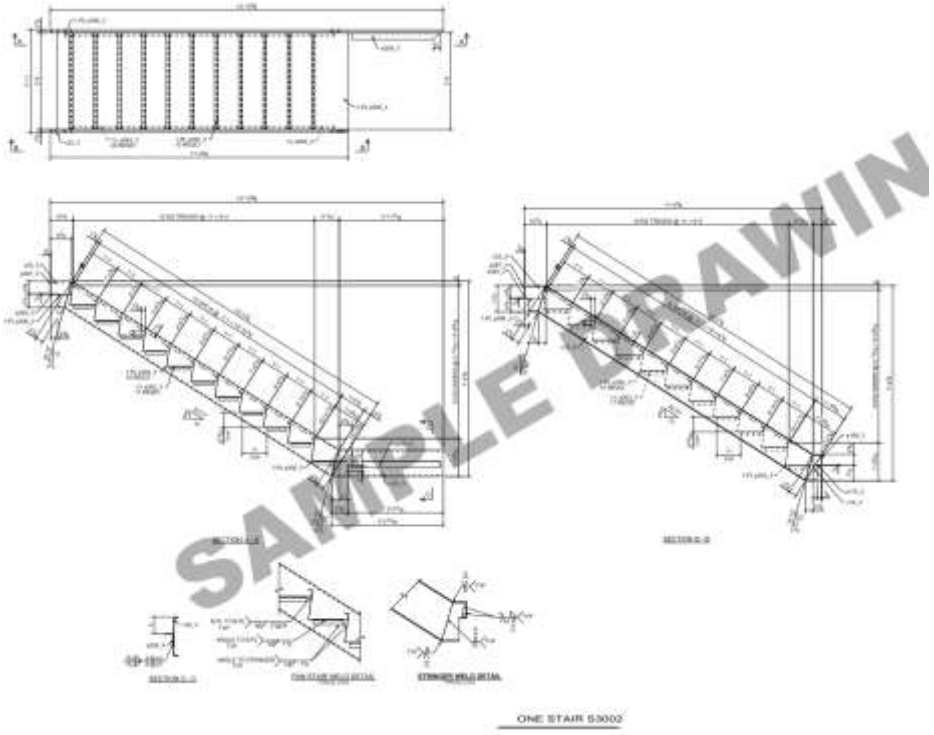
MISCELLANEOUS METALS: STAIRS



STAIR-1 PLAN @ LEVEL 000

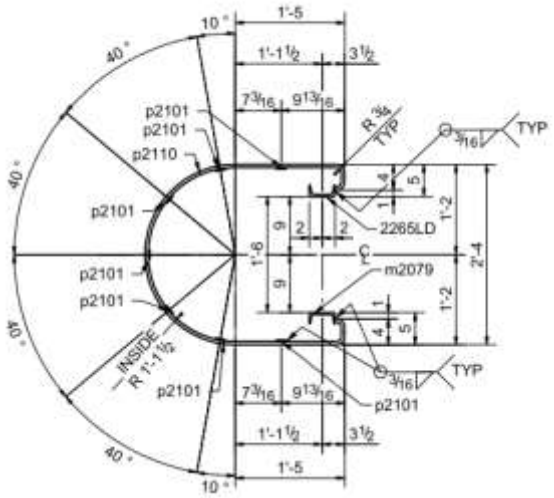


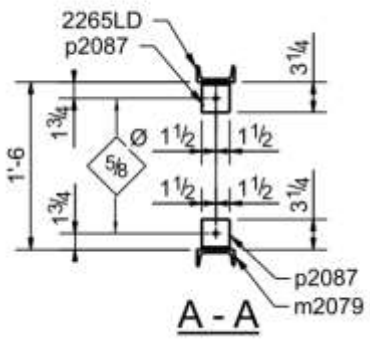
11 SECTION

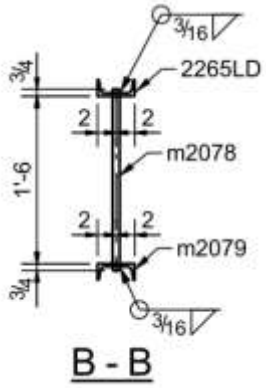


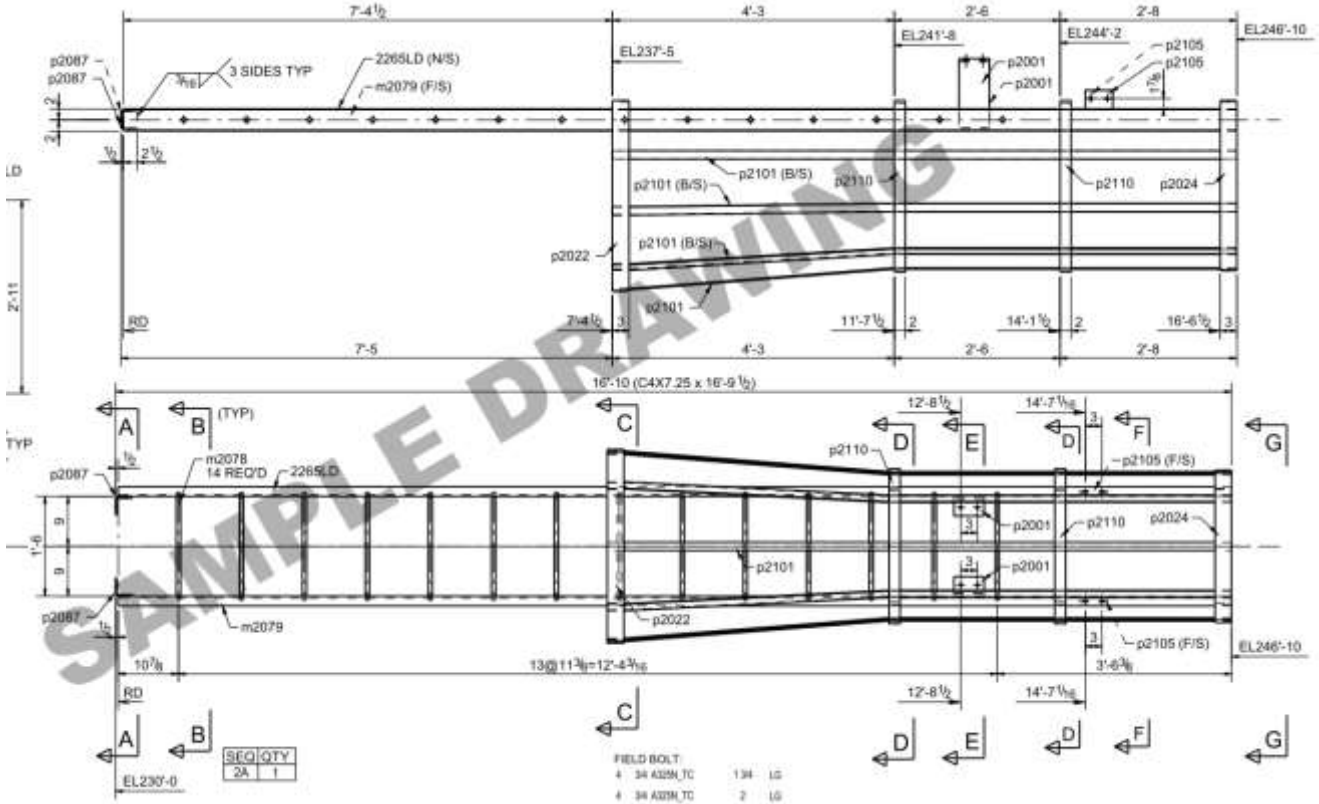
ONE STAIR S3002

MISCELLANEOUS METALS: LADDERS

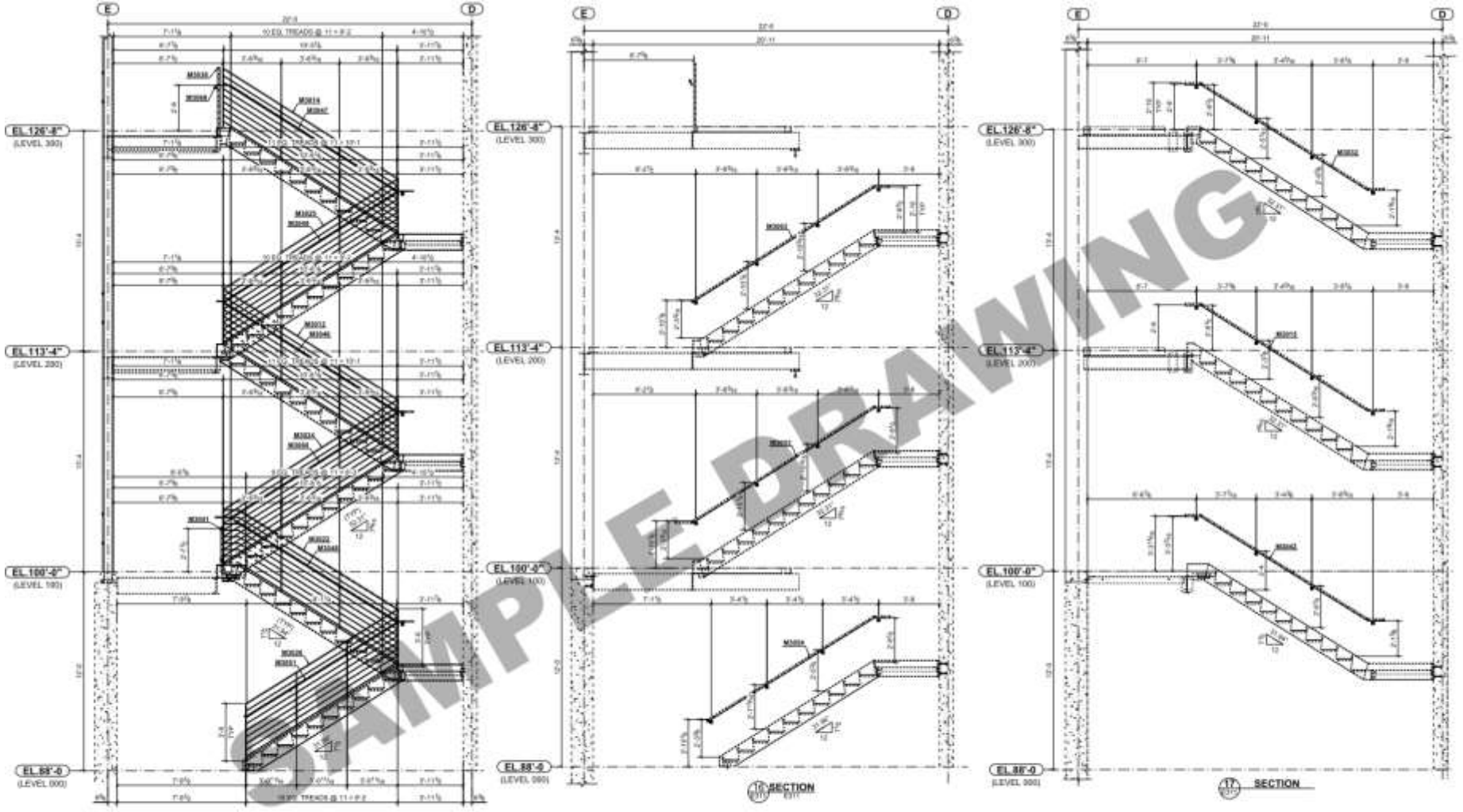






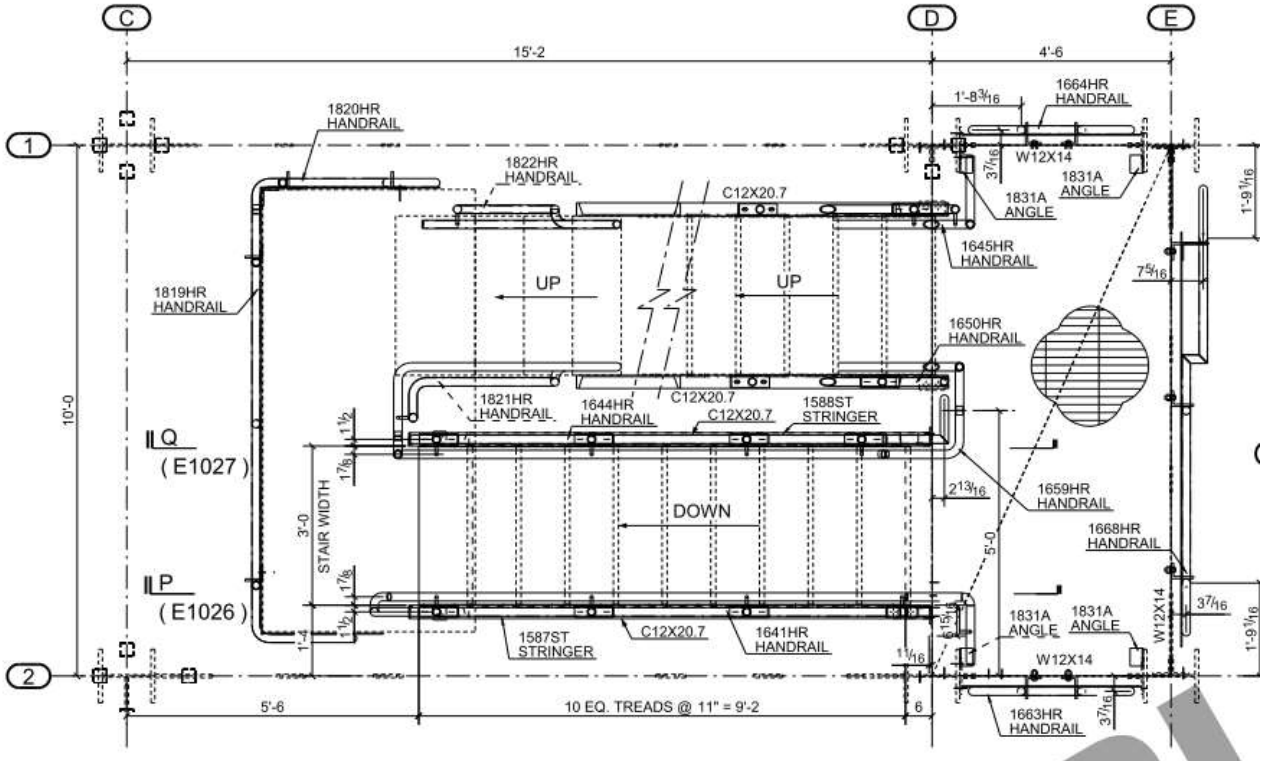


MISCELLANEOUS METALS: HAND RAILS



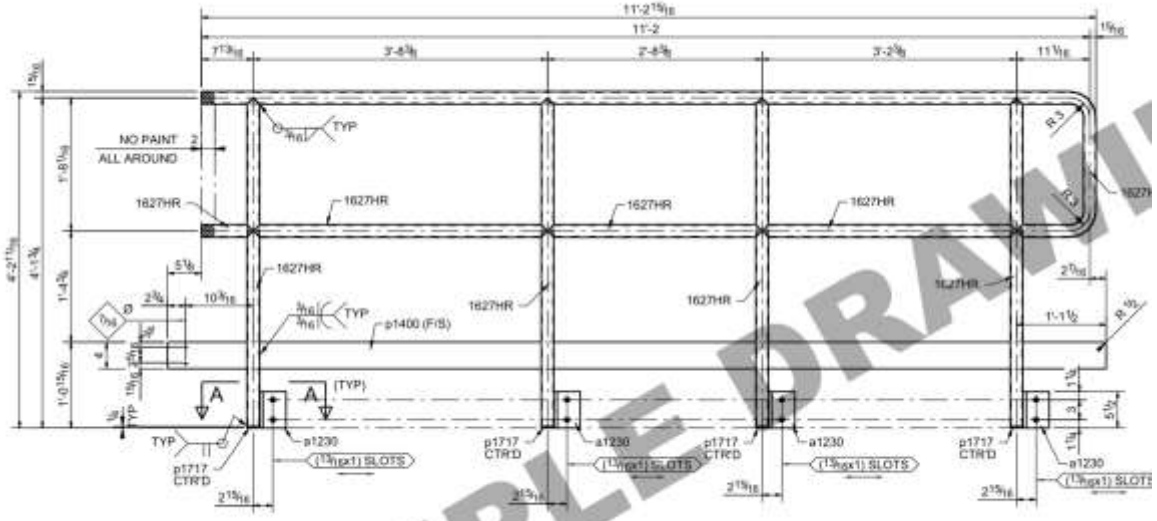
PAN GULF TECHNOLOGIES

MISCELLANEOUS METALS: INDUSTRIAL HAND RAILS

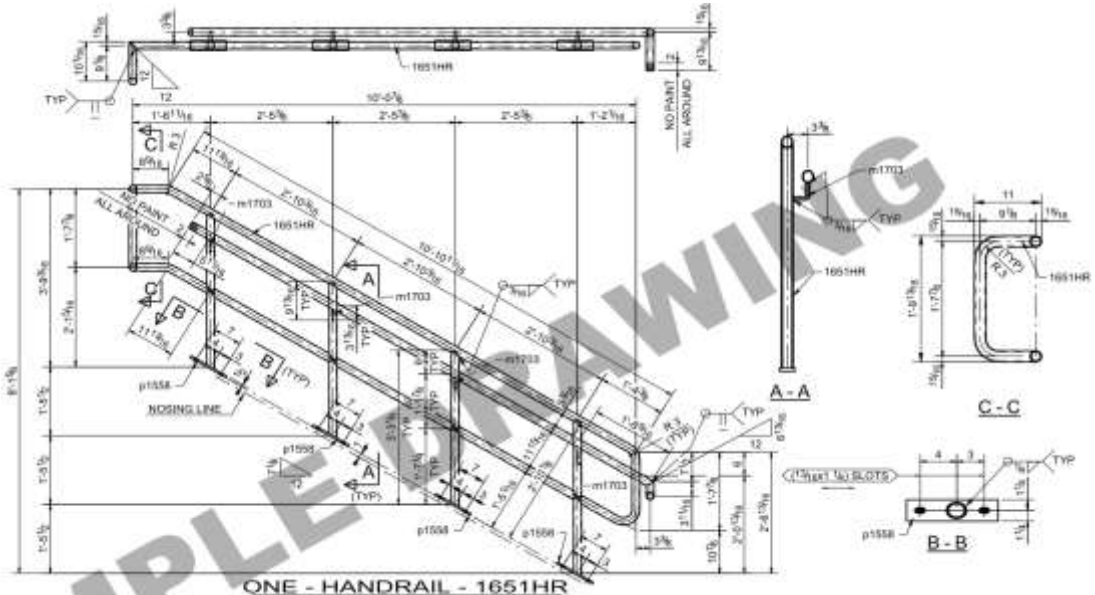


SEQ 1A HANDRAIL PLAN @ T.O.S. EL.236'-10 9/16

TOP OF GRATING EL.237'-0"

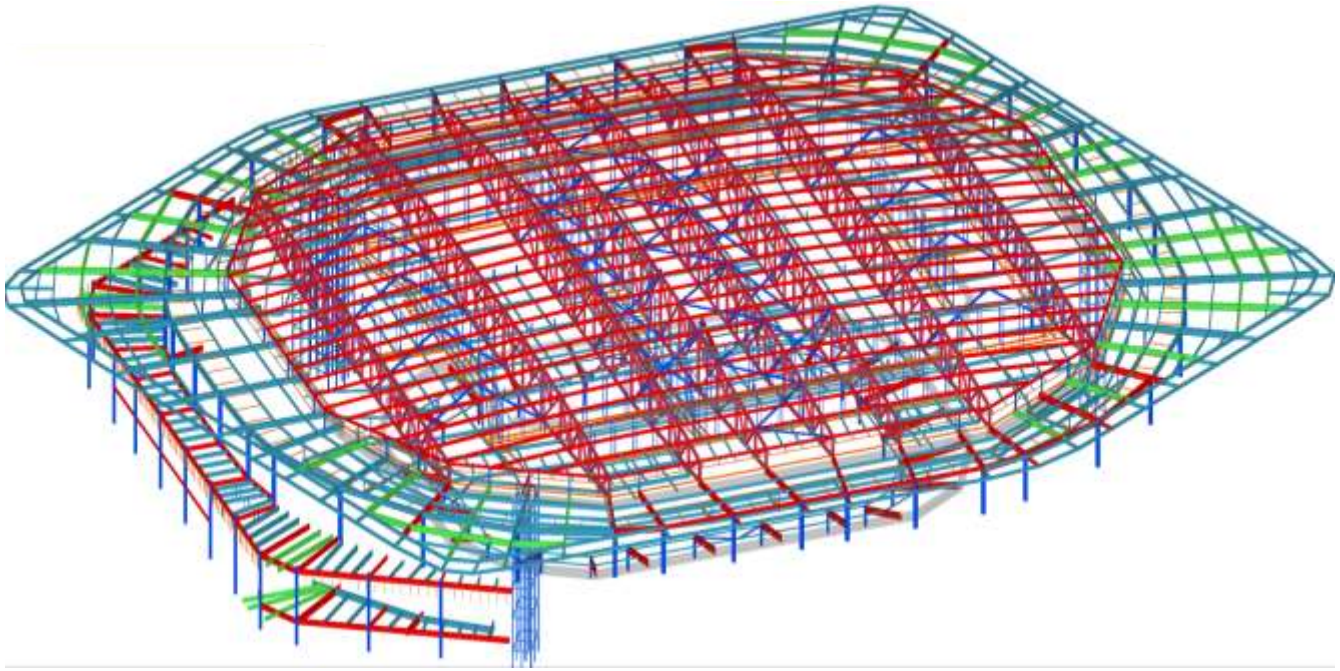


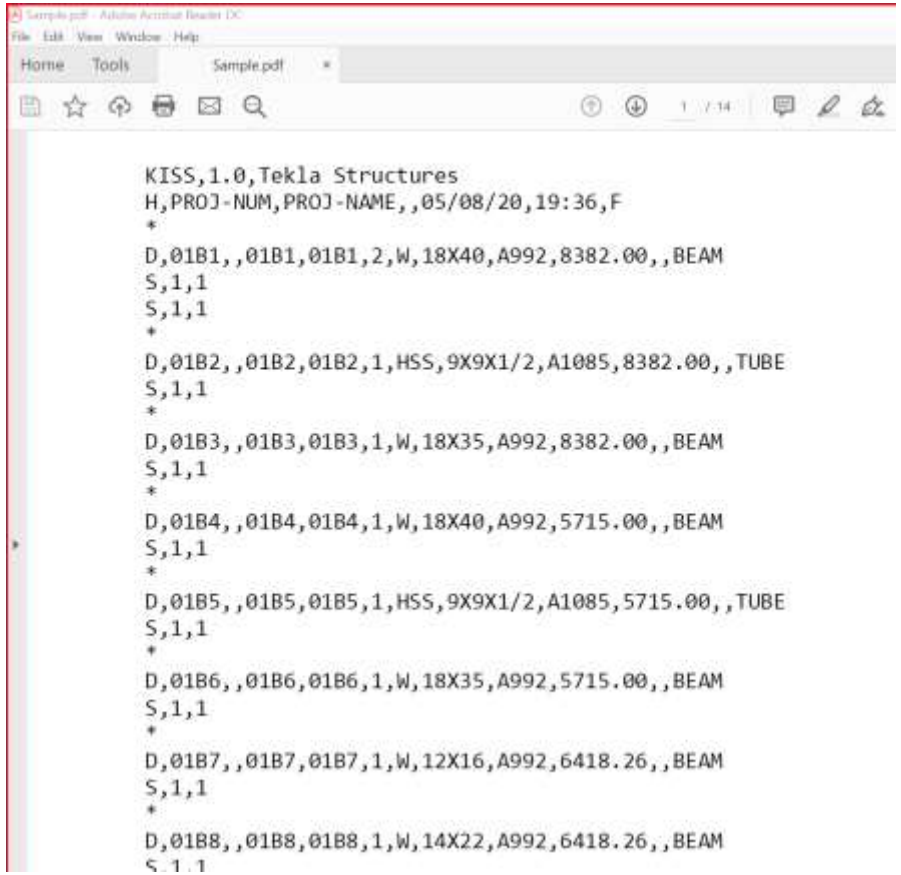
ONE - HANDRAIL - 1627HR



ONE - HANDRAIL - 1651HR

ESTIMATION SERVICES



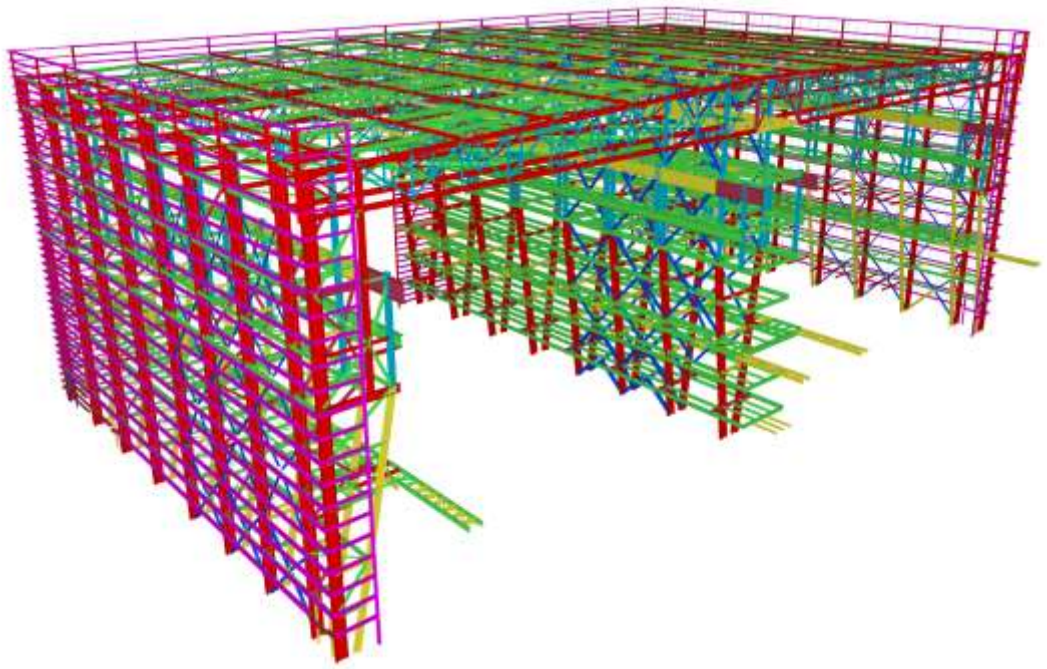


Scope: Stick Modeling for take-off/estimation of steel

Deliverables Format:

.kss
.pdf
Tekla Model

ESTIMATION SERVICES



Sample Project - Material List

Sr. No.	Quantity	Profile	Material	Length			Length (Overall)	Weight	Remark
				Feet	Inch	Fract			
1	42	CBX11.5	A36	2	6		2'-6"	1204.22	
2	2	CBX11.5	A36	2	7		2'-7"	59.26	
3	98	CBX11.5	A36	3	0		3'-0"	3371.82	
4	1	CBX11.5	A36	3	5		3'-5"	39.18	
5	1	CBX11.5	A36	3	8		3'-8"	42.05	
6	2	CBX11.5	A36	4	3	5/16	4'-3 5/16"	98.12	
7	1	CBX11.5	A36	4	5	1/4	4'-5 1/4"	50.89	
8	4	CBX11.5	A36	4	6		4'-6"	206.44	
9	4	CBX11.5	A36	4	6		4'-6"	206.44	
10	2	CBX11.5	A36	4	9	1/8	4'-9 1/8"	109.24	
11	9	CBX11.5	A36	4	9		4'-9"	490.29	
12	3	CBX11.5	A36	4	9		4'-9"	163.43	
13	2	CBX11.5	A36	4	10		4'-10"	110.86	
14	2	CBX11.5	A36	4	11		4'-11"	112.78	
15	8	CBX11.5	A36	5	0	3/4	5'-0 3/4"	464.48	
16	6	CBX11.5	A36	5	0	5/16	5'-0 5/16"	345.97	
17	12	CBX11.5	A36	5	0		5'-0"	688.13	
18	2	CBX11.5	A36	5	1	1/2	5'-1 1/2"	117.55	
19	6	CBX11.5	A36	5	1	11/16	5'-1 11/16"	353.62	
20	2	CBX11.5	A36	5	8		5'-8"	129.98	
21	2	CBX11.5	A36	5	8		5'-8"	129.98	
22	4	CBX11.5	A36	5	9		5'-9"	263.78	
23	4	CBX11.5	A36	5	9		5'-9"	263.78	
24	4	CBX11.5	A36	6	6	1/2	6'-6 1/2"	300.1	

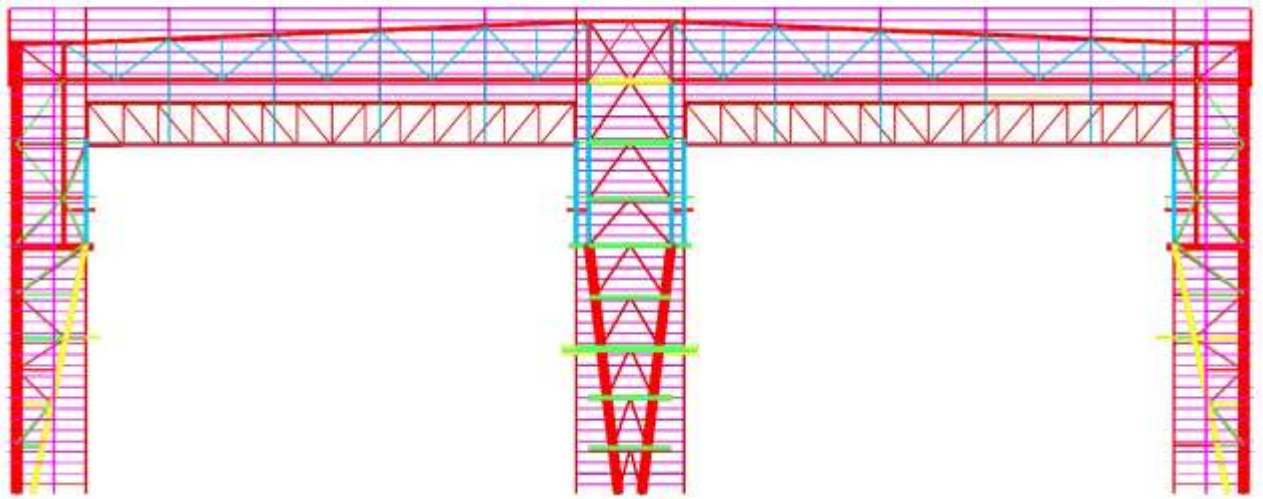
Scope: Stick Modelling for take-off/estimation of steel

Deliverables Format:

.kss

.pdf

Tekla Model



Thank You!

Headquarters

6th Floor, A Wing, Lodha i-think
Campus, Pokhran Road No. 2,
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INDIA

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