

Aryan Tarh Mandegar Detail Profile

ARYAN TARH MANDEGAR (ATM) is a registered company specializing in Civil, Structural and Architectural Engineering and design.

Established in 2014, ATM adheres to international design and drafting standards to offer high quality deliverables to customers in a wide spectrum of industries including oil, gas and petrochemical plants, industrial complexes, commercial buildings and high-rise buildings.

The team comprises high-calibre professionals with domain expertise in their chosen fields. At your service are mechanical engineers, civil engineers, structural engineers and architects, supported by engineering draftsmen and design and animation specialists.

Engineering Services

Structural Engineering Design

- ❖ Using industry-standard design and finite element tools, ATM conducts design and analysis for all types of residential and commercial buildings both RCC and Steel.
- ❖ Engineering, Analysis, Detail Design and Drawing Preparation for:
 - Open structures for pipe racks including steel structures, RCC and composite structures
 - Equipment supporting structures and shelters
 - Blast resistant control and substation buildings
 - Vibrating machine foundations (pumps and compressors, turbines, electrical motors)
 - Fixed type equipment foundations (pressure vessels, process towers, reactors)
 - Foundation for skids
 - Above ground pipeline infrastructure (RCC sleepers, culverts, pipe bridges)
 - Special steel pipe supports
 - Misc. Structural steel such as platforms, access ways, jump overs
 - Above ground storage tanks foundation
 - Underground and above ground RCC storage tanks, half buried pits and tanks
 - Box type concrete cooling towers
 - Long span hangars and warehouse building structures
- ❖ Package Preparation to Hire Technical Services for:
 - Site and soil investigation scope of works
 - Seismic hazard studies and site specific ground motion for seismic design
 - Ground improvement
- ❖ Procurement Services:
 - Material requisition and MTOs for structural steel
 - Anchor bolts and bolt installation templates
 - Sandwich panel cladding
- ❖ Construction and Fabrication Stage:
 - Shop drawing preparation for structural steel
 - Shop drawing review and mark up

Civil Engineering

ATM cover the entire gamut of design & drafting services in civil engineering across industries. ATM caters to various geographies with tailor-made services and is backed by highly experienced civil engineers. Key services offered by ATM include:

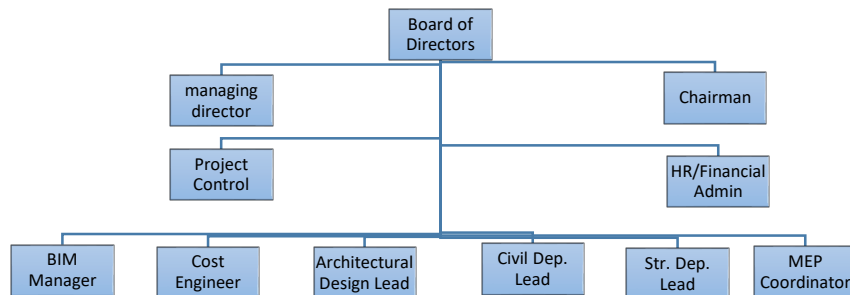
- ❖ Scope of work for site surveying package
- ❖ Ground improvement study
- ❖ Site grading study to minimize cost of site preparation
- ❖ Preliminary rough grading drawings and site level design
- ❖ Design of temporary and permanent access ways to site
- ❖ Geometric design of on plot roads and streets
- ❖ Design for engineered embankments, flexible and rigid pavements
- ❖ Slope stability analysis and retaining wall design
- ❖ Drainage design including:
 - Hydrological and climatological data collection and analysis and flood mitigation study and design
 - Flood control design
 - Surface run-off study and drainage system design
 - Underground drainage systems
 - Chemical plant drainage networks including oily water systems, potentially oily water, blow downs and clean waters
 - Sanitary sewer networks and spetic tanks
 - Composite underground drawings, 3d modelling and coordination through Aveva PDMS

ATM uses Autodesk Civil 3D, Storm and sanitary design packages for design works.

Architectural Engineering

- ❖ Study of the physical, structural and performance aspects of built environments for industrial, semi industrial and non-industrial buildings including admin building, canteen, dormitories, clinic, fire station, guard house
- ❖ Area validation study and report
- ❖ Basic design for buildings
- ❖ Detail architectural design and quantity take-off
- ❖ 3d modelling
- ❖ BIM based designs based on Revit packages
- ❖ Landscaping design for industrial and non-industrial buildings
- ❖ Planning and design for laboratories at chemical plants
- ❖ Architectural design of control buildings and substations

Organization Chart



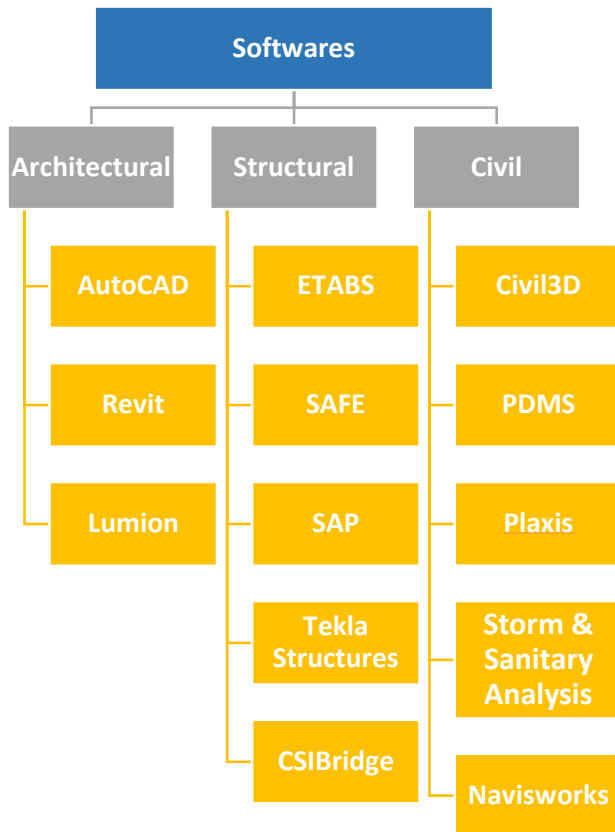
International Codes and Standards

ATM undertakes design works as per international codes and standards as follows:

- 1- IBC
- 2- ASCE 7
- 3- AISC (360,341,358)
- 4- ACI 318 and other publications from American concrete institute
- 5- API
- 6- NFPA
- 7- FEMA 356
- 8- AASHTO

ATM also uses Neufert for architectural design, and ASCE publications and guidelines in petrochemical industries.

Software Packages



ATM have developed ready to use tools for the design of foundations, base plates and connections, taking into considerations all the design code requirements and the appropriate checks

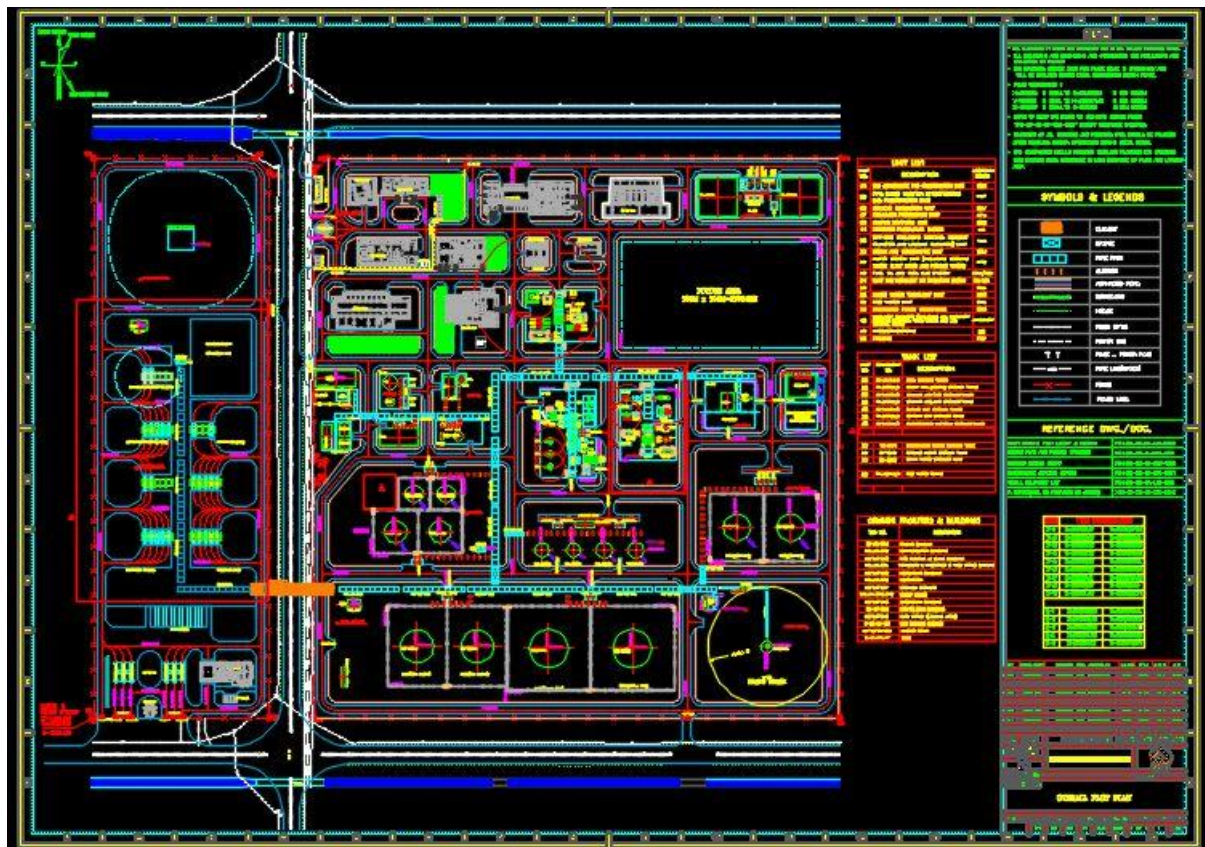
Summary of Completed and On-going Projects

Farzanegn Oil Refinery

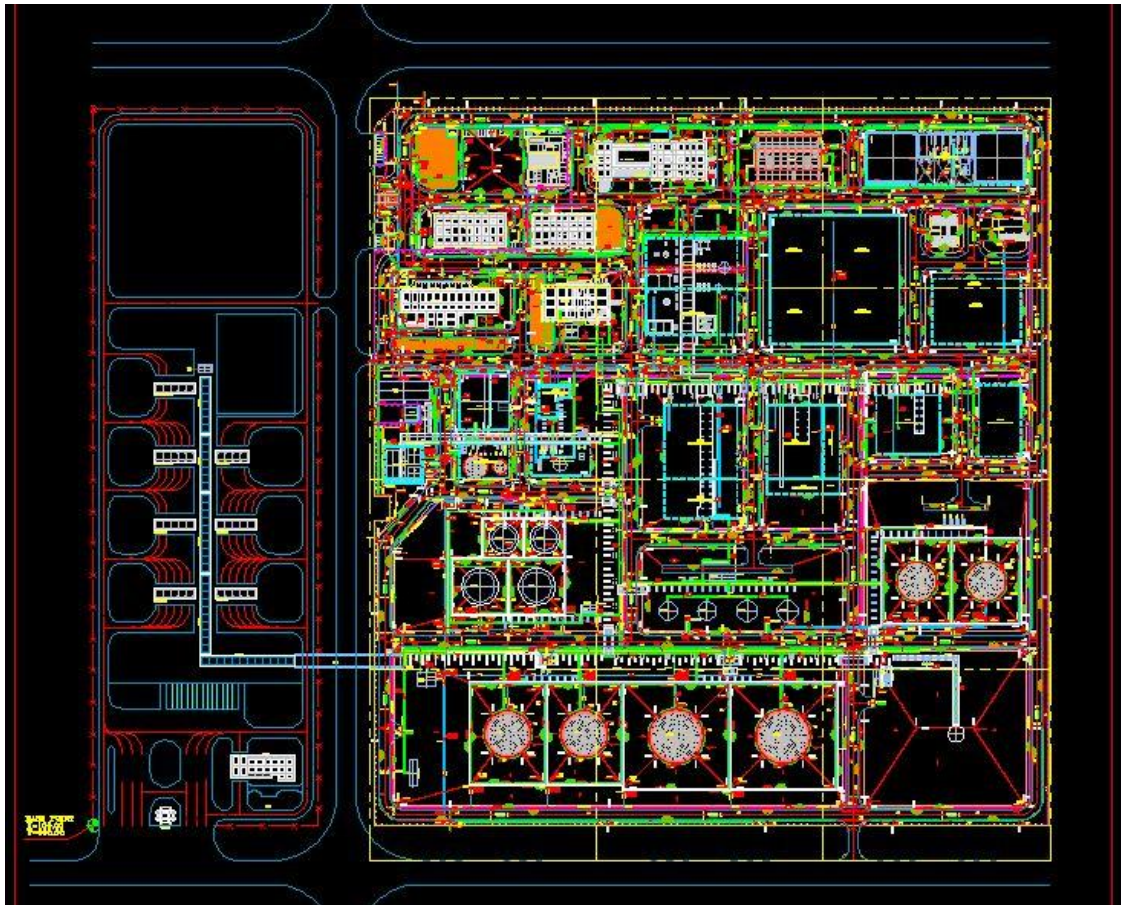
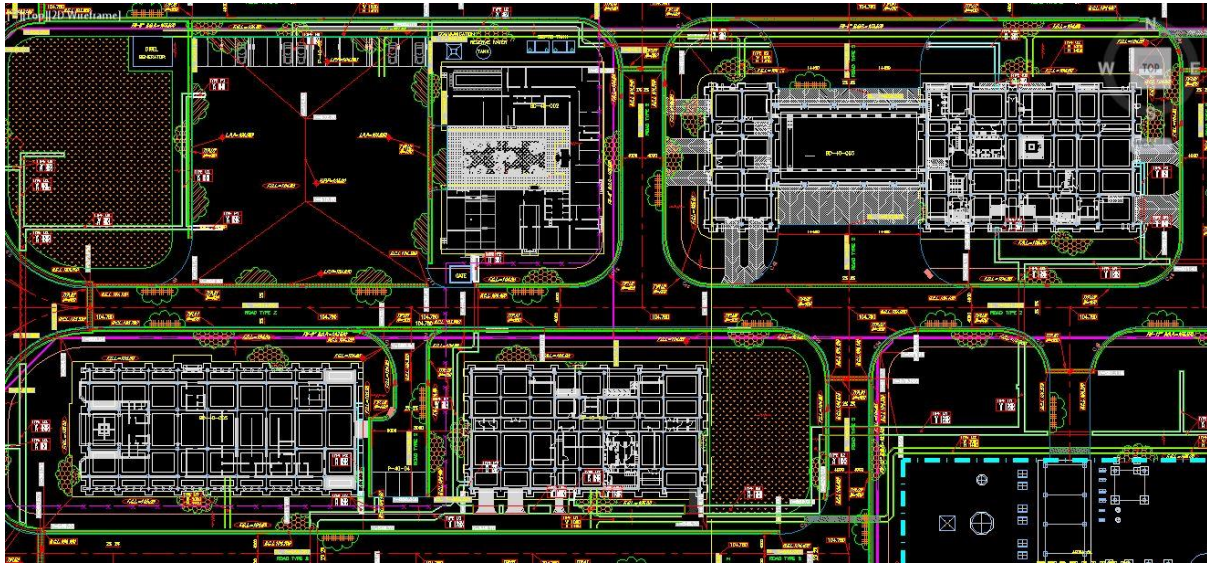
Client: Namvaran Pazhouhesh va Tose-a (Namvaran P&T)
Main Client: Farzanegan Energy Pars

- Tender Packages for ground improvement, civil and building works
- Feed Pipeline design (12 Km)
- Architectural/Structural Design of Buildings
- Culvert design for cross with State Highway
- Foundation Design for Above ground Storage Tanks
- Pipe Racks
- Foundation for Fixed Equipment
- Pile Design

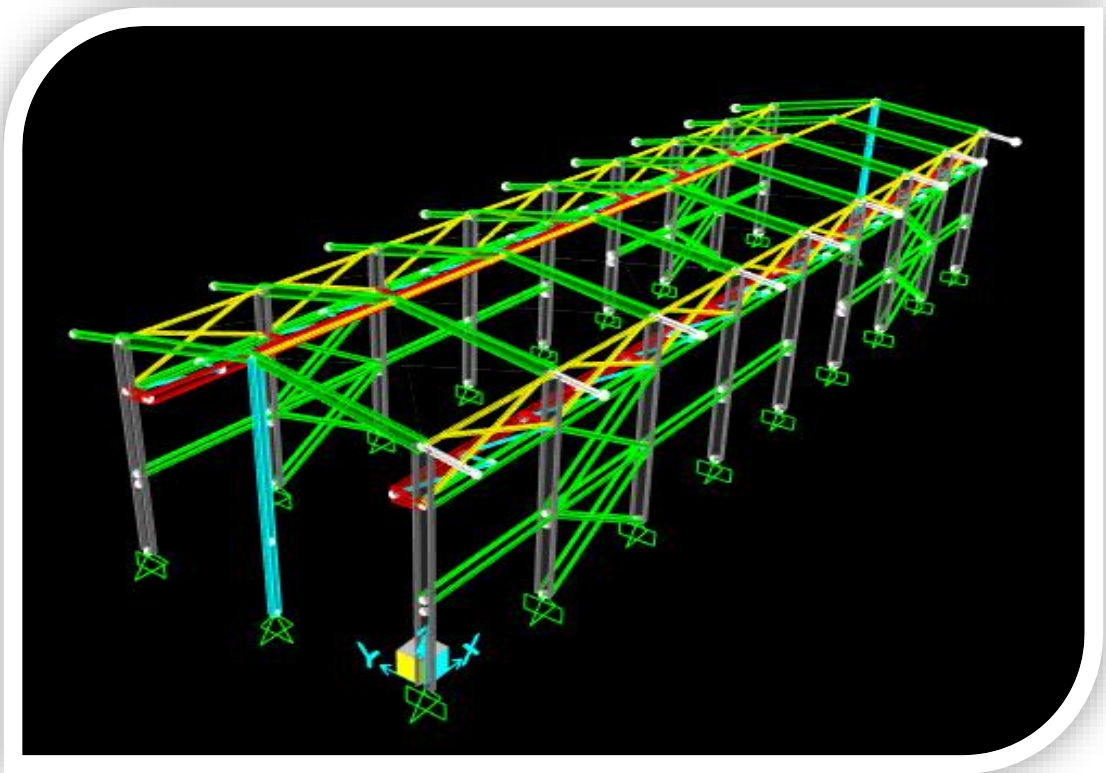
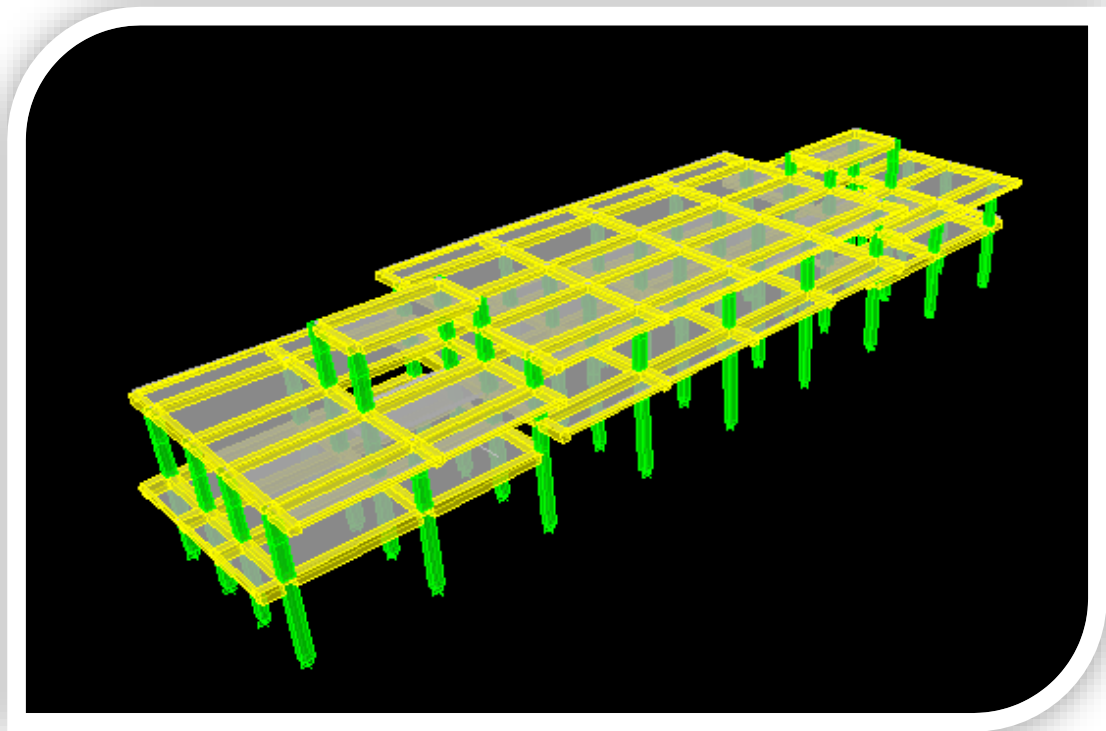
Plot Plan

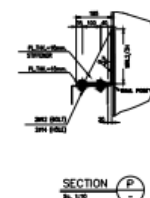
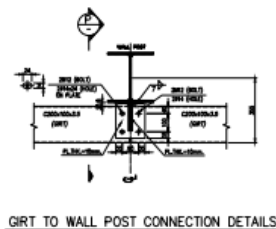
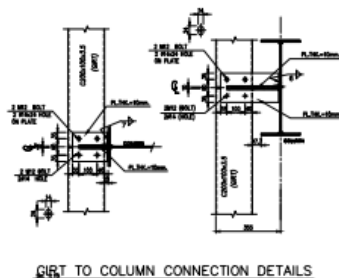
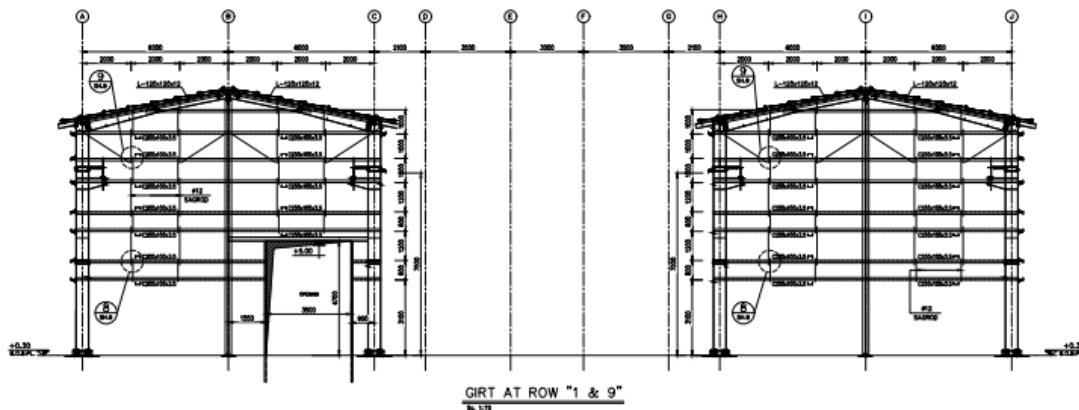
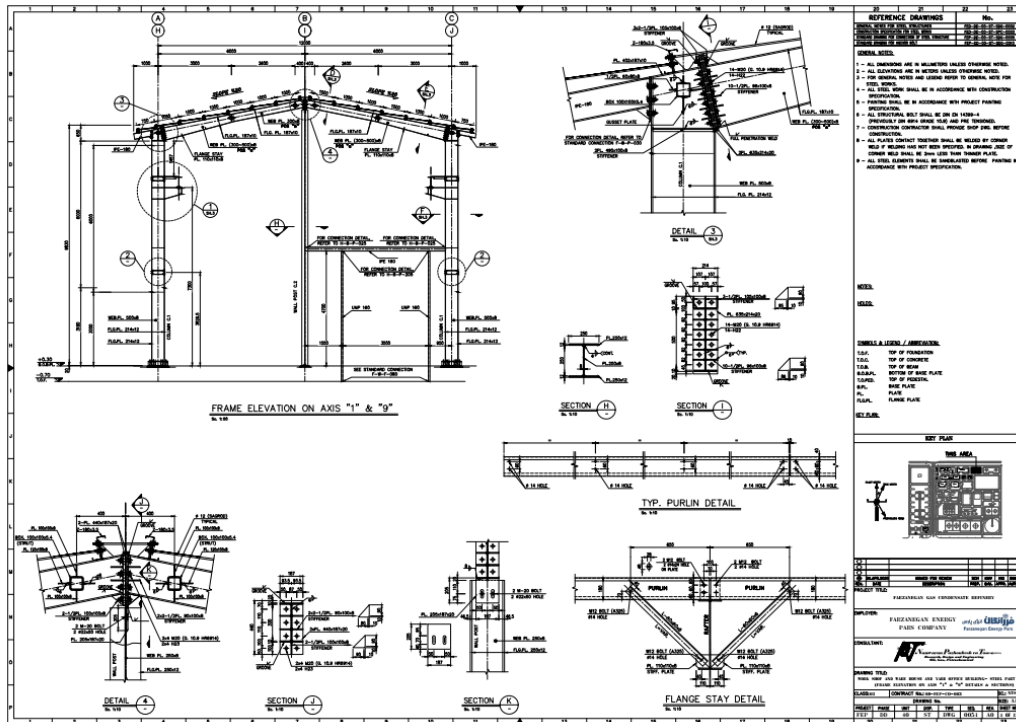


Under Ground Composite

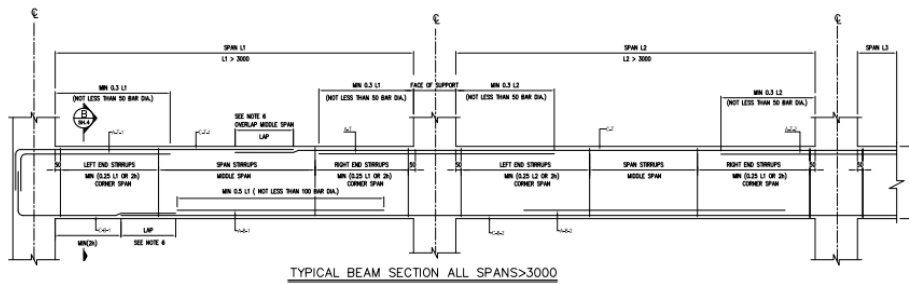


Work Shop & Ware House & Yard Office Building

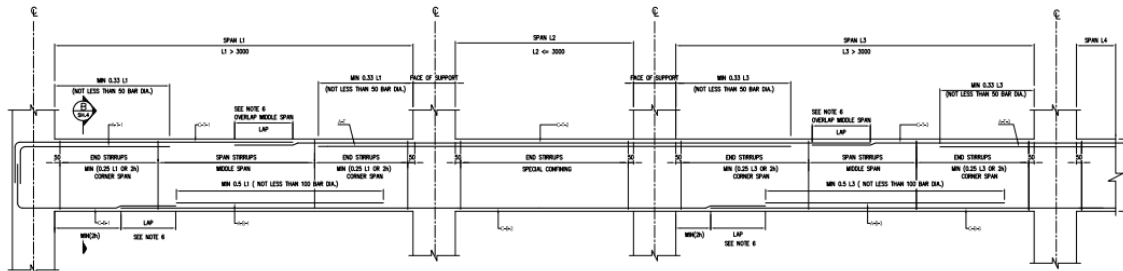




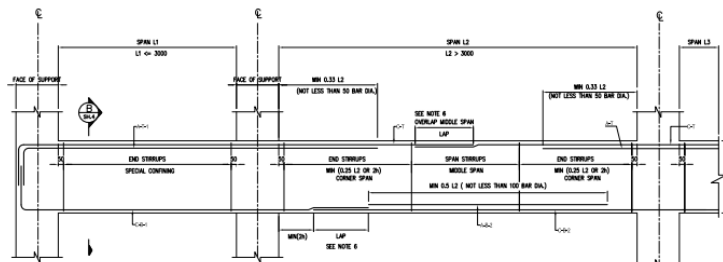
Sample standard Drawing for Concrete Structure



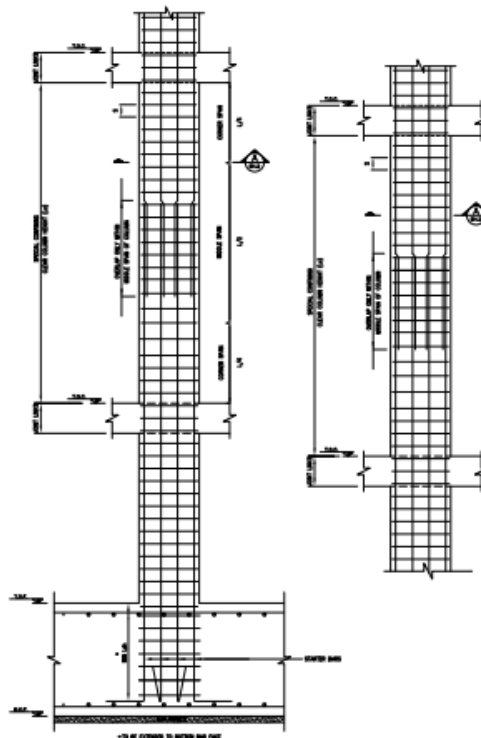
TYPICAL BEAM SECTION ALL SPANS>3000



TYPICAL BEAM SECTION WITH MIDDLE SPAN<=3000

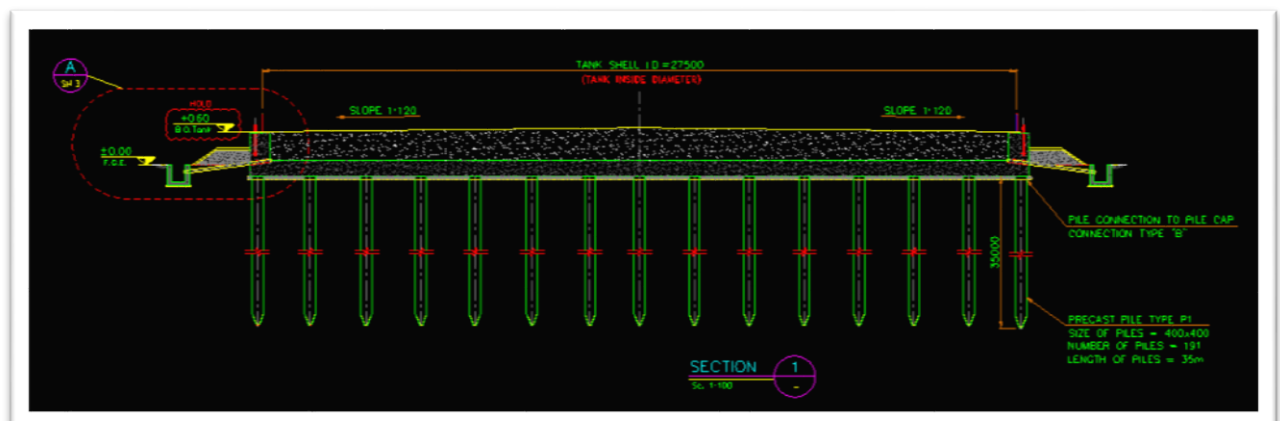
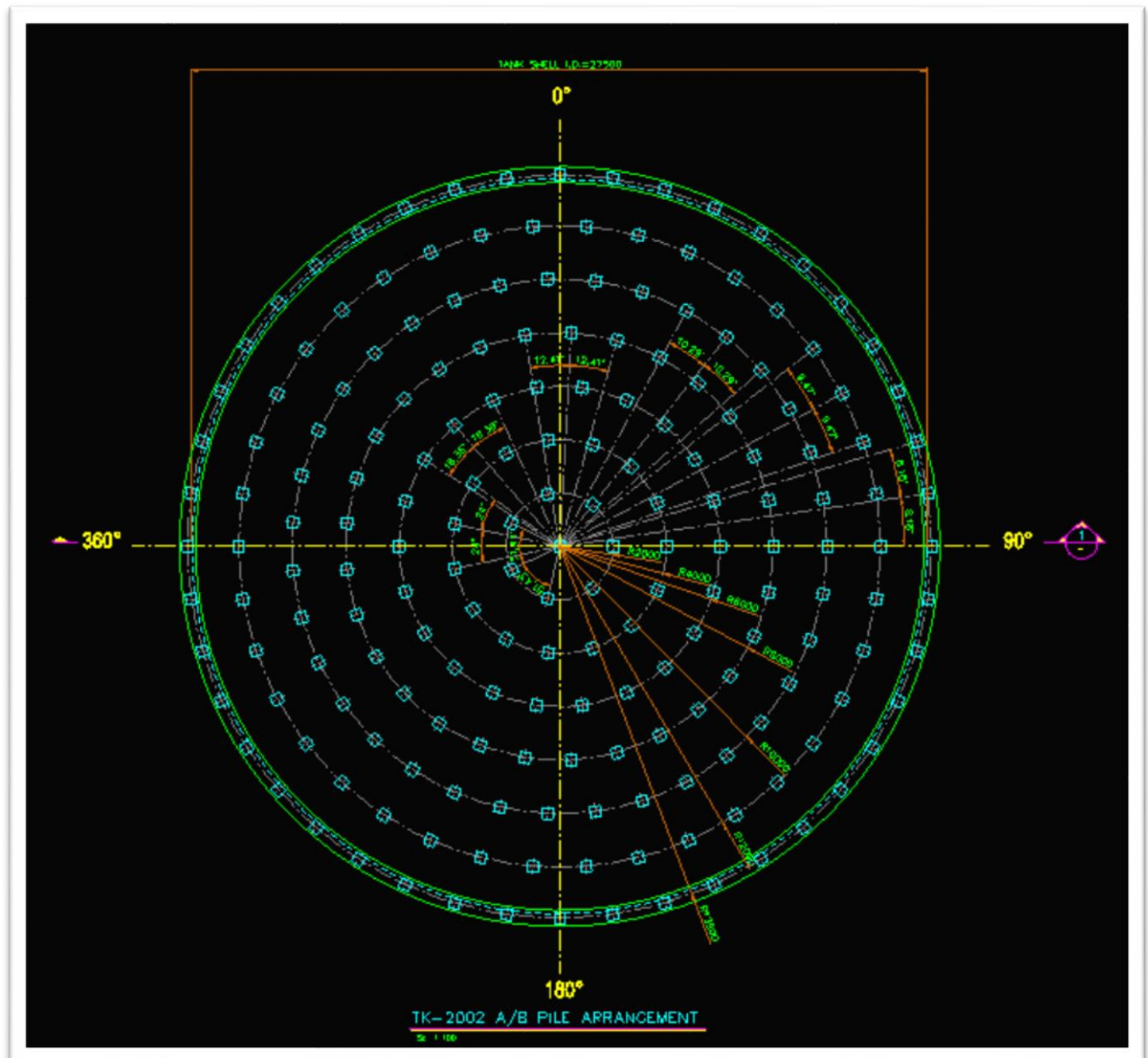


TYPICAL BEAM SECTION WITH END SPAN<=3000

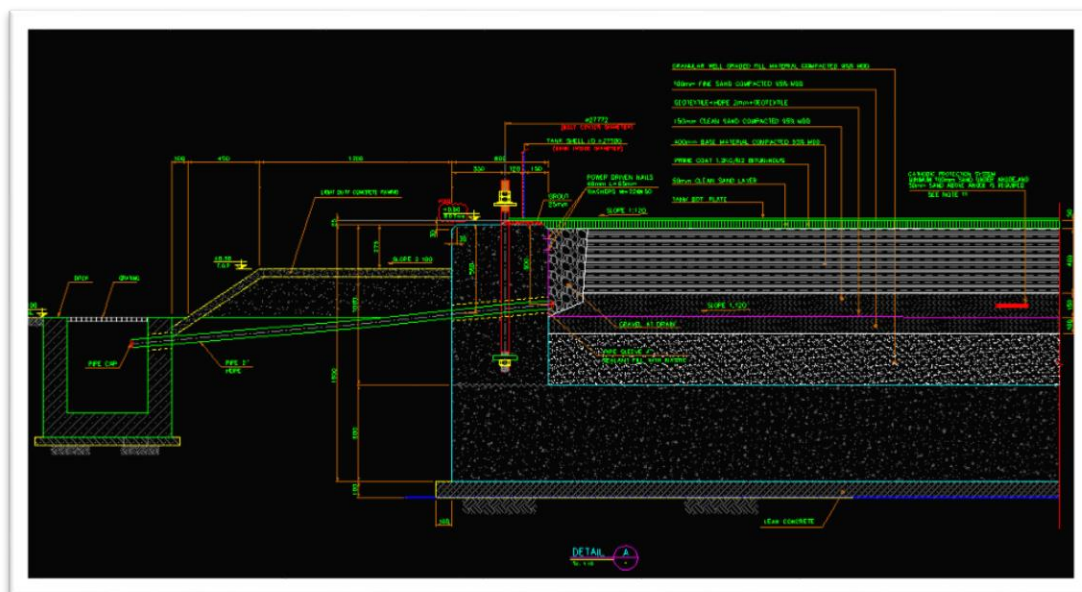
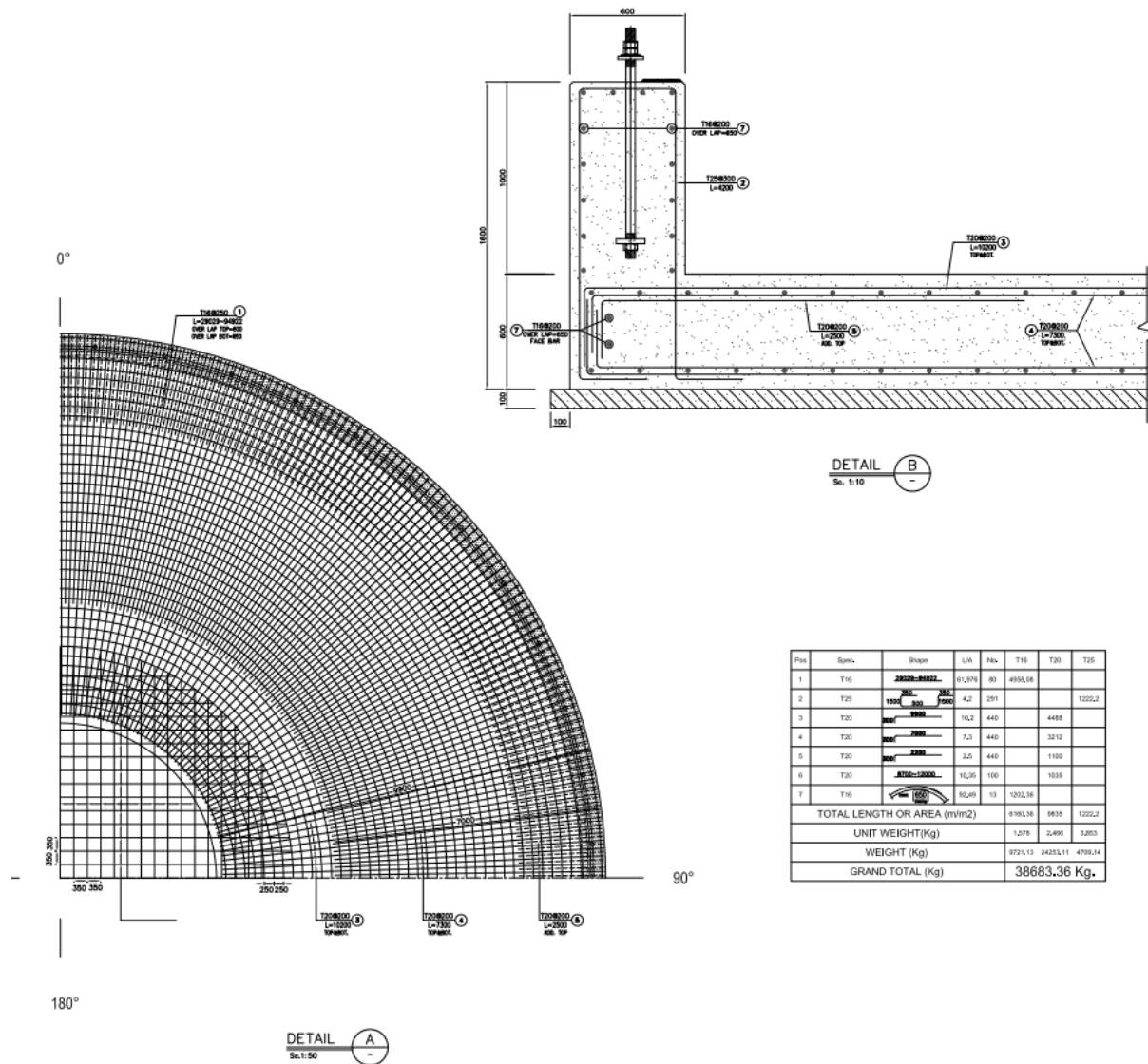


TYPICAL COLUMN

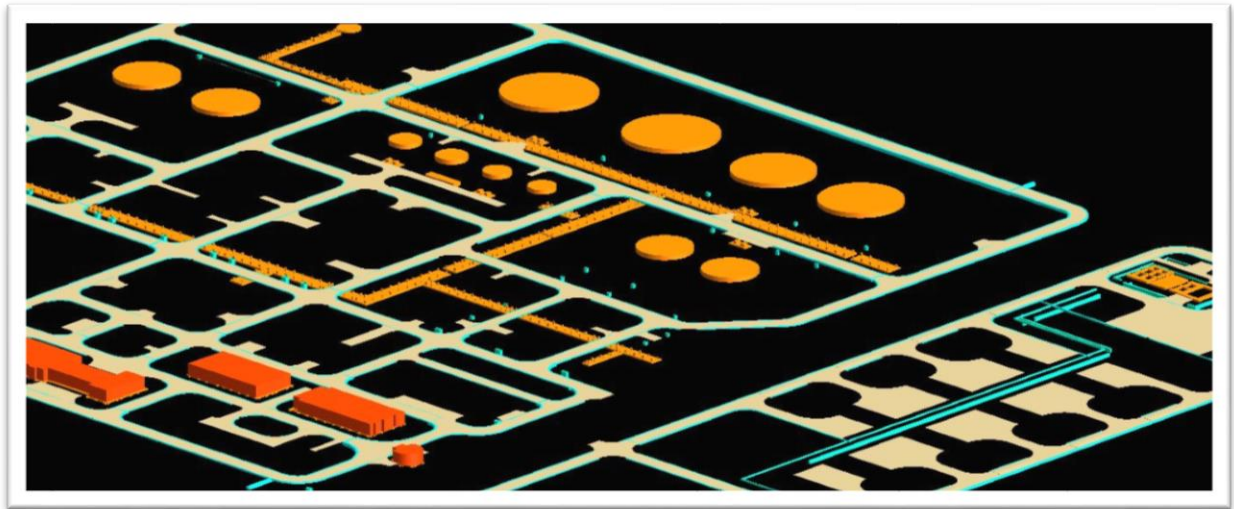
Pile Design for Storage Tanks



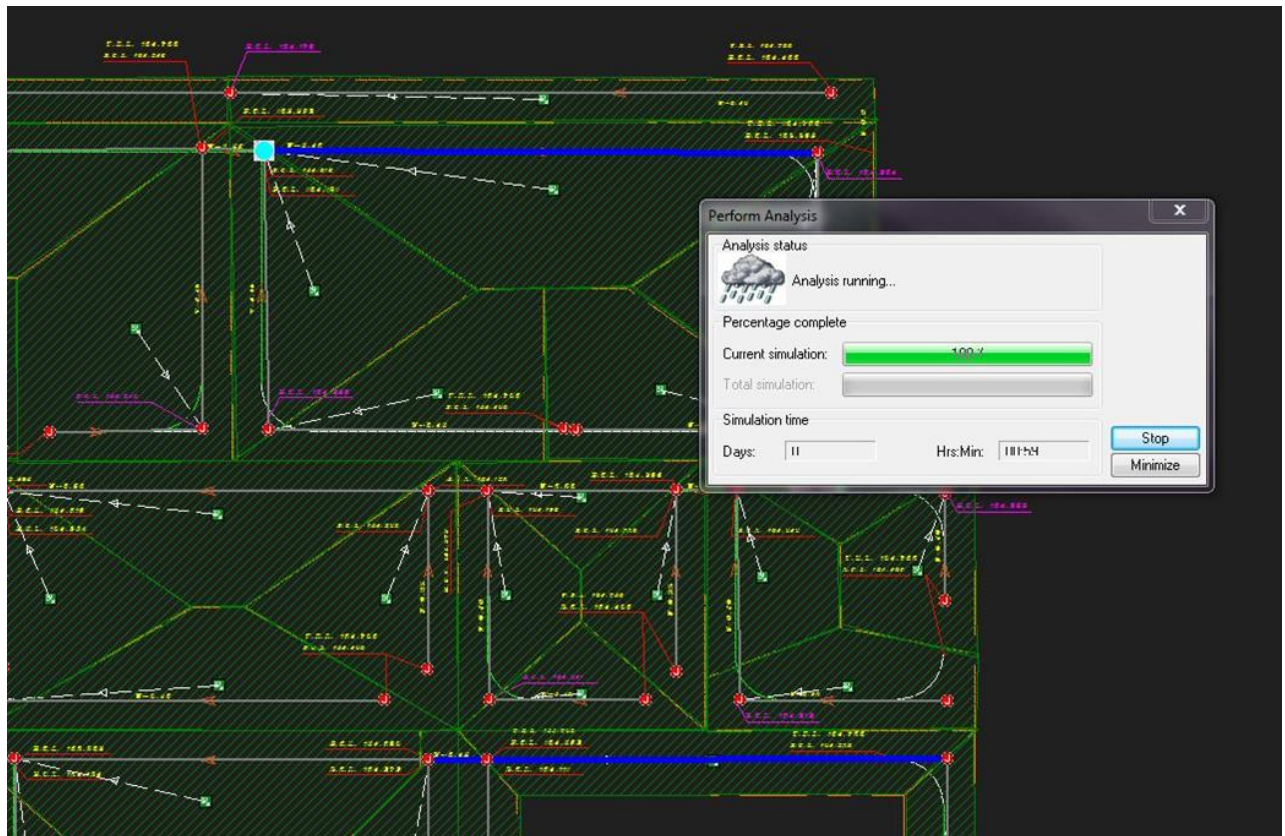
Storage Tank Foundation



PDMS Modelling (Civil Items)



Storm and Sanitary Analysis



Qeshm Utility Plant (HRSG and Water Desalination Unit)

Client: Namvaran Pazhouhesh va Tose-a (Namvaran P&T)

Main Client: Qeshm Pasargad Company.

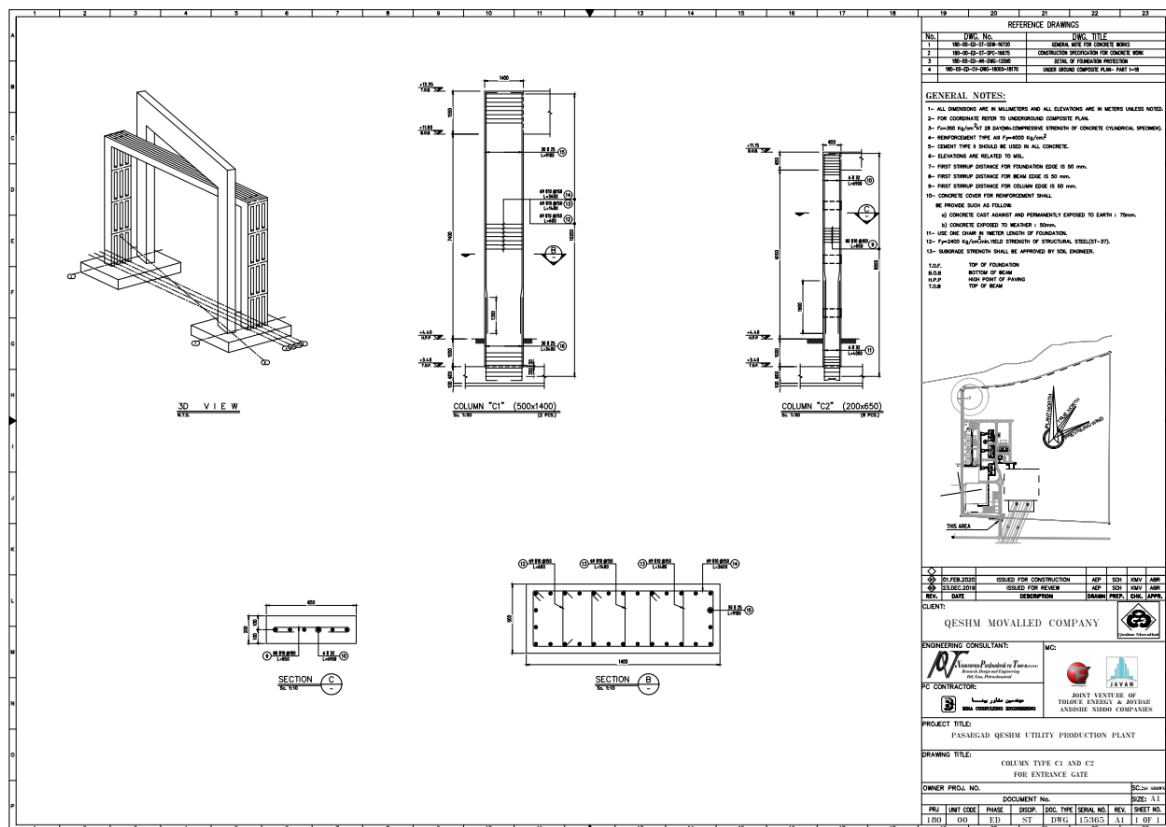
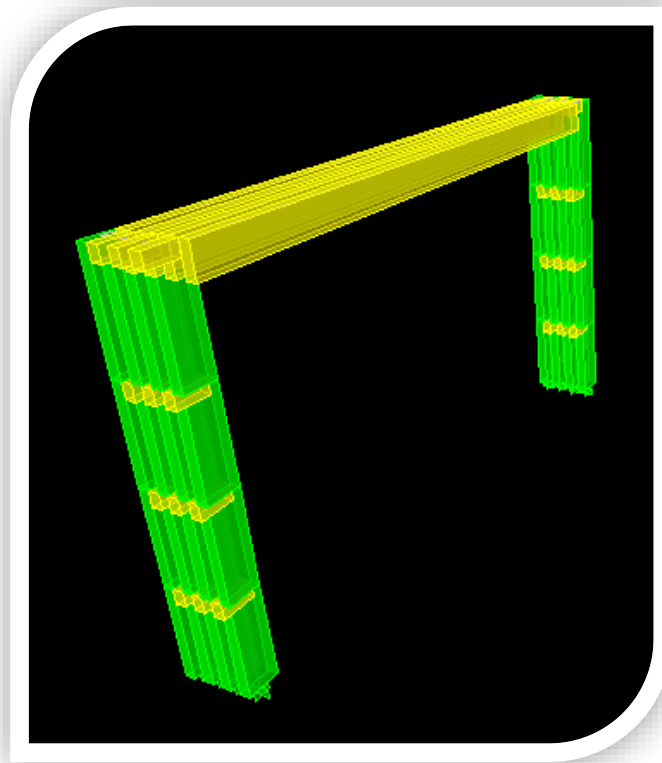
- ❖ Foundation for HRSG boilers
- ❖ Basic and Detail Design for Buildings (Control Building and Substation, Admin Building, Canteen, Fire Station, Repair Workshop Building)
- ❖ Foundation for boilers
- ❖ Foundation for Pump and Compressors
- ❖ Interconnection Pipe racks
- ❖ Water Storage Tanks
- ❖ Industrial Wastewater Collection Pit
- ❖ Special Design for Ground Improvement (Deep Soil Mixing Method)

ATM also provided Engineering Supervision during construction Works Period

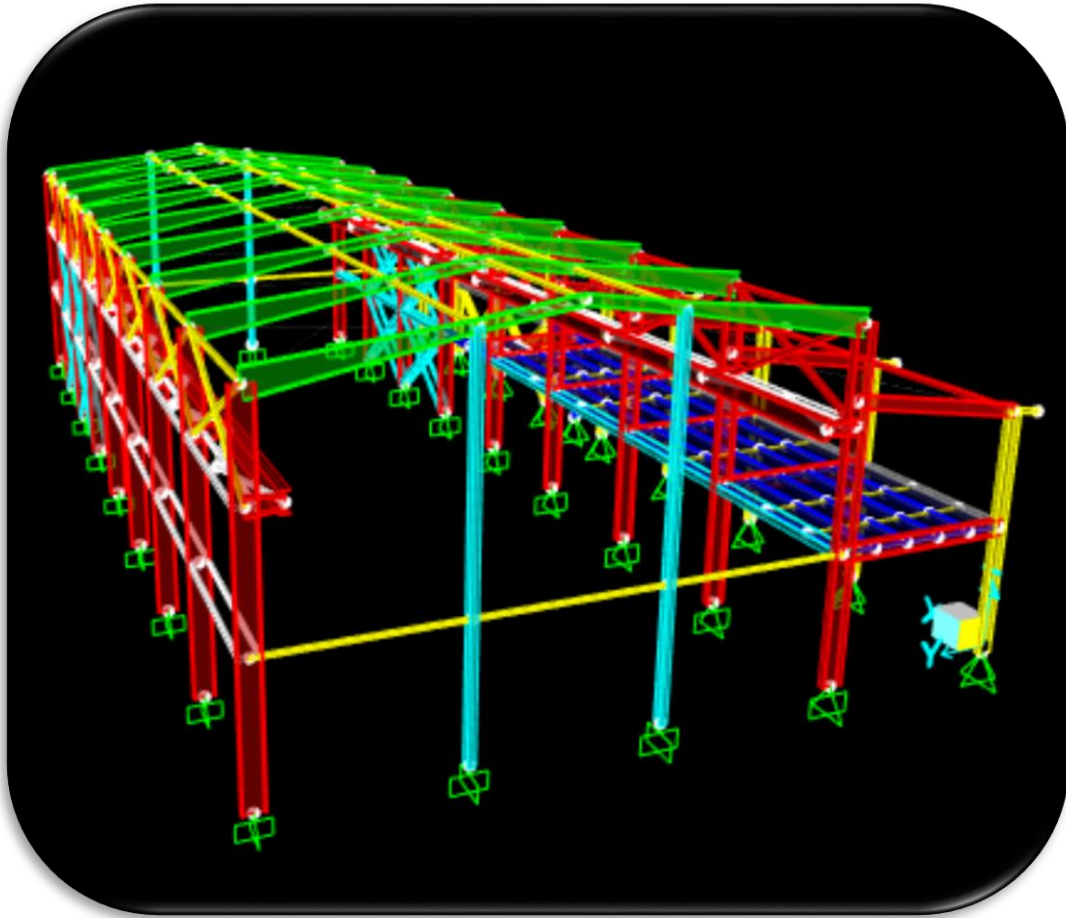
Plot Plan



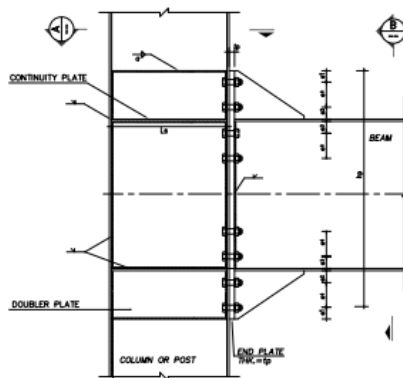
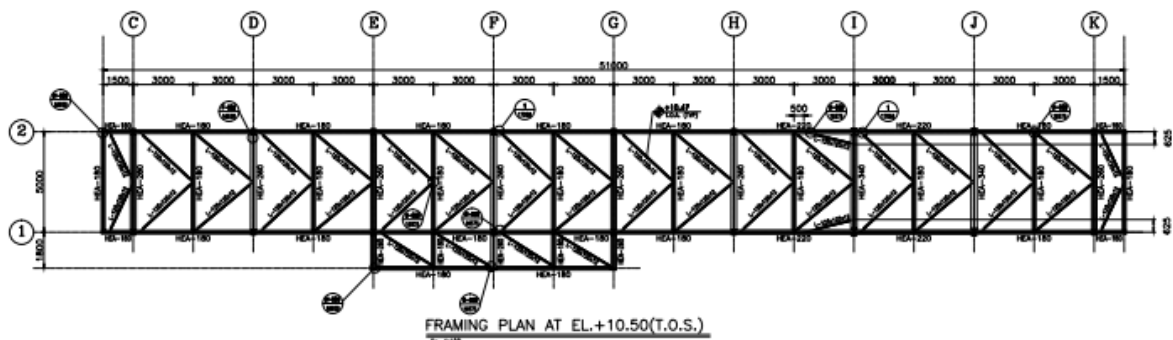
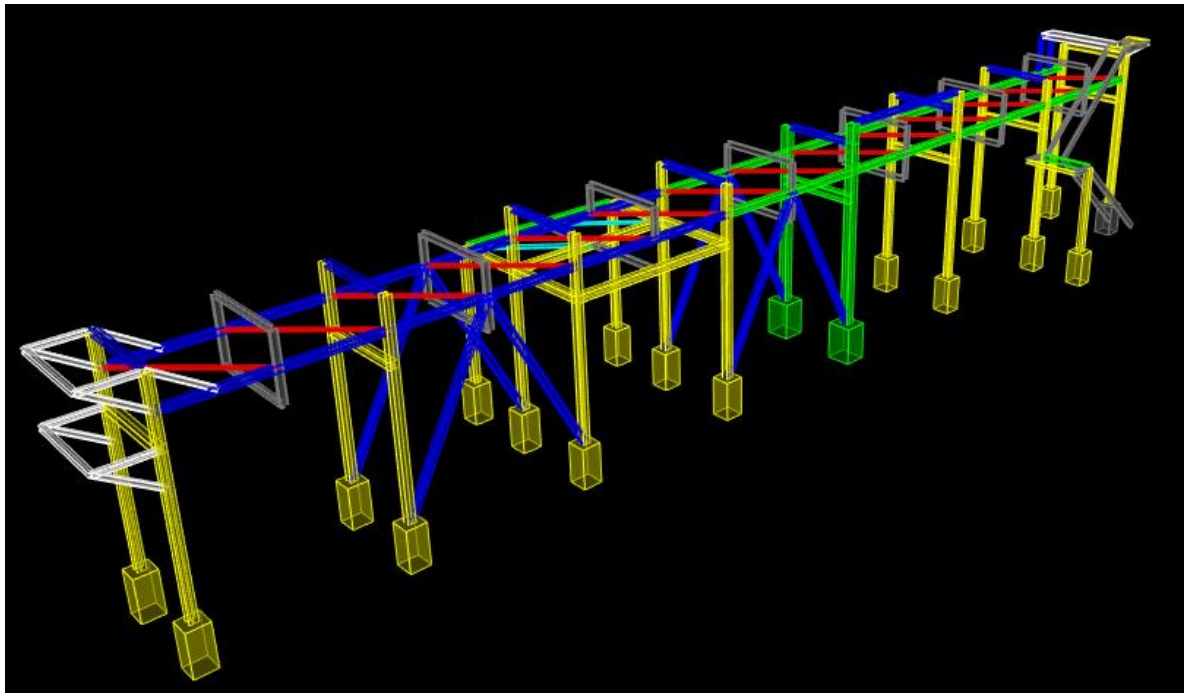
Entrance Gate



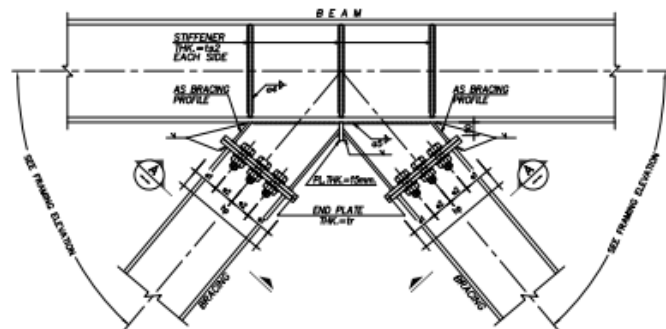
Work Shop



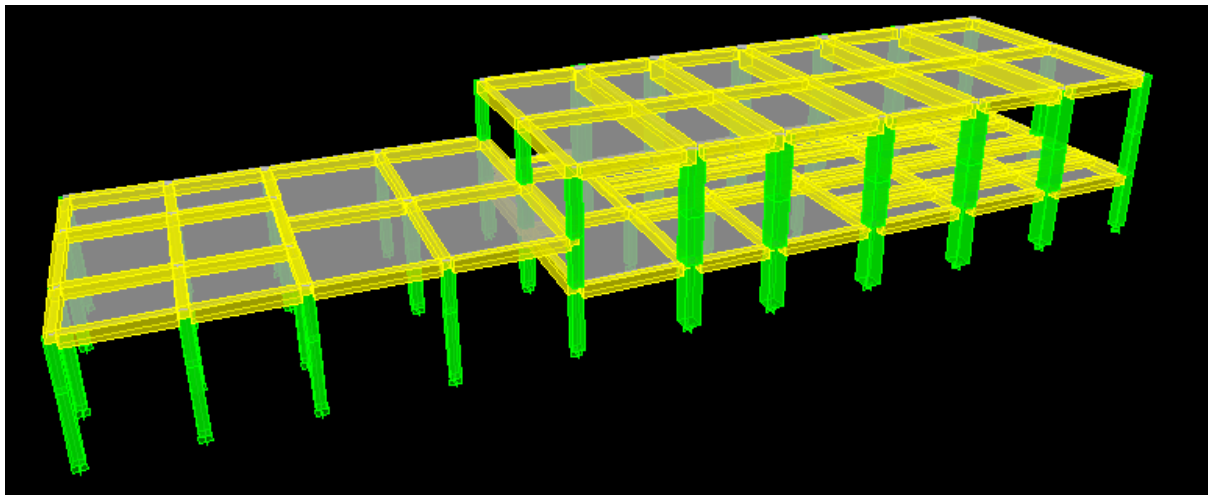
Pipe Rack



BOLTED STIFFENED EXTENDED END PLATE - BES
SCT:10 F-B-F-011



Laboratory/Marshalling/ MCC Building





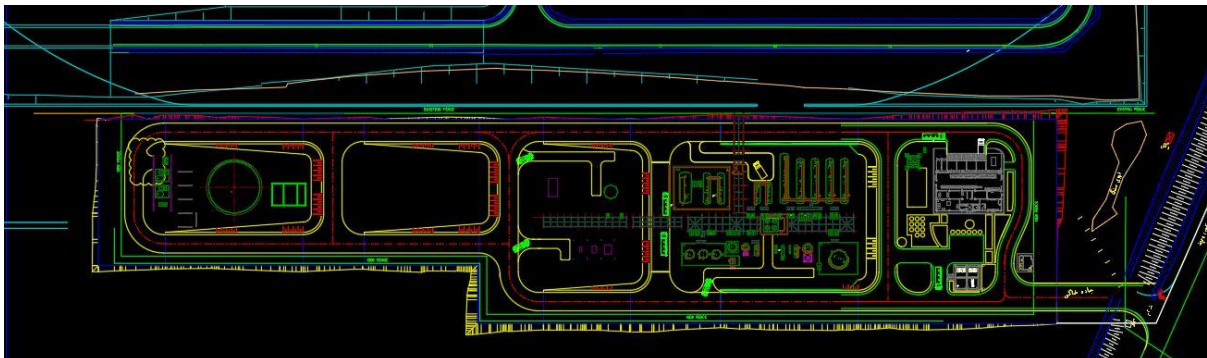
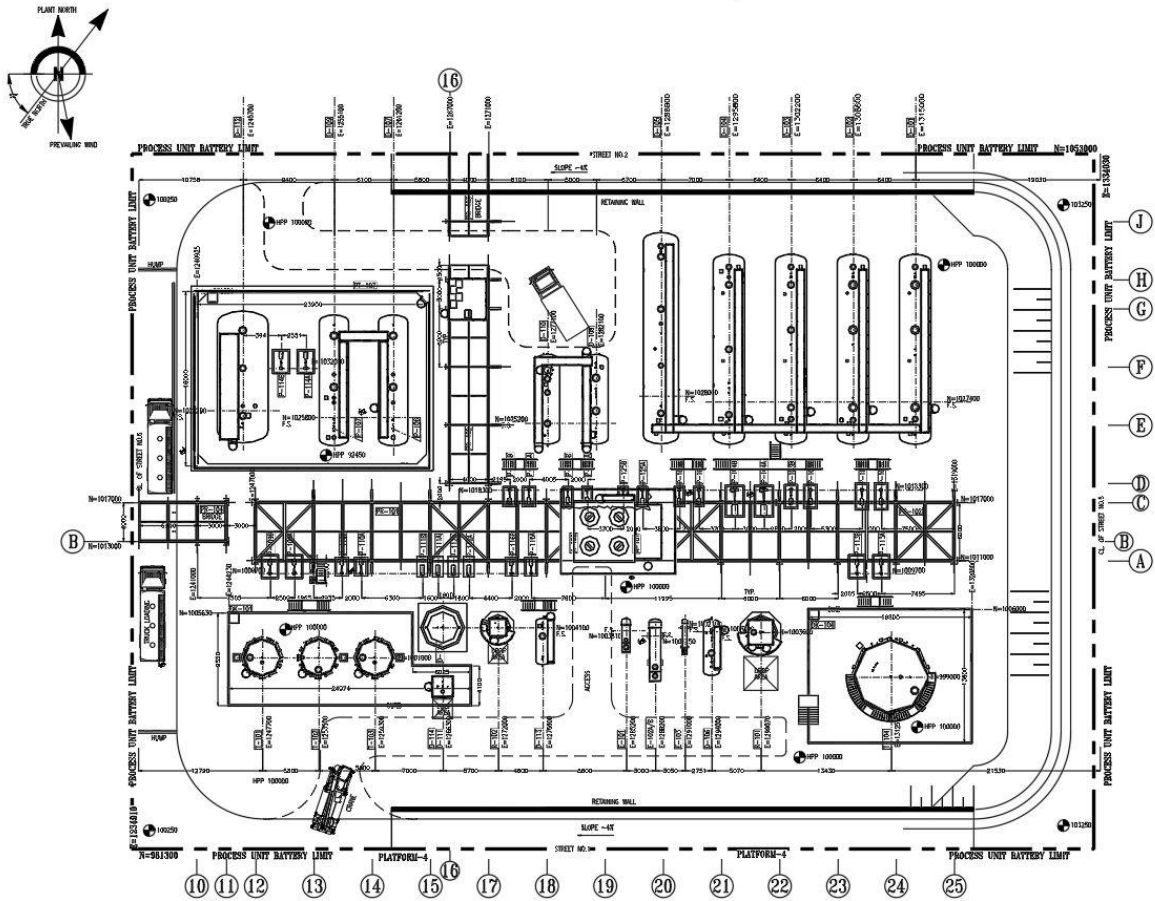
Demercaptanization Unit

Client: Research Institute of Petroleum Industry
Main Client: National Iranian Gas Company

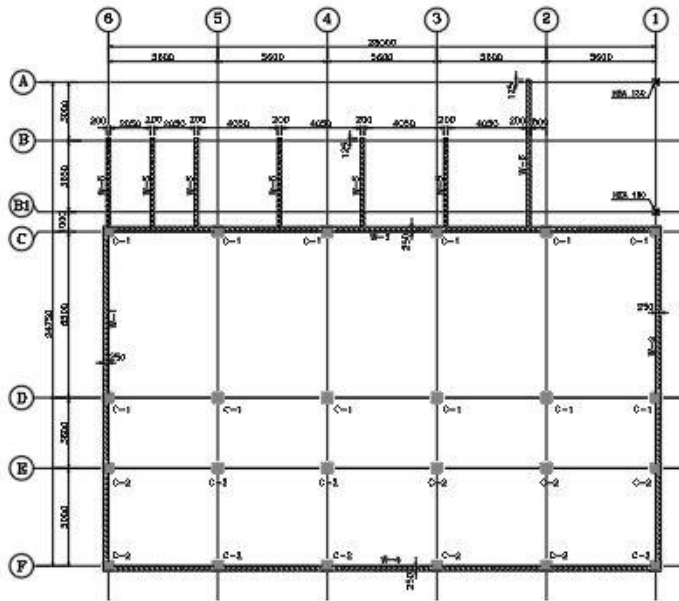
This project comprised 3 similar process units in gas treating plants and ATM undertook Civil/structural and Building Work Design through basic and detail phases in an EPC contract.

Tender Packages / Requisition also were prepared by ATM.

Plot Plan



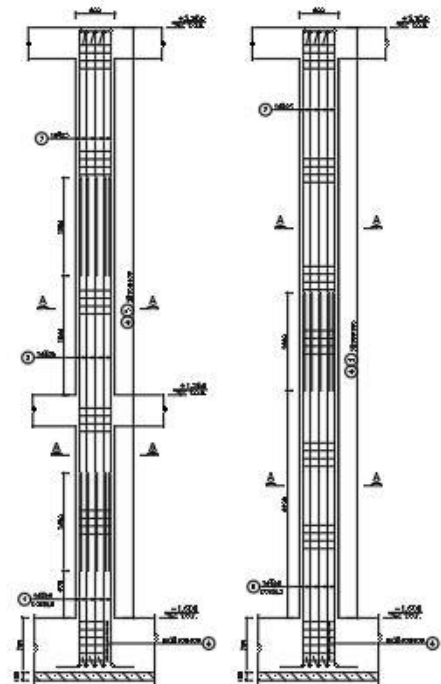
Blast-proof Building



COLUMNS & CONC. WALL LAYOUT PLAN

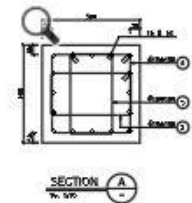
SC-11184

BARS SCHEDULE FOR COLUMNS					
Pos.	SHAPE	NO.	UNIT	LENGTH	TOTAL LENGTH
1	3# 10	25	1.02	2.55	637.50
2	3# 10	25	1.02	6.00	1545.00
3	3# 10	25	1.02	3.30	825.00
4	4# 10	13	1.30	1.30	169.00
5	4# 10	13	1.30	1.40	182.00
6	3# 10	25	1.02	6.10	1525.00
7	3# 10	25	1.02	6.00	1545.00
NO.	UNIT	NO.	UNIT	NO.	UNIT
TOTAL	NO.	845.80	NO.	4092.30	
UNIT	NO.	0.417	NO.	3.10	
TOTAL	NO.	845.80	NO.	19707.82	
CHECK TOTAL: 21820.80 kg.					



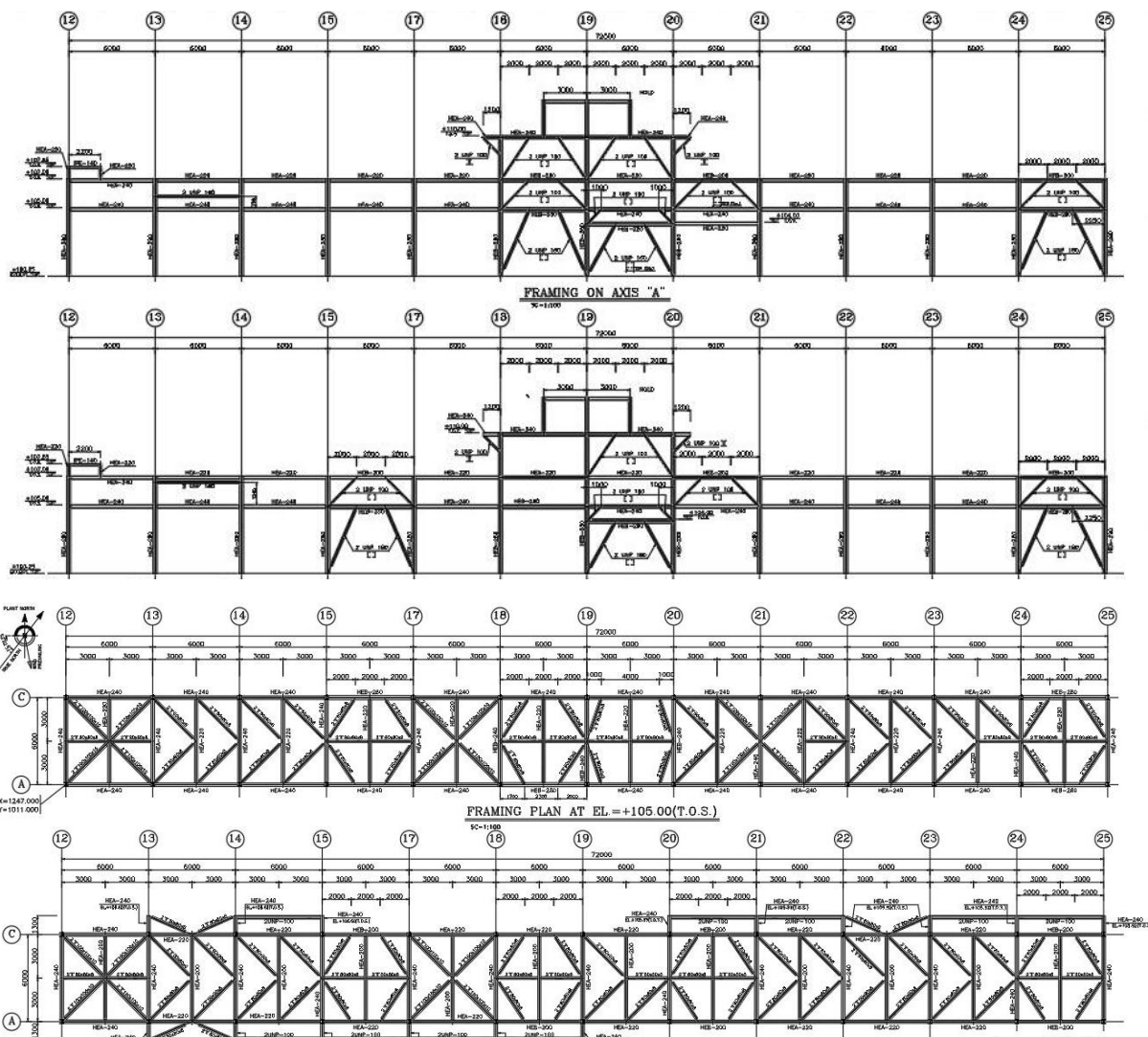
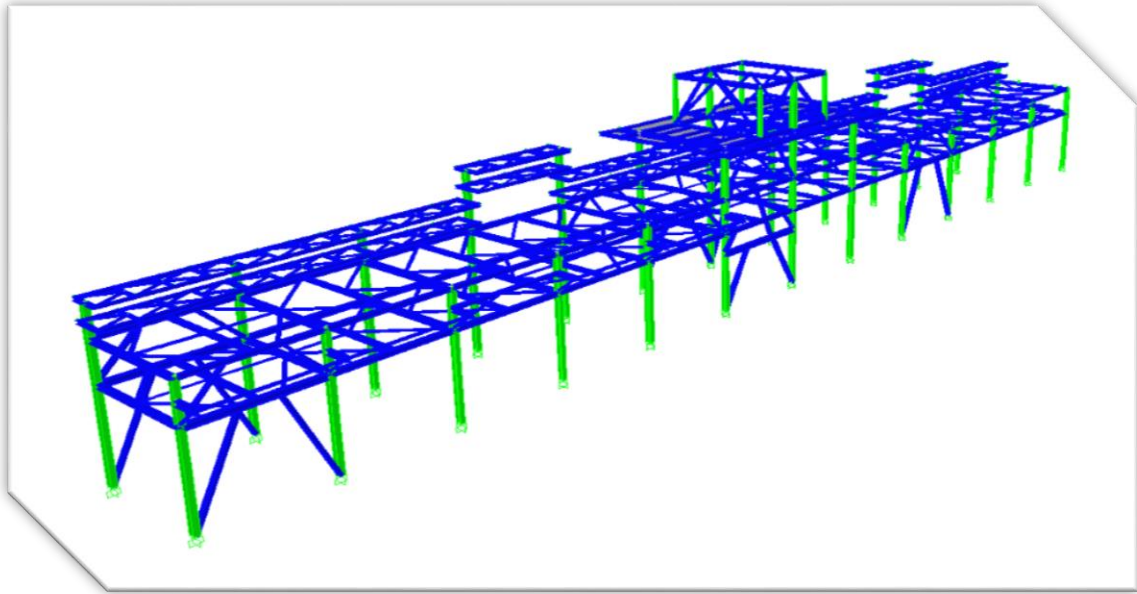
COLUMN TYPE C-1

COLUMN TYPE C-2



SECTION A-A

Pipe Rack



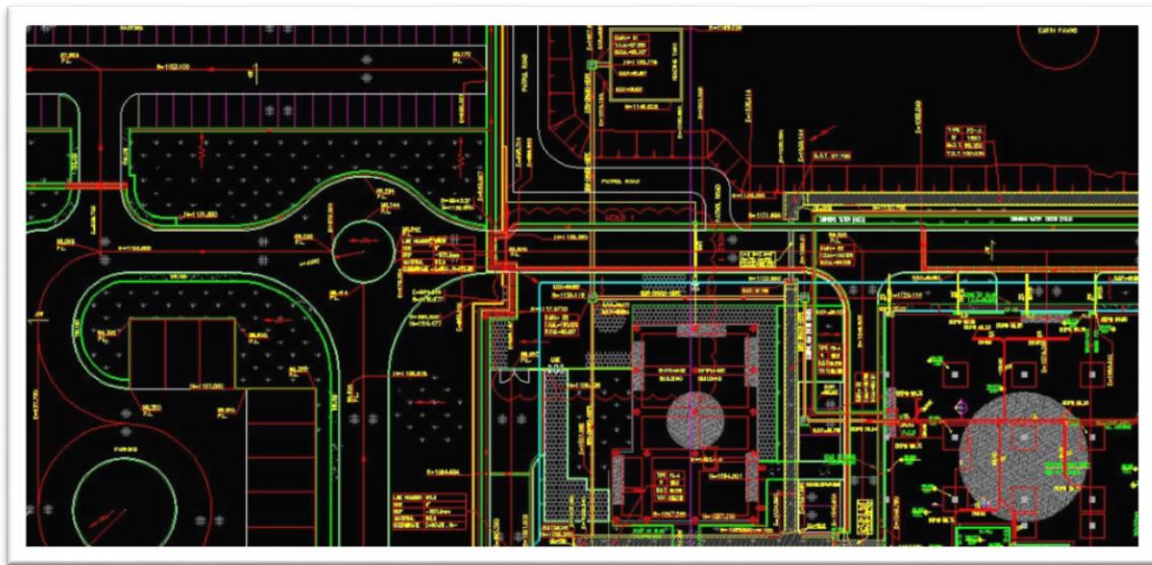
Silicon Wafer Factory

Client: Namvaran Pazhouhesh va Tose-a (Namvaran P&T)
Main Client: Mana Energy Pak Company

A unique Project comprising design of a 4 Hectare Production Factory in Renewable Energy Industry, has been awarded to us as partner in engineering and Structural Conceptual design, Detailed Architectural Design and detailed civil design as well as design for foundations.

In this project ATM undertook transforming basic technical drawings from original design in Germany to adapt with local Condition of the construction site in Iran in terms of seismic demands and local area conditions.

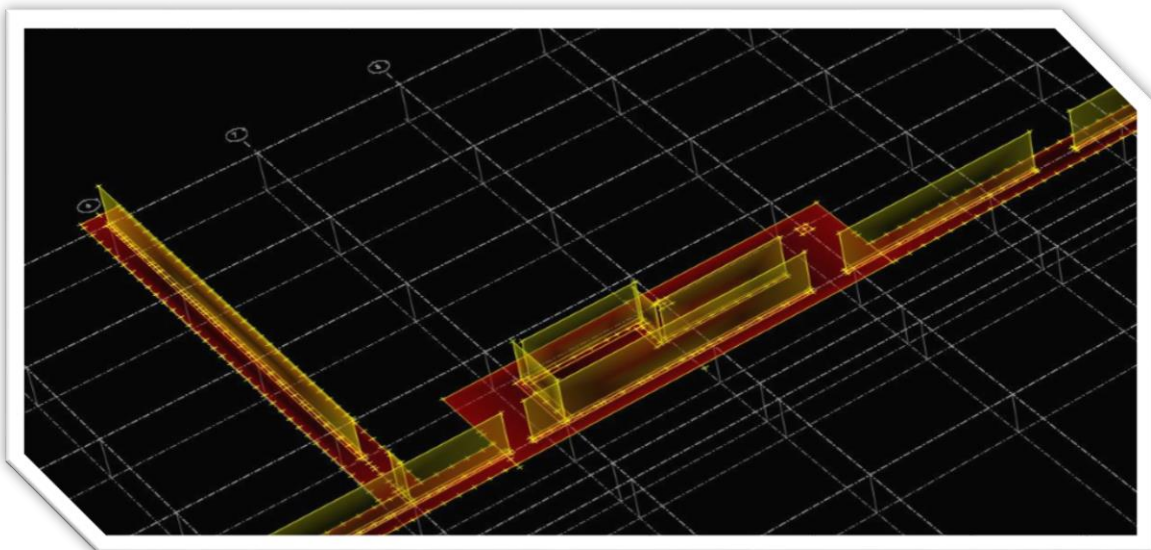
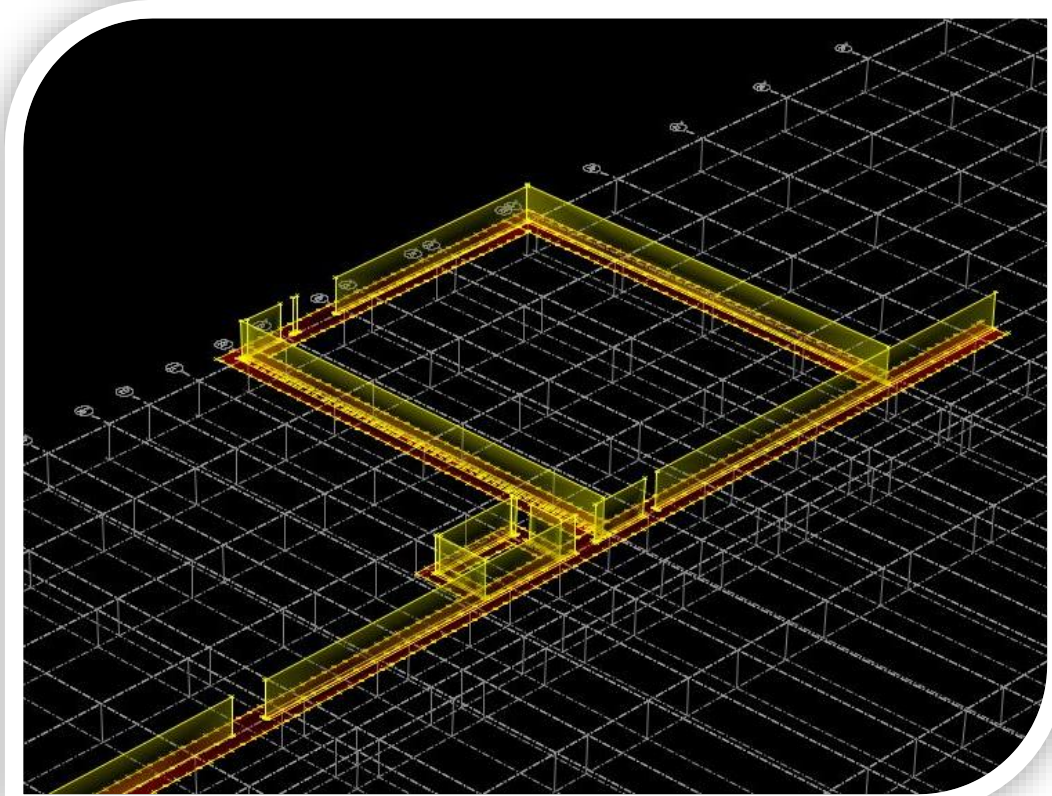
Underground Composite



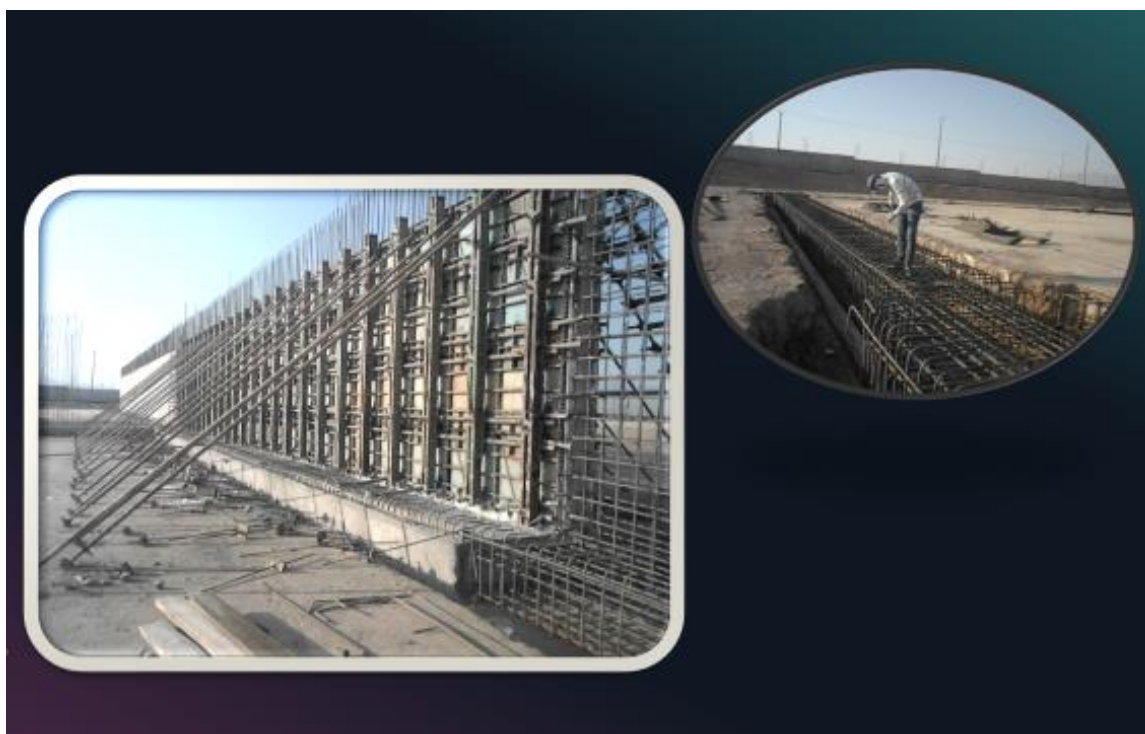
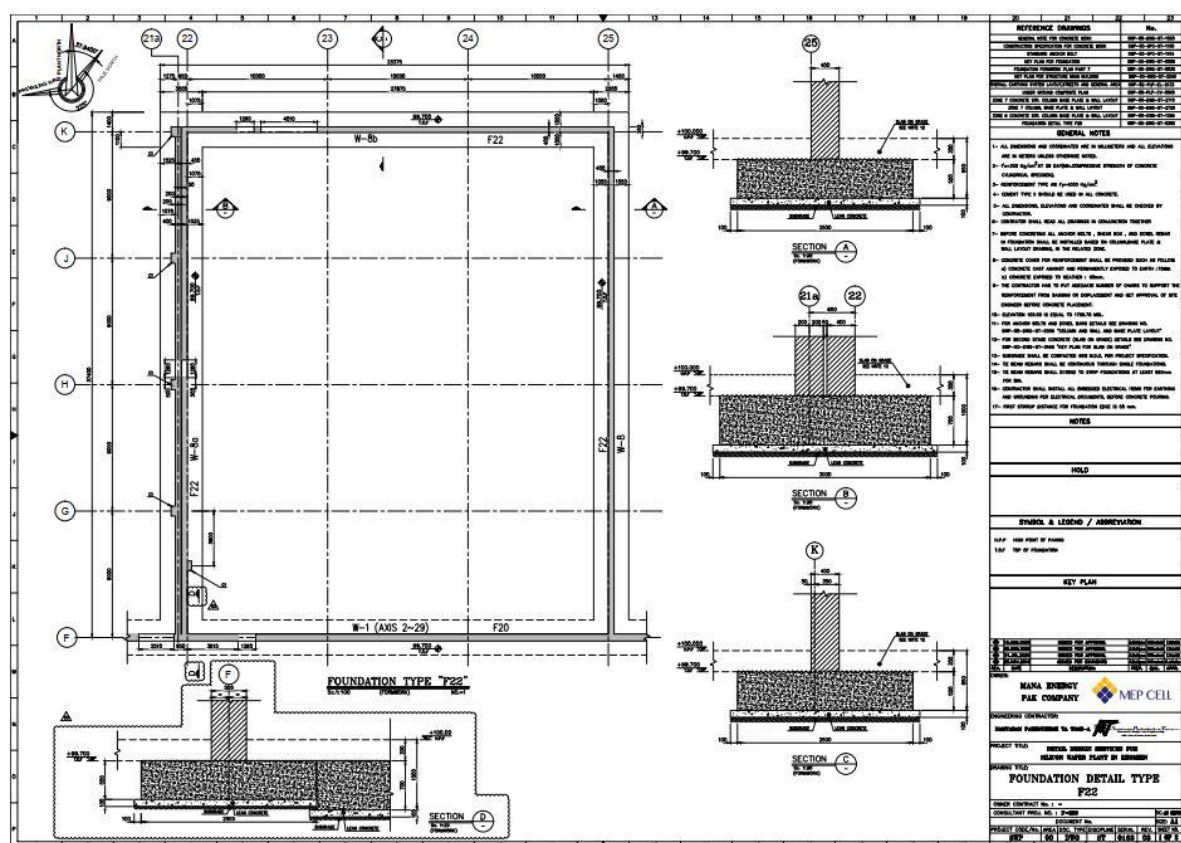
Road & Paving



Foundation Model



Foundation Plan



Centralized Storage Tank Farm Assaluyeh

Client: ThinkXpert Company

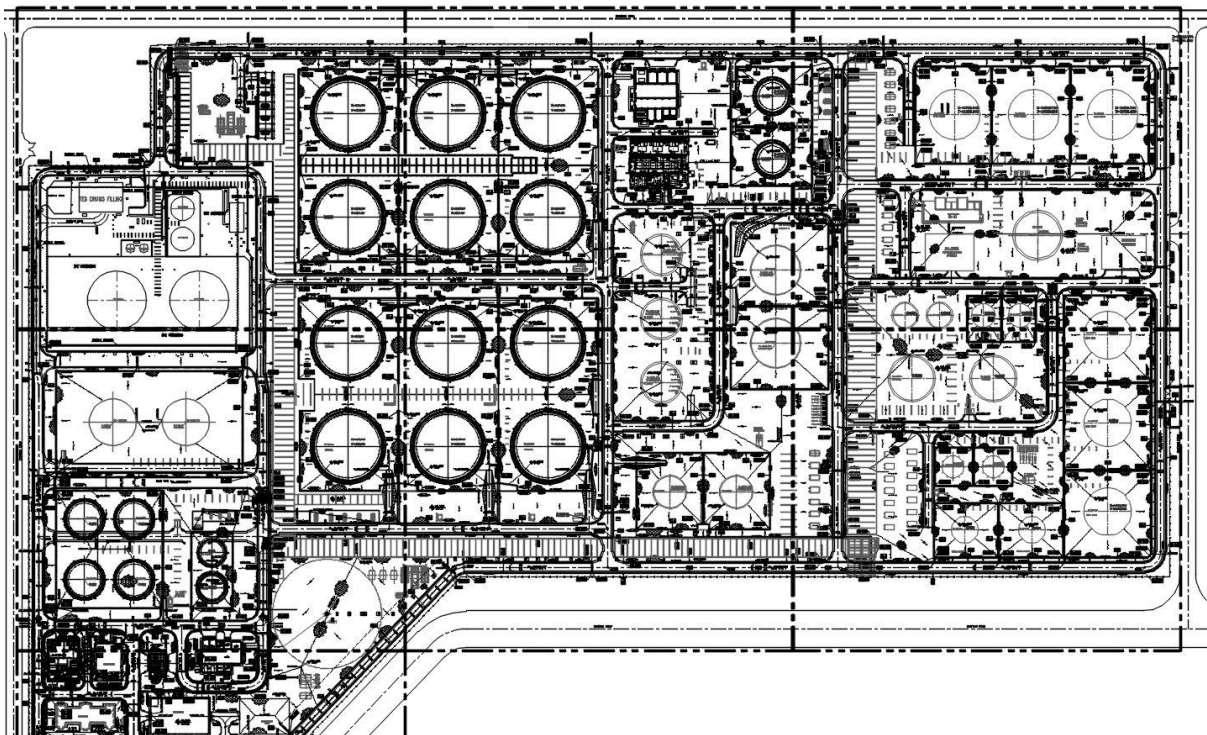
Main Client: Assaluyeh Green Tank Farm Petrochemical Company

ATM have completed Civil and structural design for a centralized storage tank in south of Iran in second Phase of petrochemical industry zones.

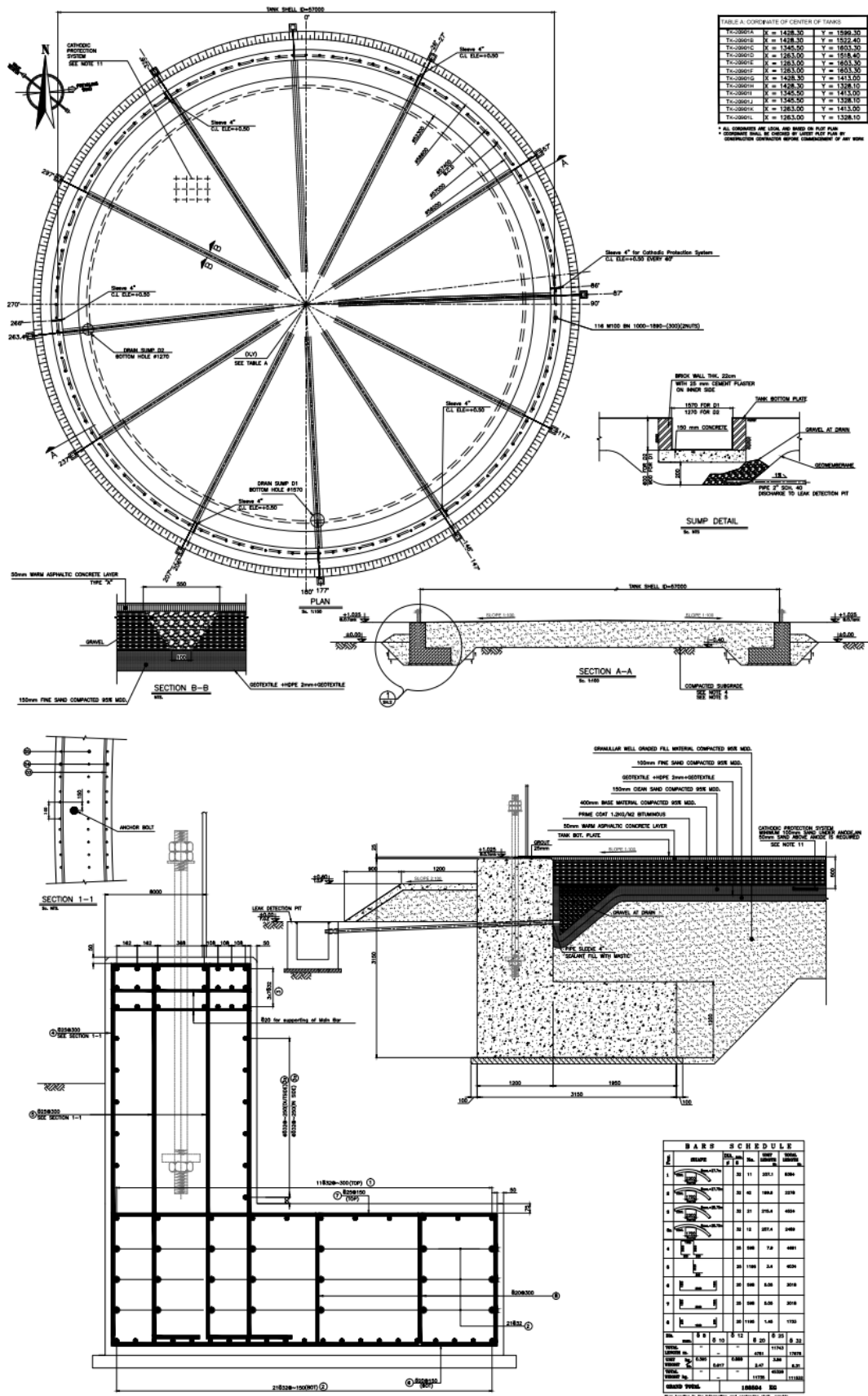
Our scope of work comprised foundation design for Above ground storage tanks as well as cold Tanks, all civil and drainage works, Buildings (Architectural /Structural)

ATM also undertook tender package preparation for civil works.

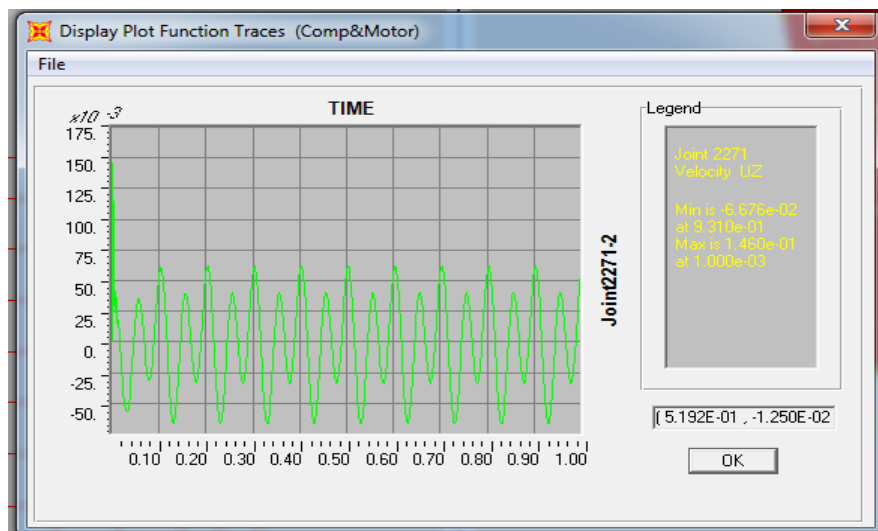
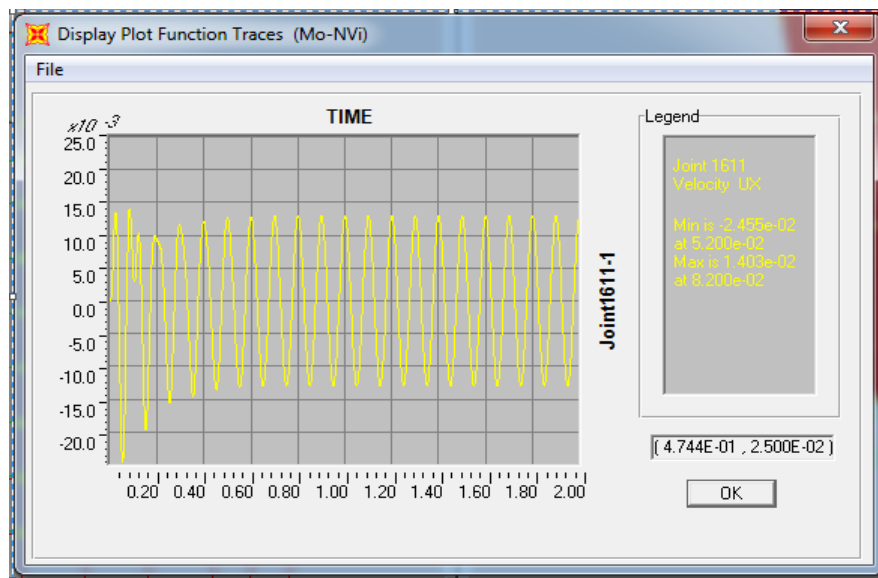
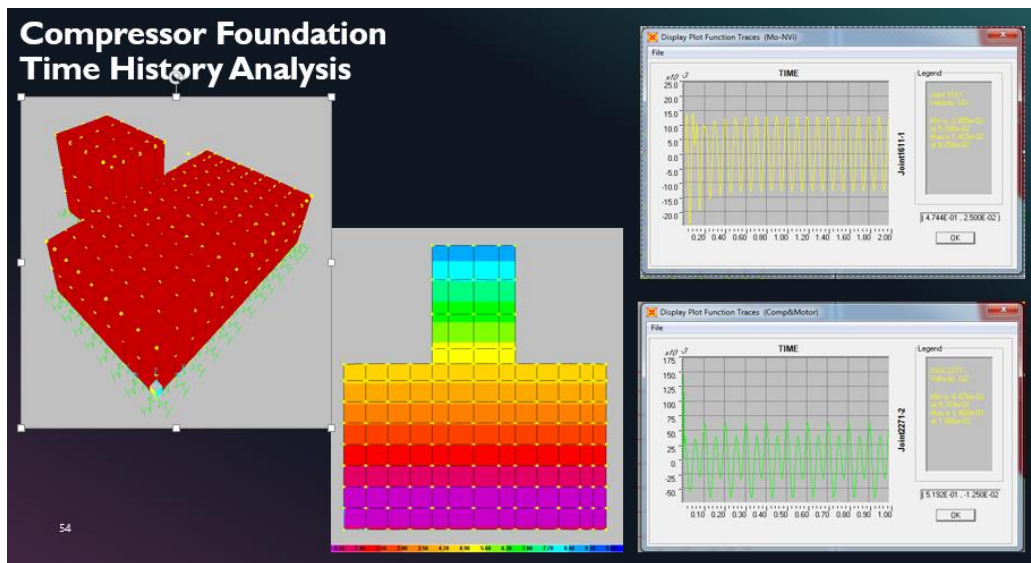
Road & Drainage & Paving



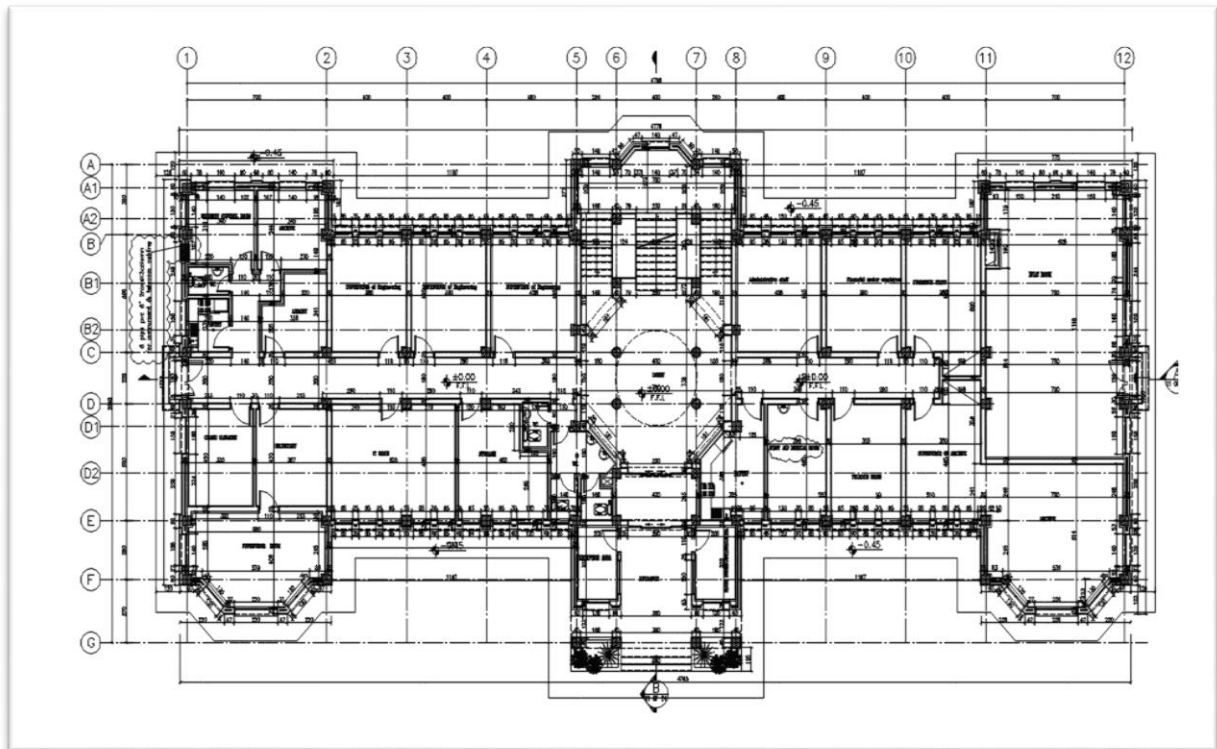
Methanol Tank Foundation



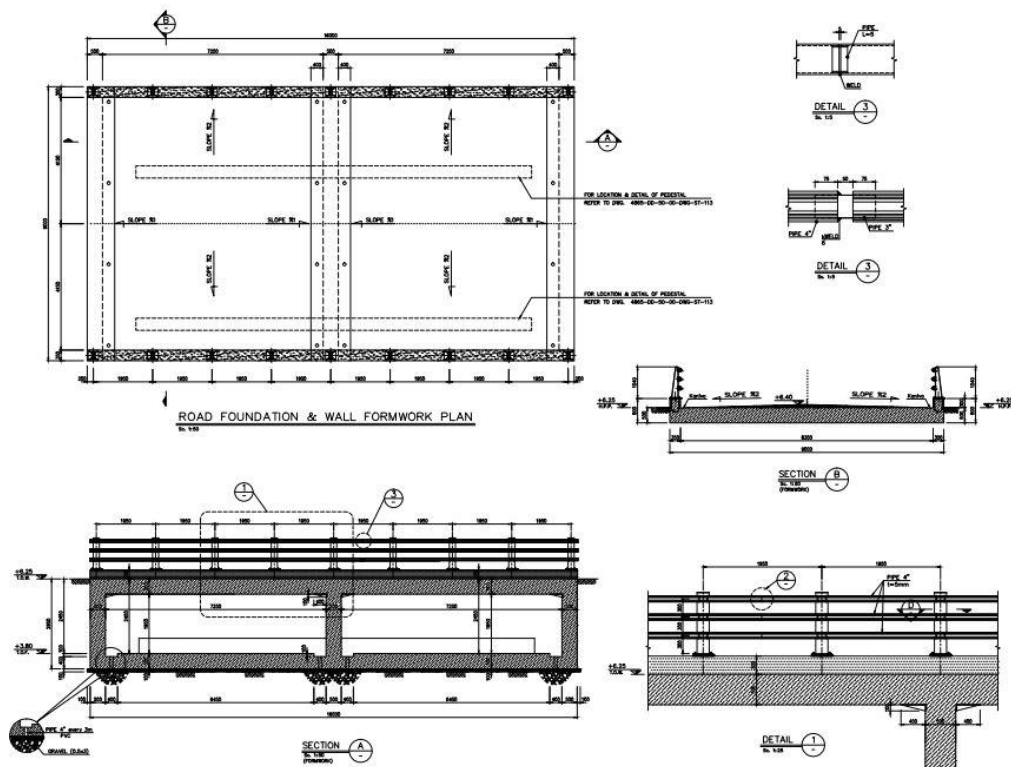
Compressor Foundation Time History Analysis

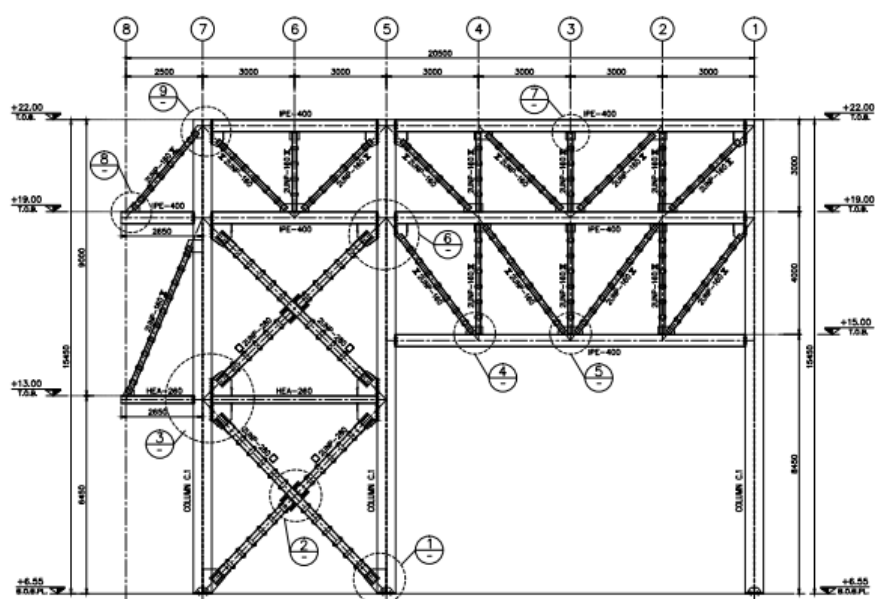
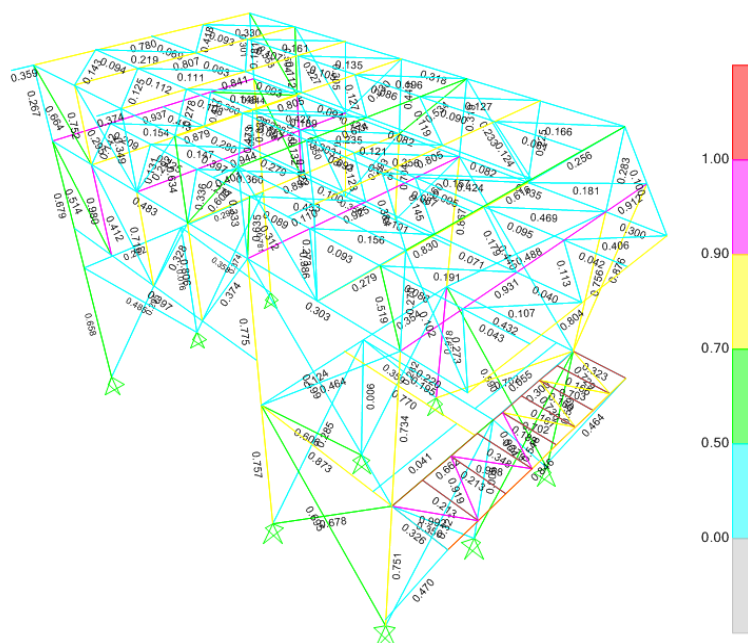


Administration Building



Culvert





Mokran Seawater Intake / Pipeline Project

Client: Namvaran Pazhouhesh va Tose-a (Namvaran P&T)

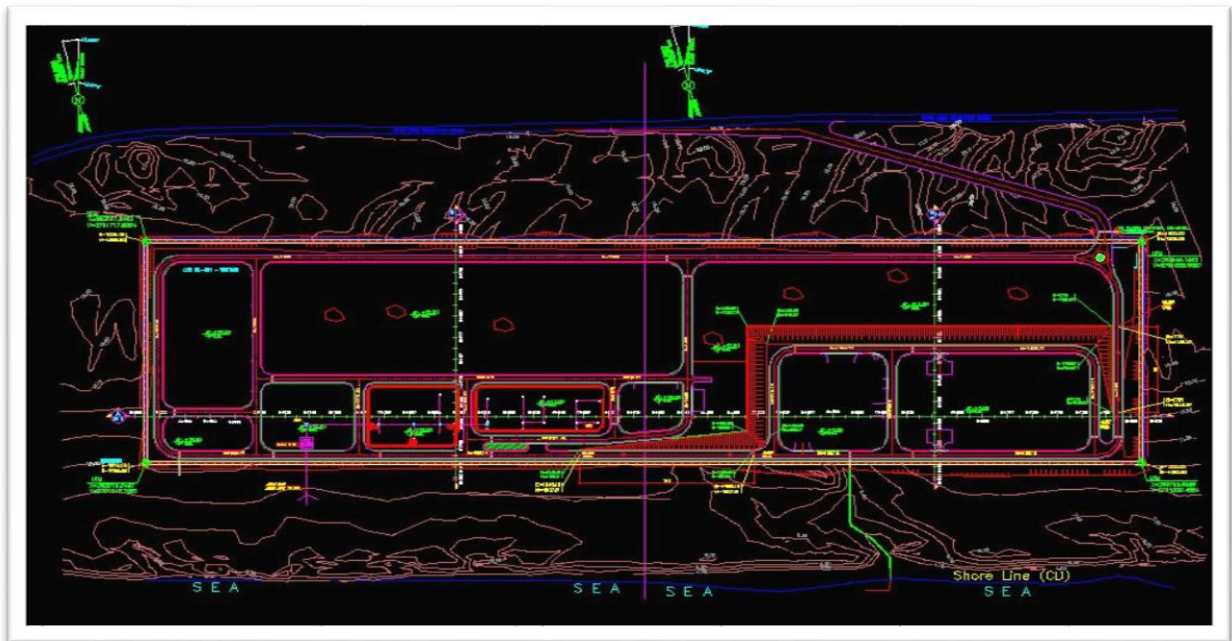
Main Client: Mokran Abniroo Company

In this project ATM undertook Basic design for Buildings and site preparation and Infrastructures as well as a 30Km pipe line for transmission of water.

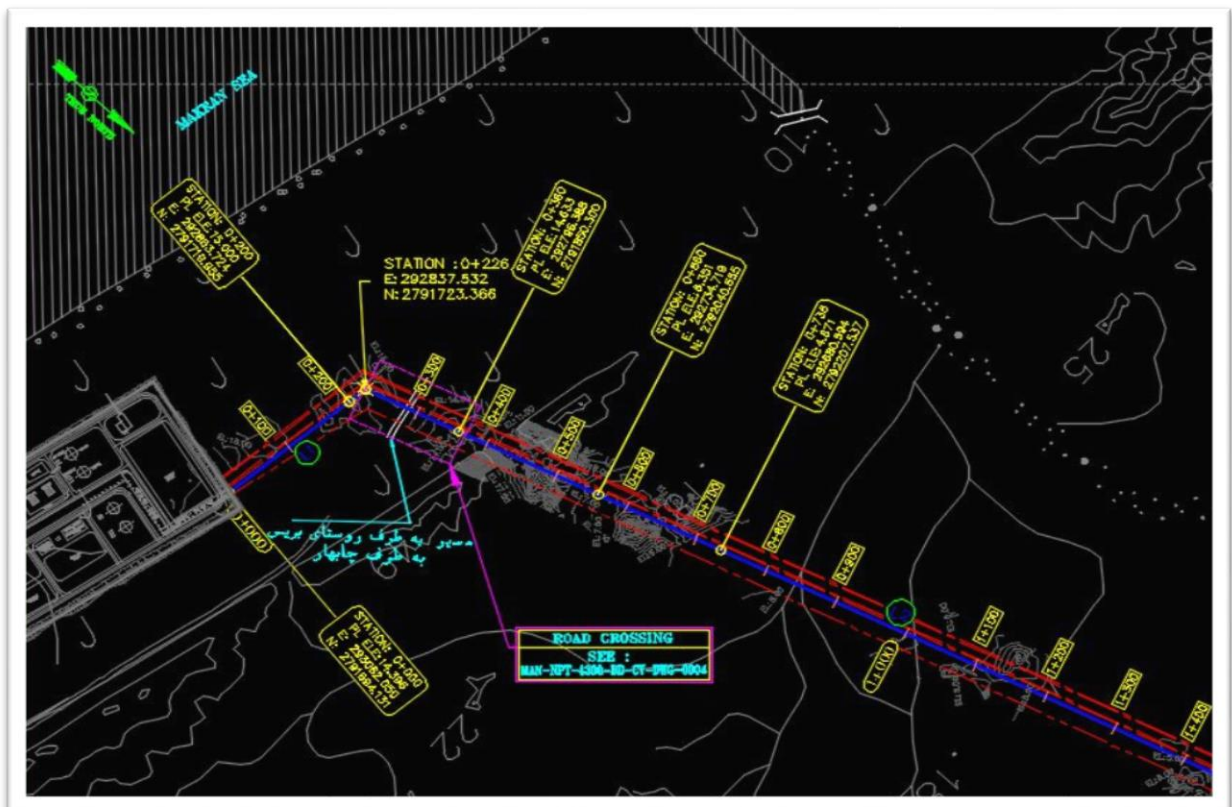
Drainage System Basic Design

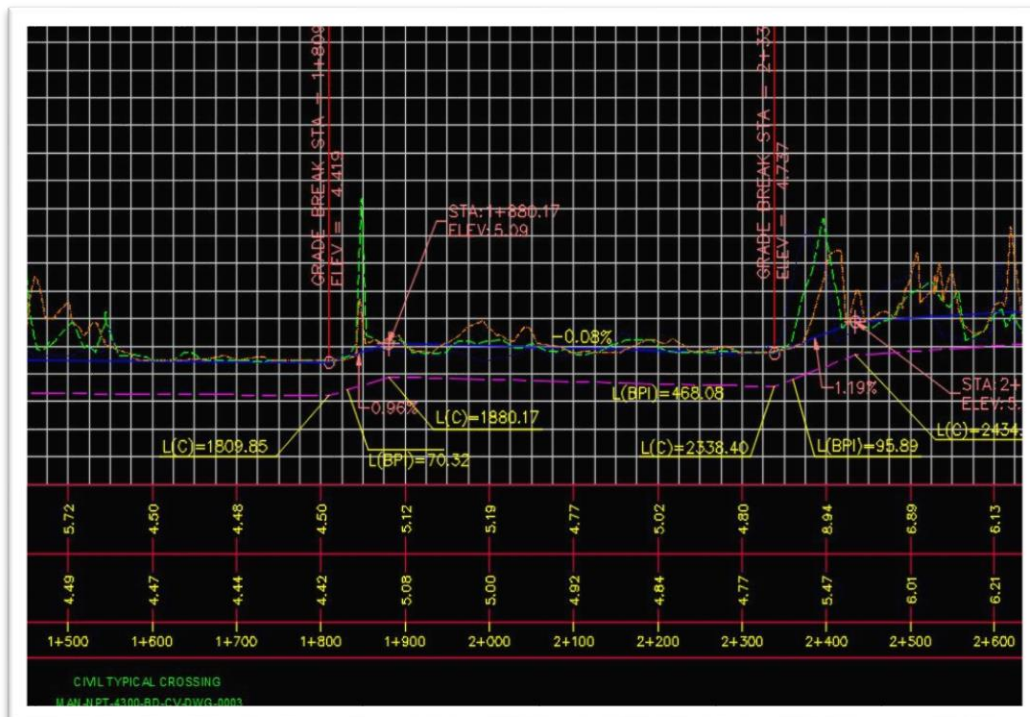
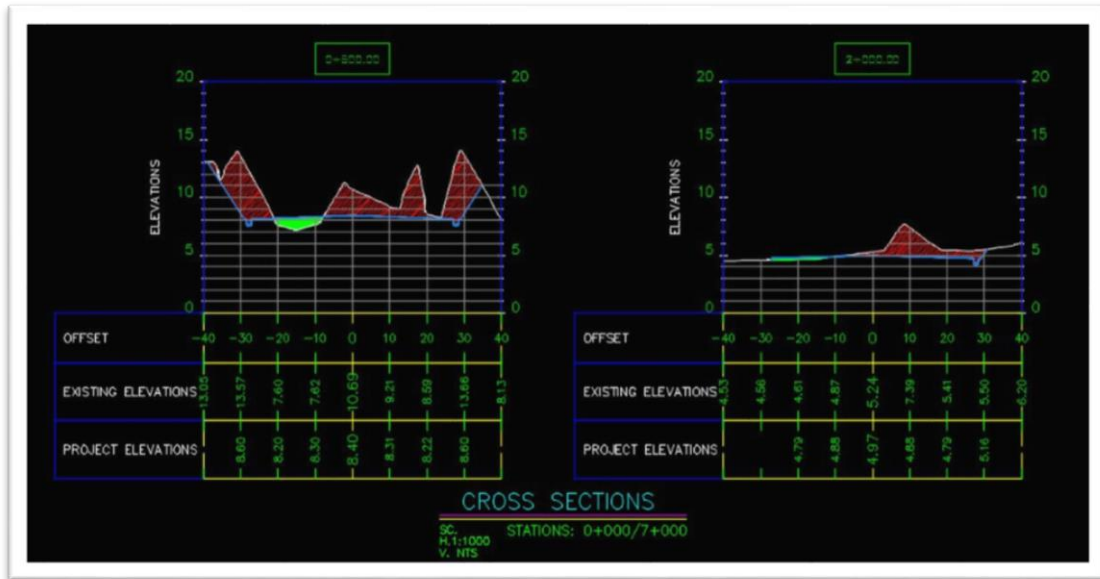


Road Layout Basic Design

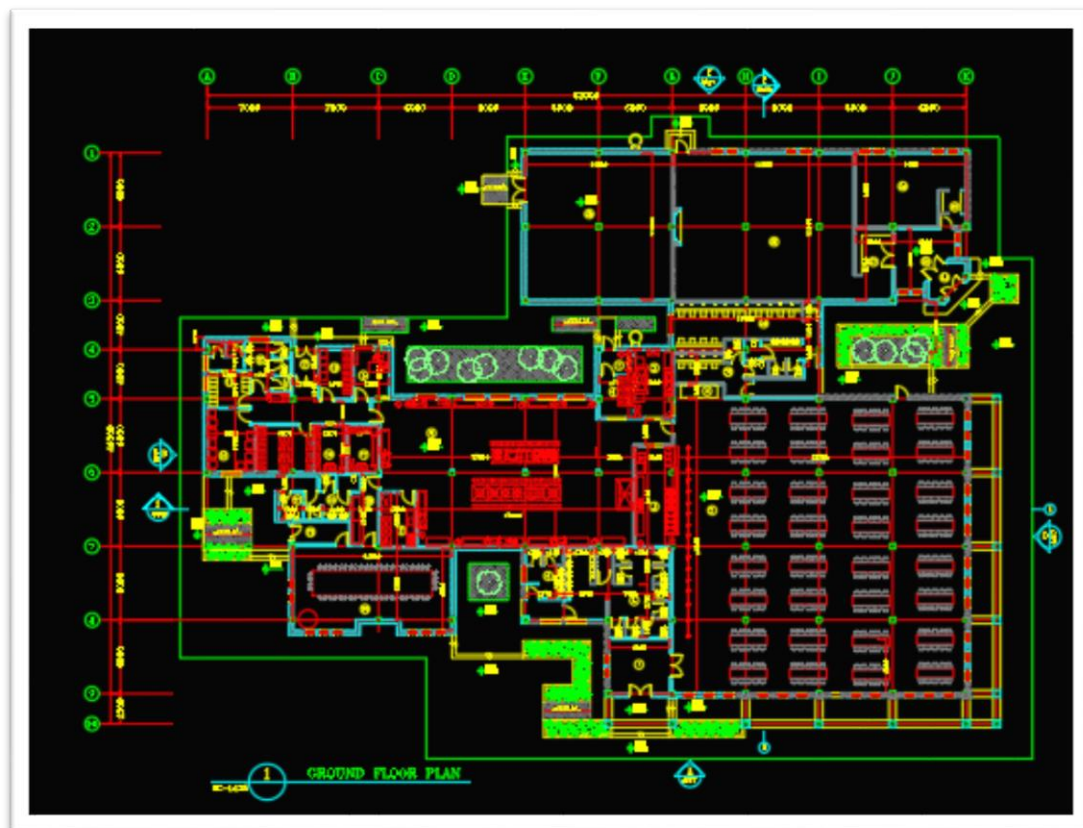


Water Pipe Line





Restaurant



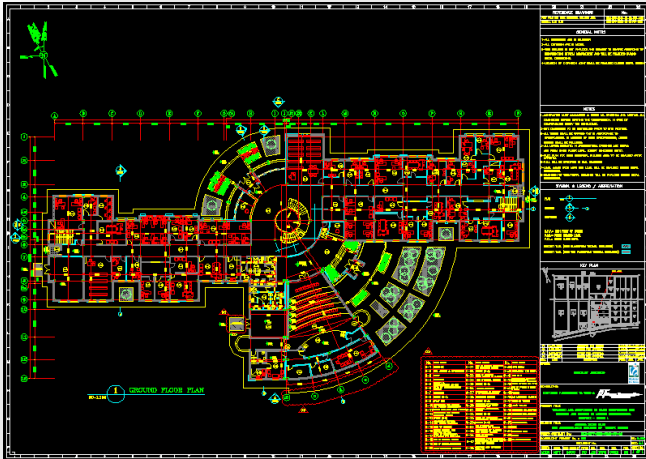
Entrance Building



Fire Station & Clinic



Administration Building

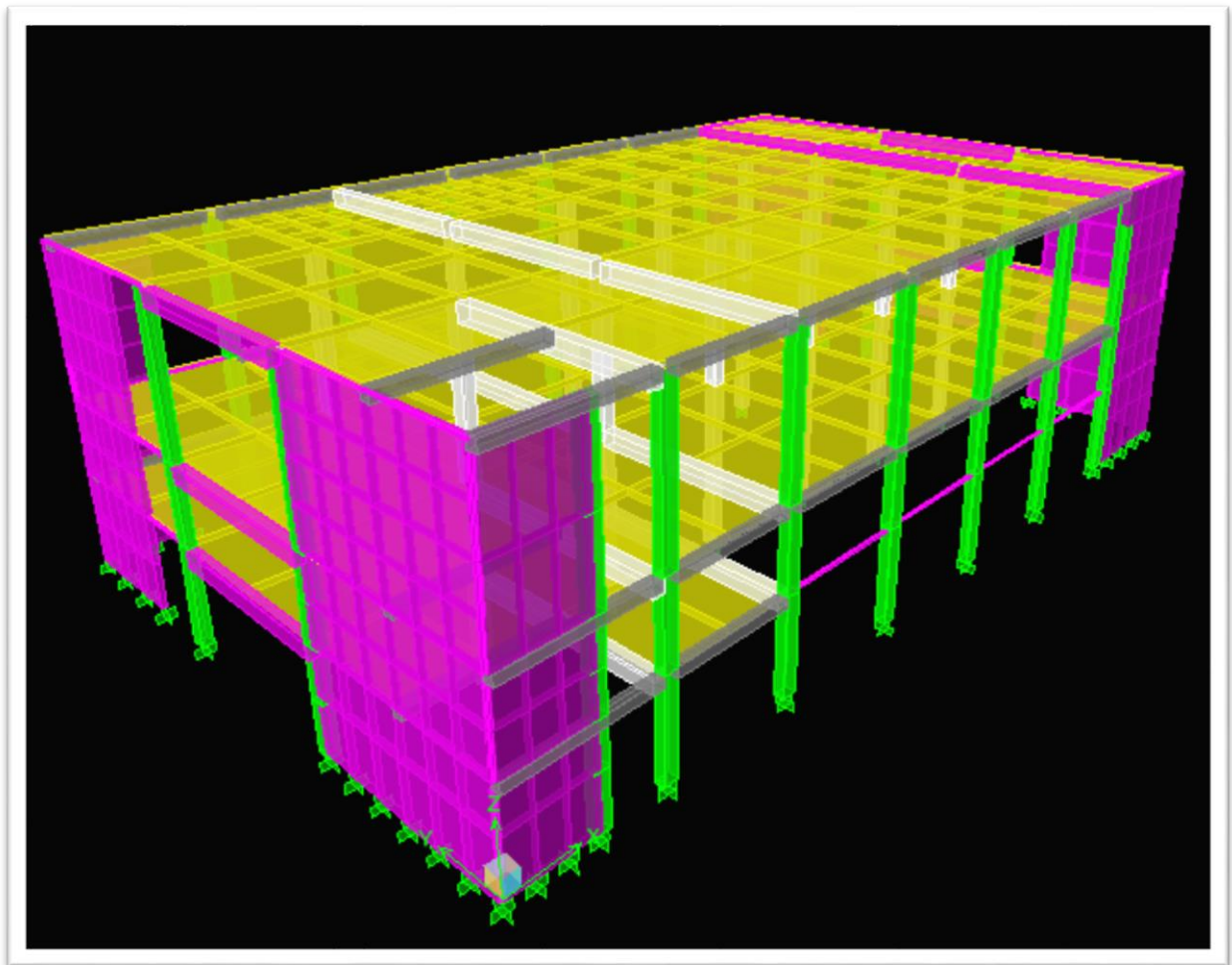


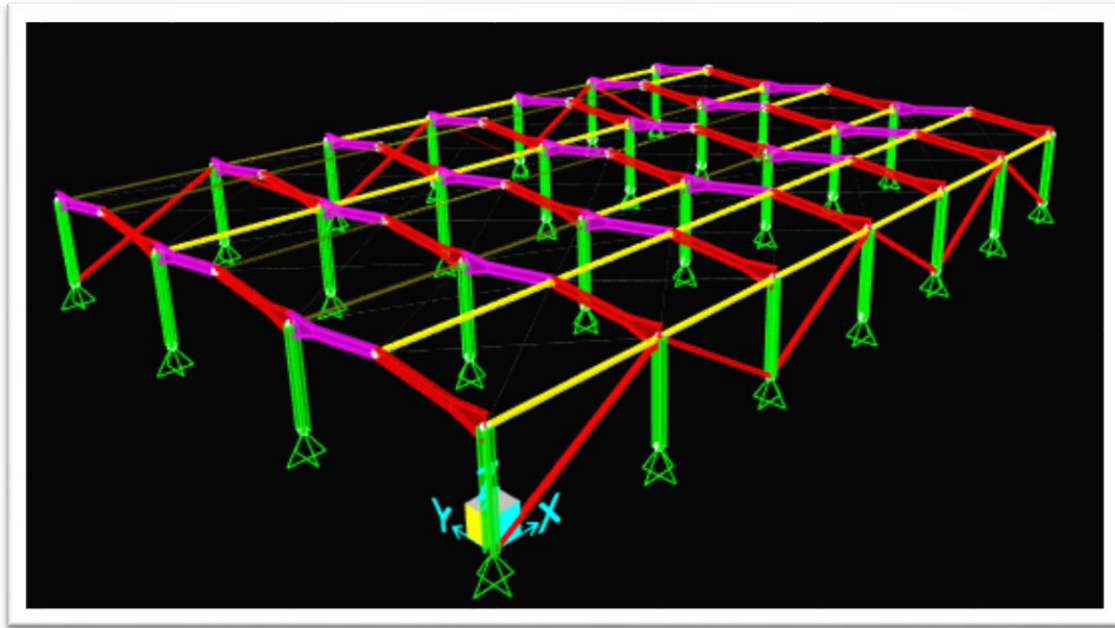
PKT Project

Client: Peyman Keyhan Teb Company

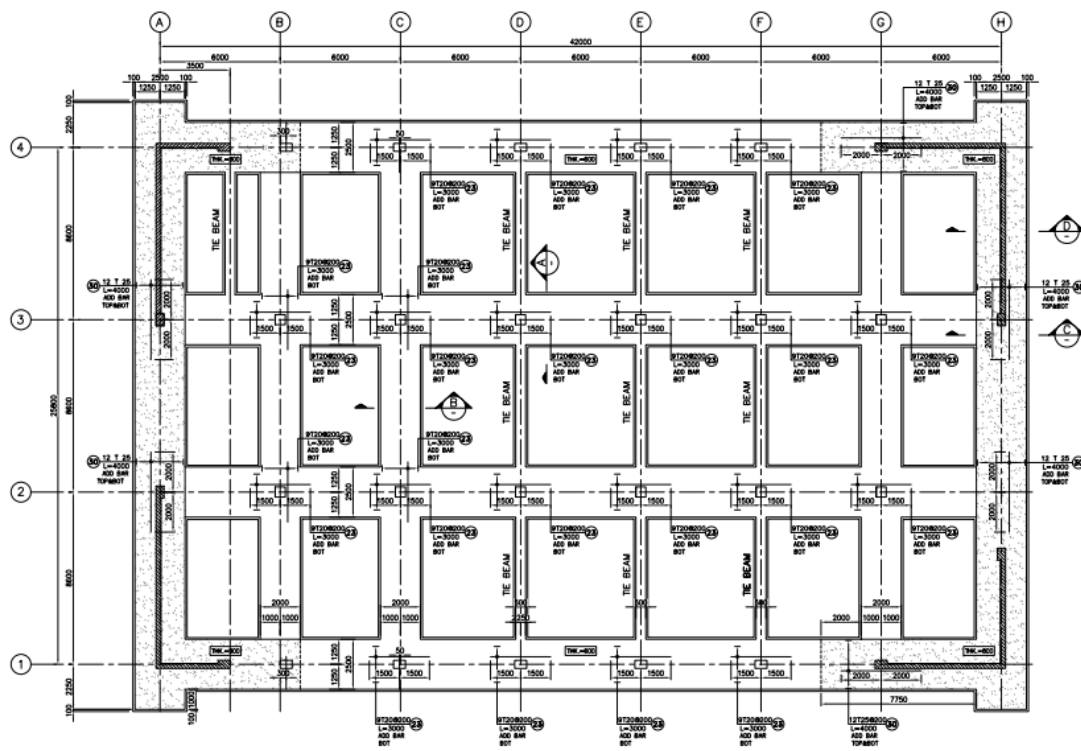
This Project comprised a Production Building for Medical items and ATM conducted detailed structural design of production building made of reinforced concrete structure including foundation for production machinery in basic and detailed phases.

Concrete & Steel Structure



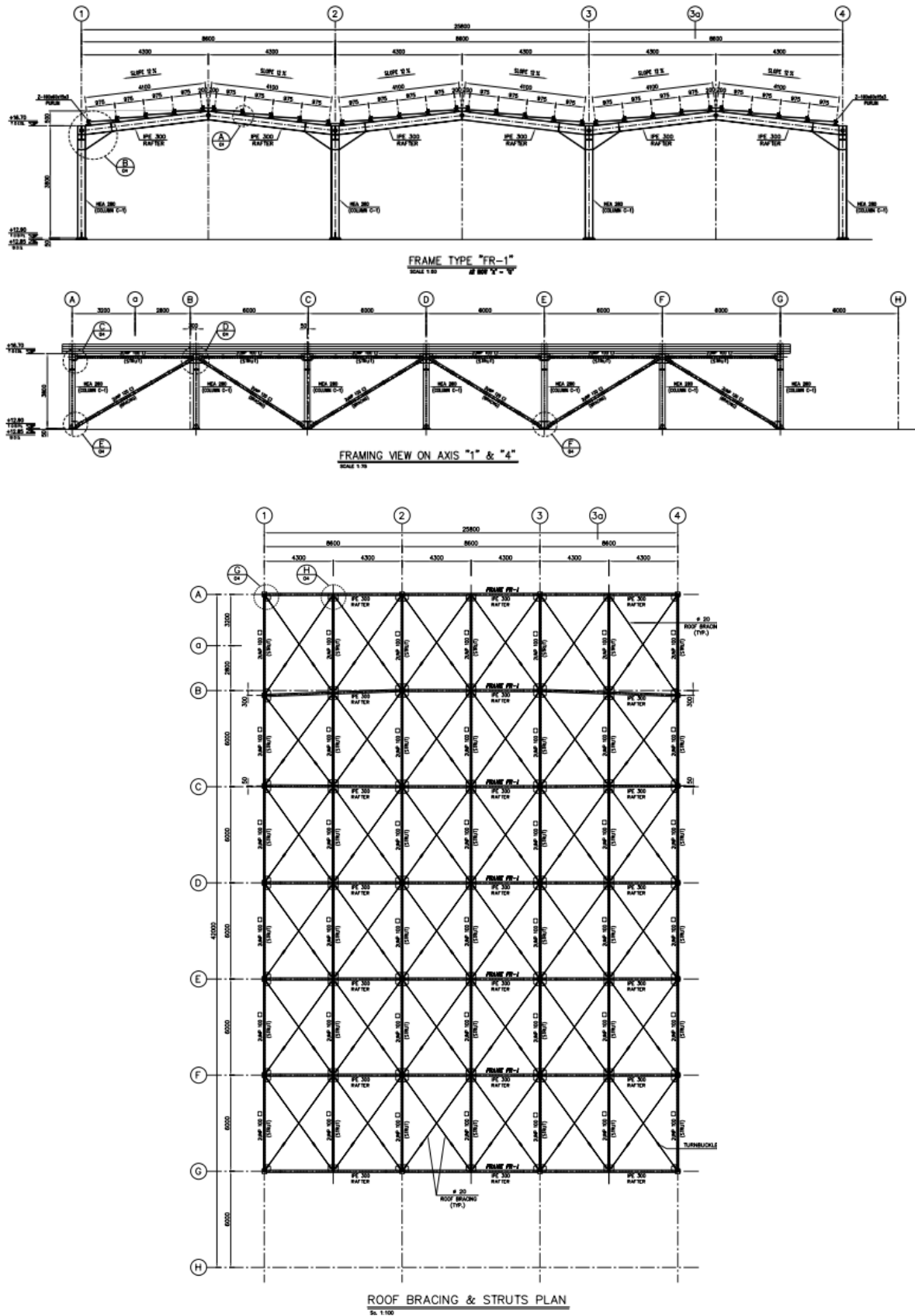


Foundation Plan



FOUNDATION FORMWORK & ADD BAR PLAN
Sc. 1:100

Steel Structure



Bushehr Petrochemical Plant

Client: ThinkXpert Company

Main Client: Bushehr Petrochemical Company

This Megaproject was comprising 3 production sites with various process plants and ATM were providing civil structural consultancy services to client as managing consultant.

Plot Plan



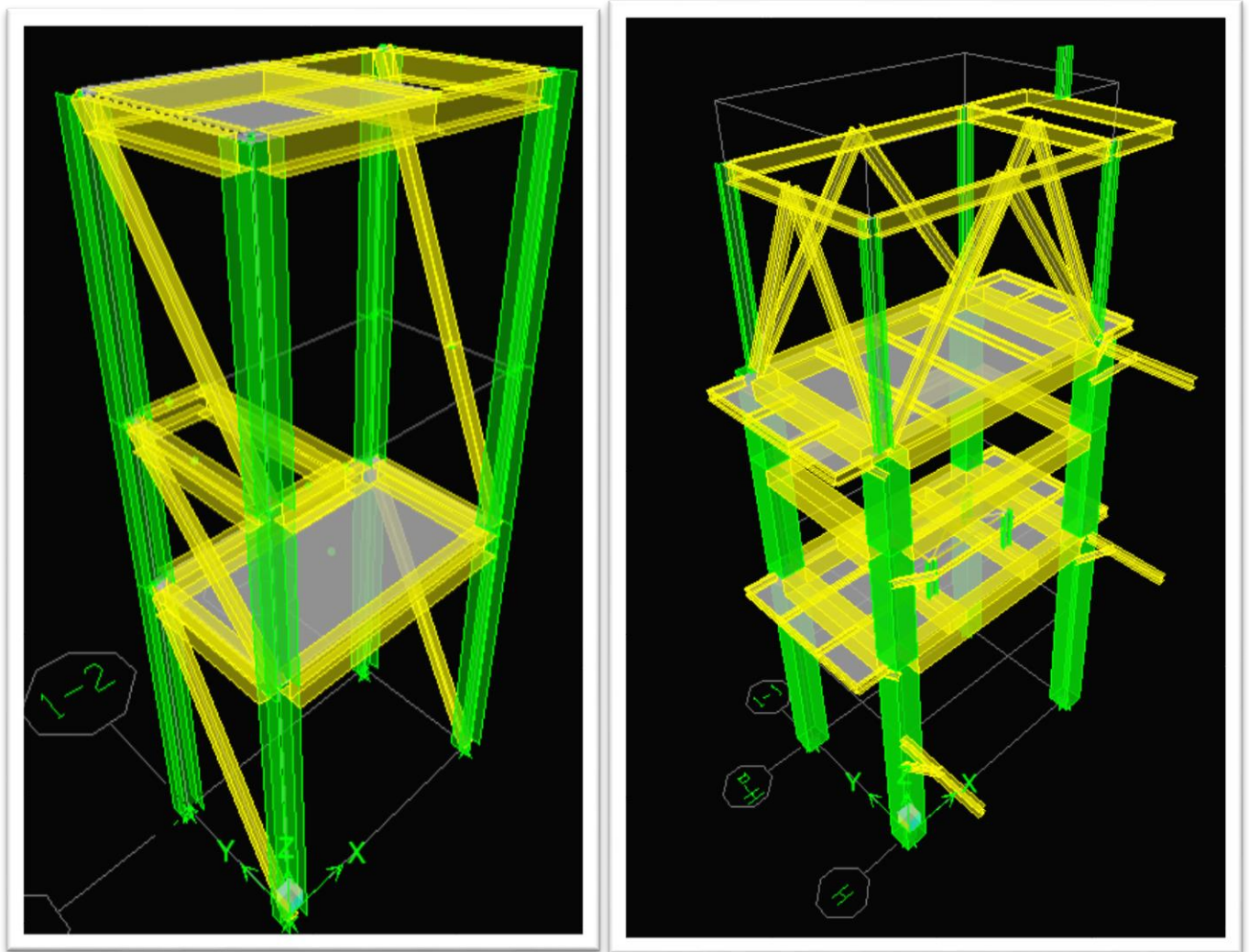
APG Gum Removal

Client: Namvaran Pazhouhesh va Tose-a (Namvaran P&T)
Main Client: Tabriz Petrochemical Company

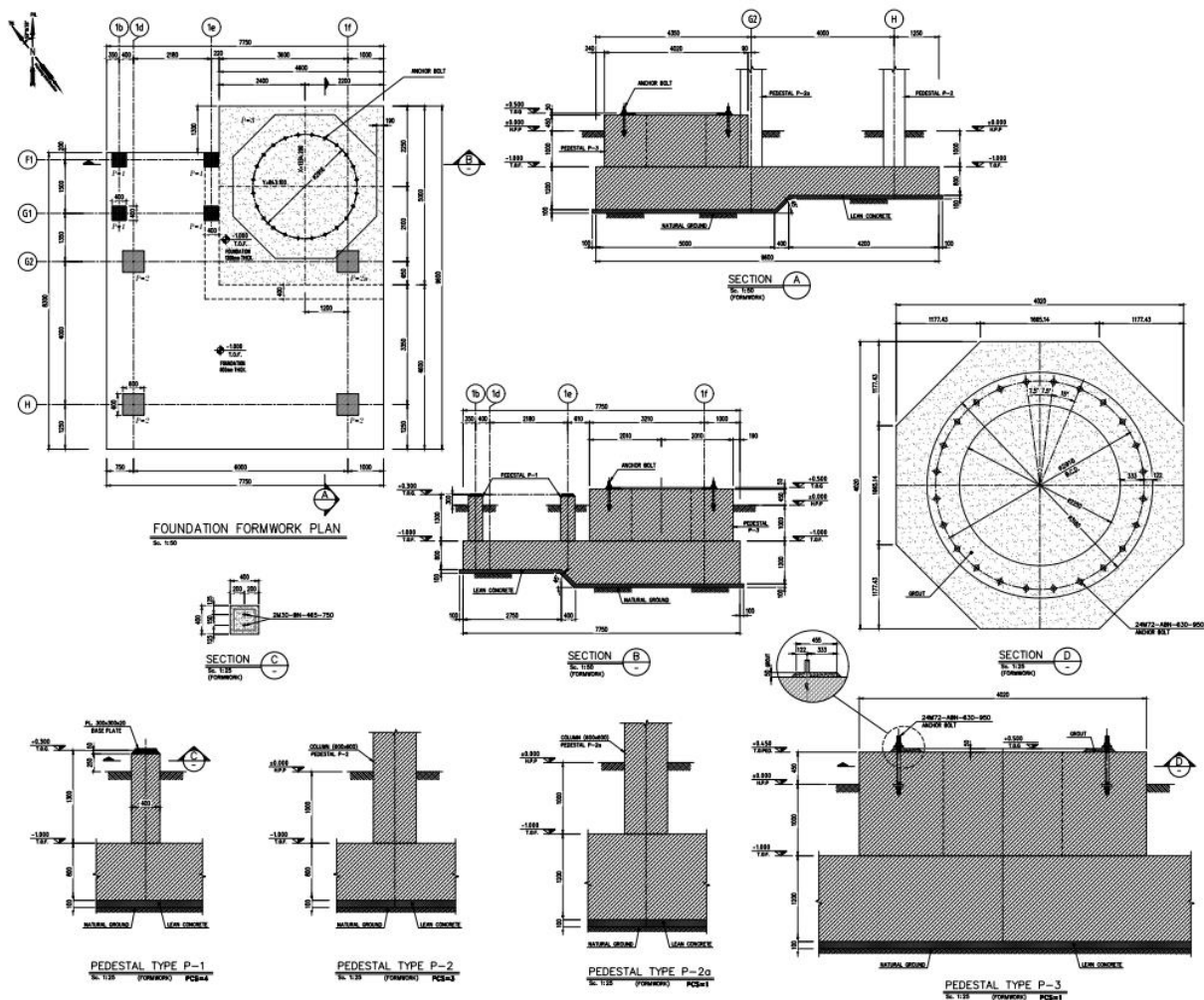
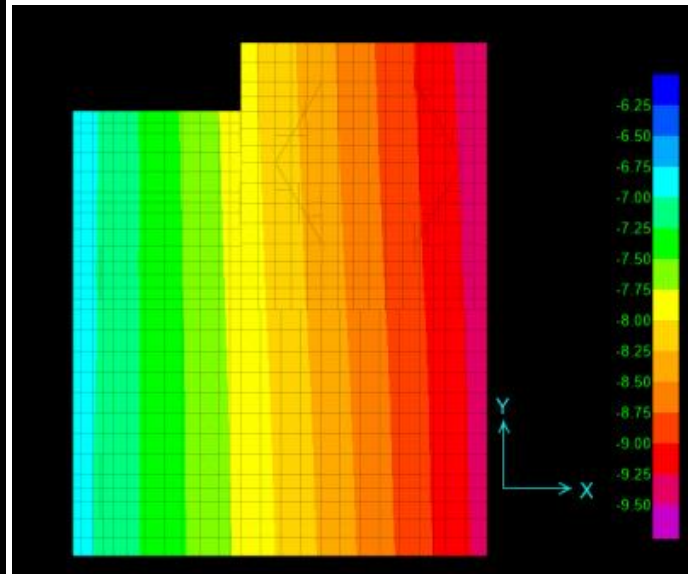
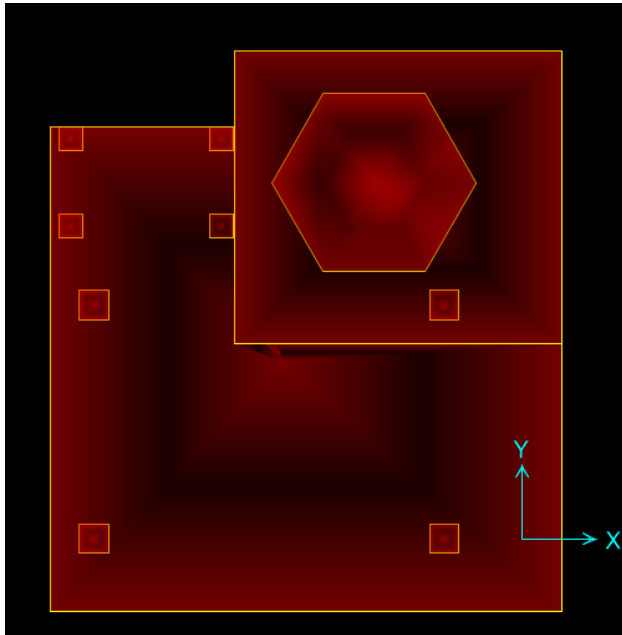
This was an Upgrade Project in Tabriz Petrochemical, Northwest Iran.

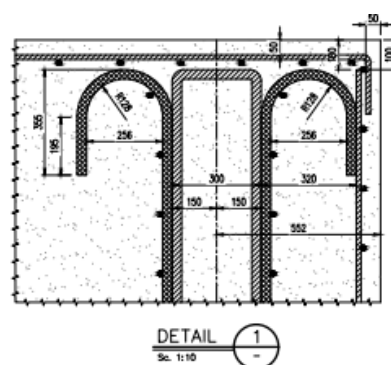
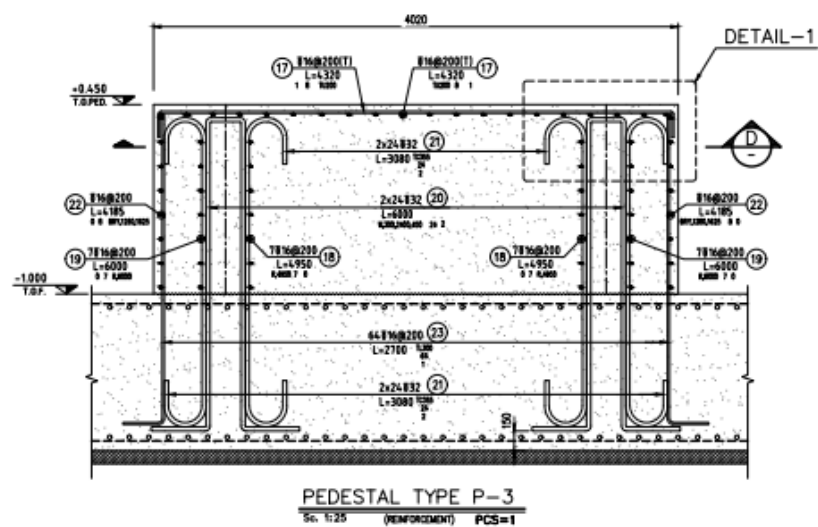
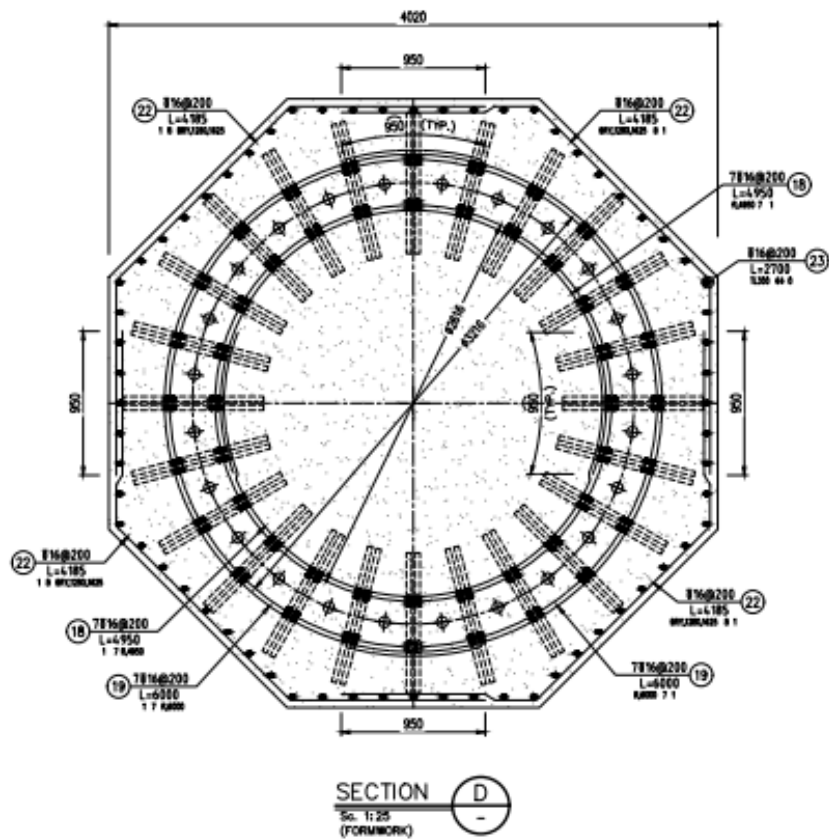
Our Scope of work was to provide structural design services including equipment supporting structure, rotary equipment foundation design.

Equipment Structures



Foundation of Tower





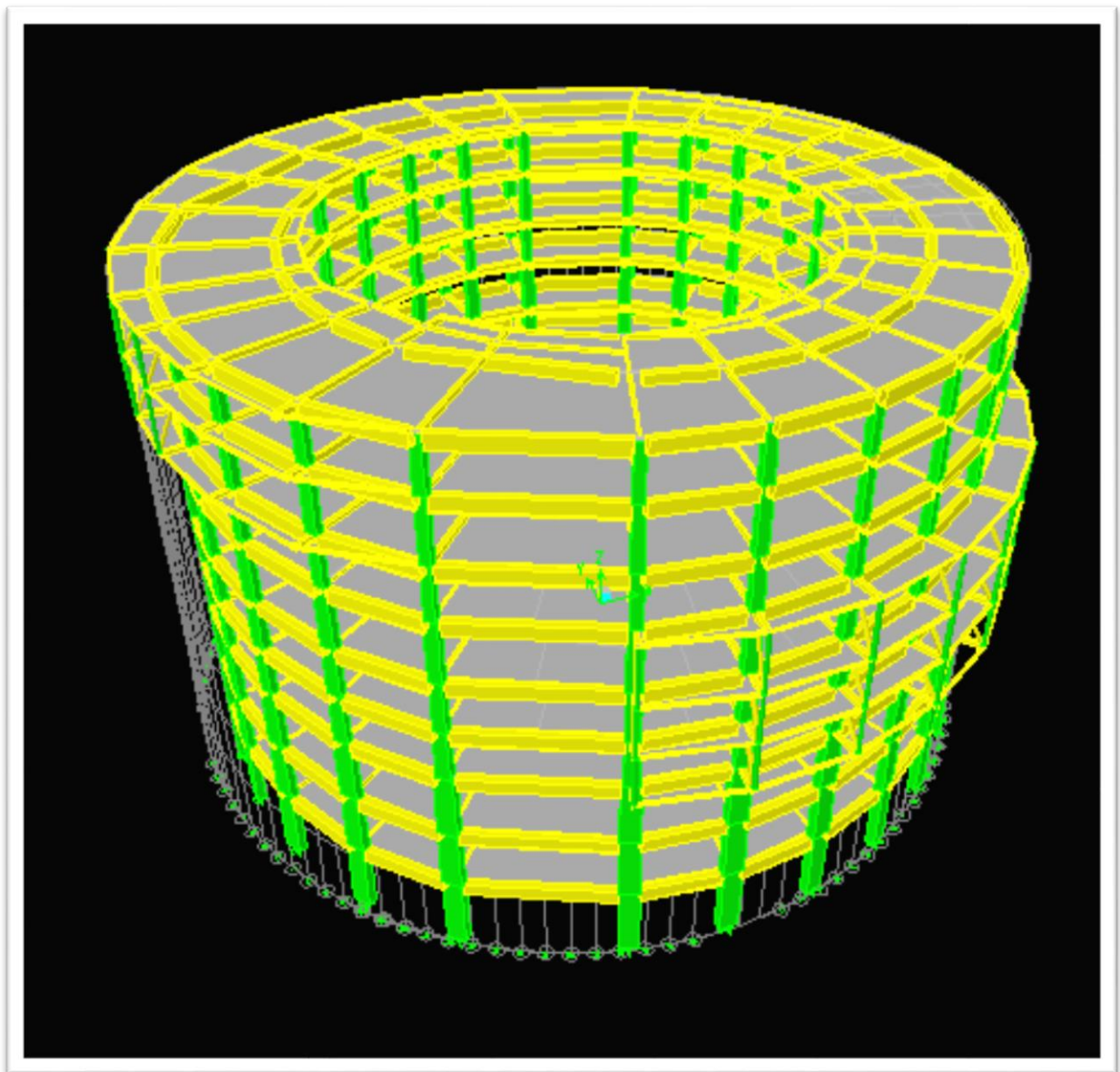
BandarAbbas 220 Bed Hospital

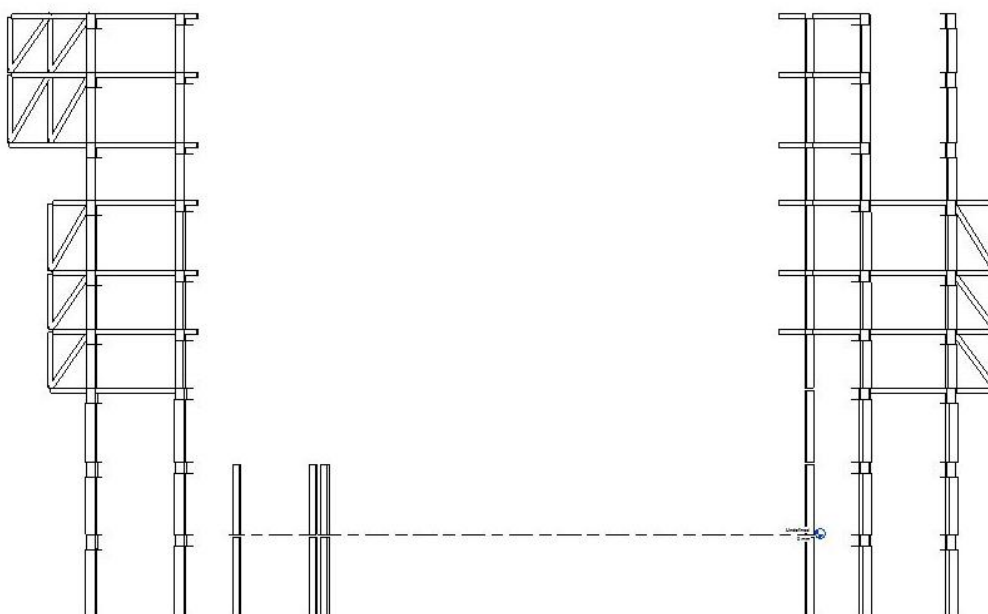
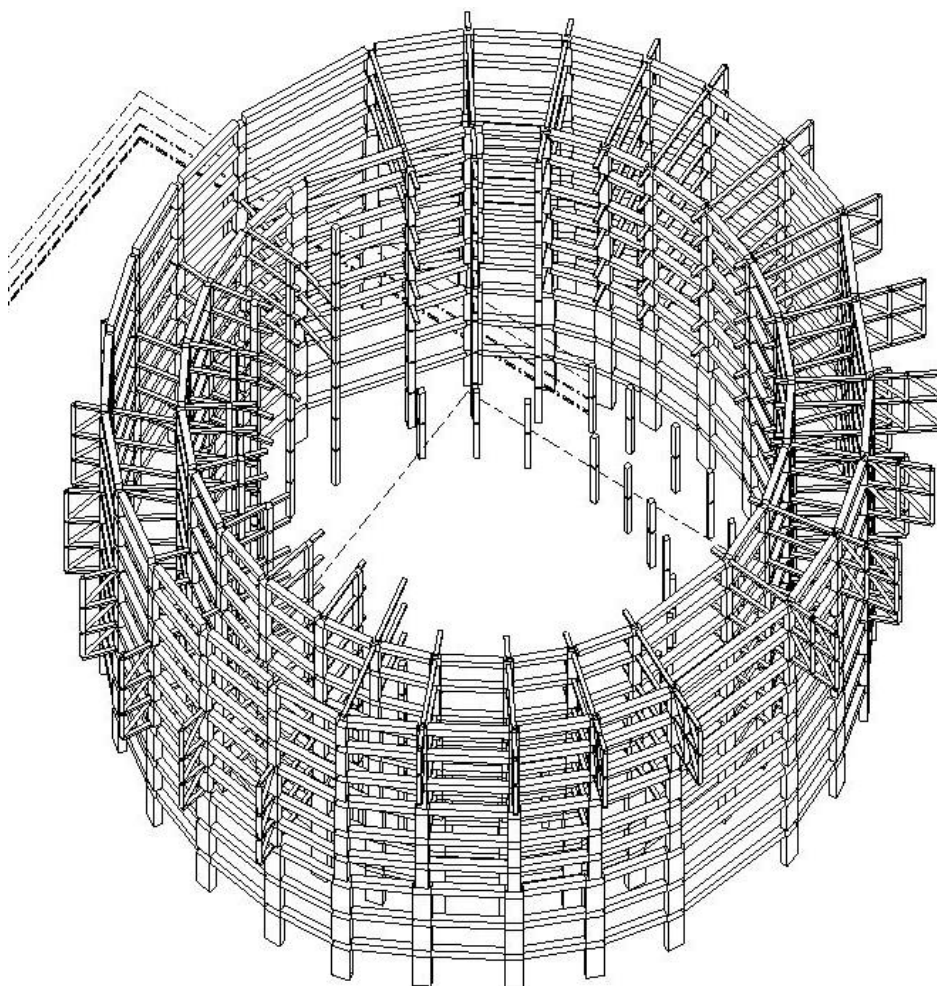
Client: Nik Darman Kourosh

A 10 story Building with 36000 Sq. M floor area in south of Iran with special Architectural design was a real challenge in structural design with 7meter long cantilevers on a round building.

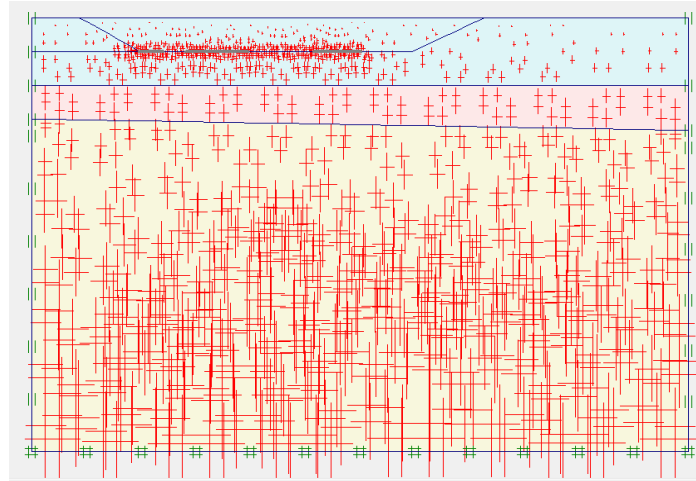
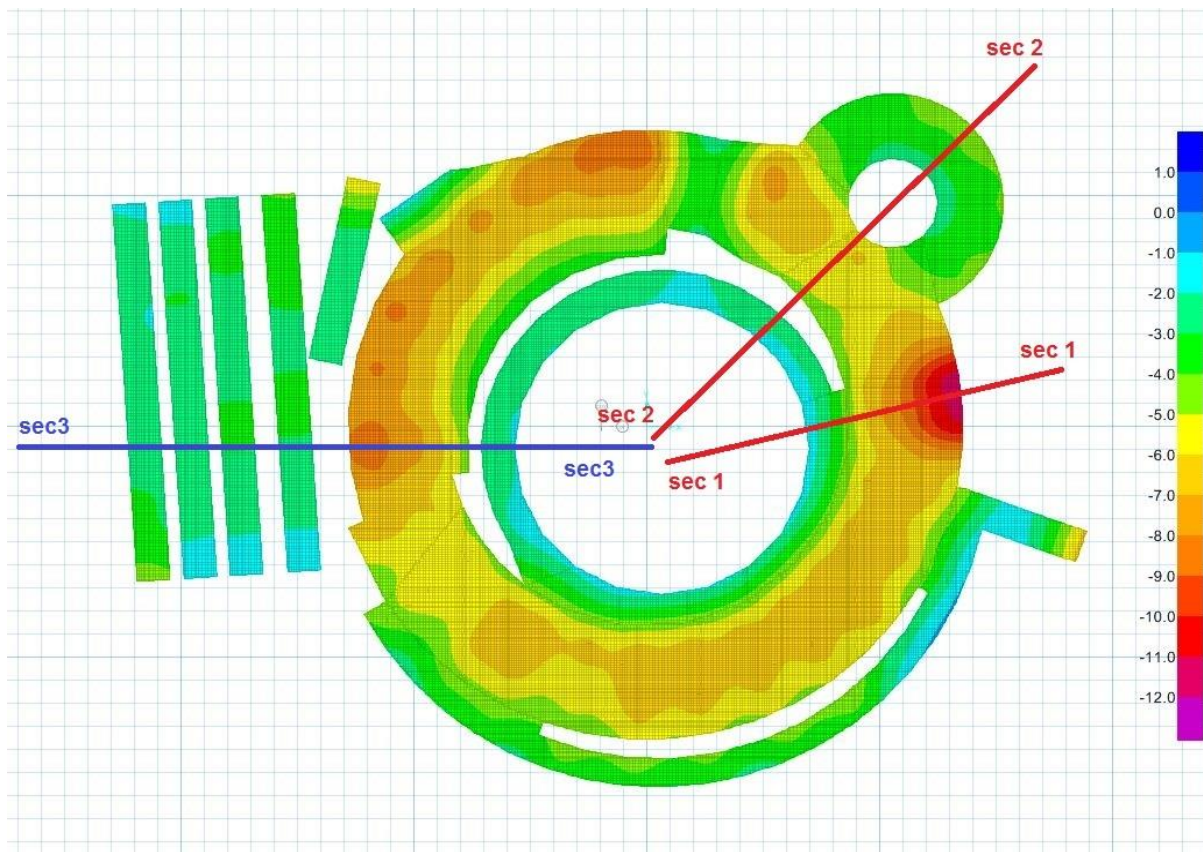
ATM assisted client in conceptual structural design to address all performance design requirements.

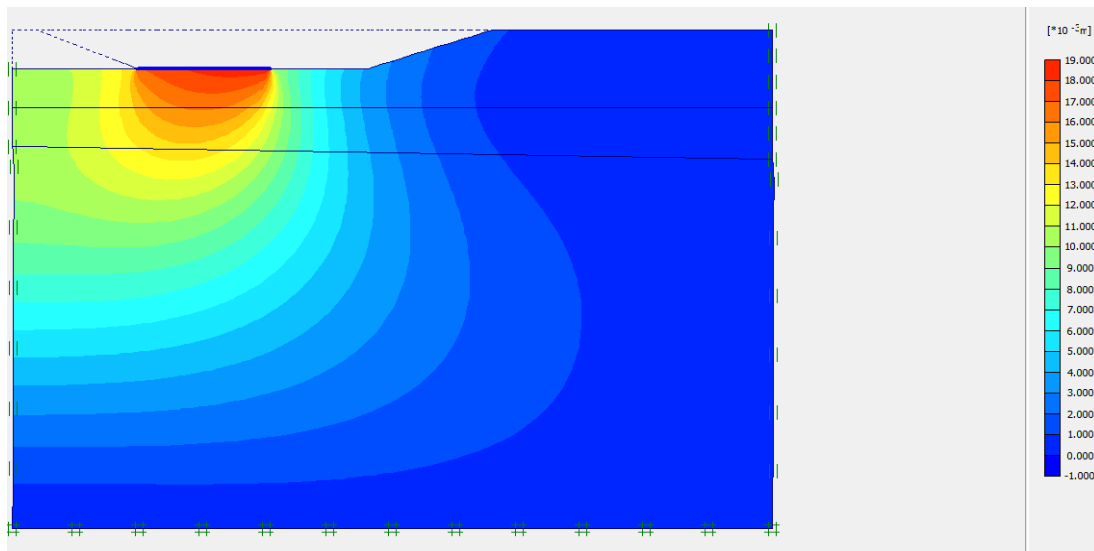
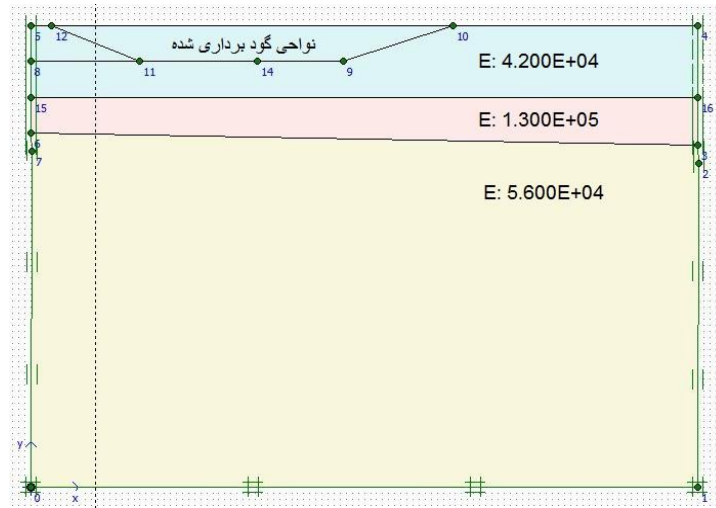
BandarAbbas Hospital





Plaxis



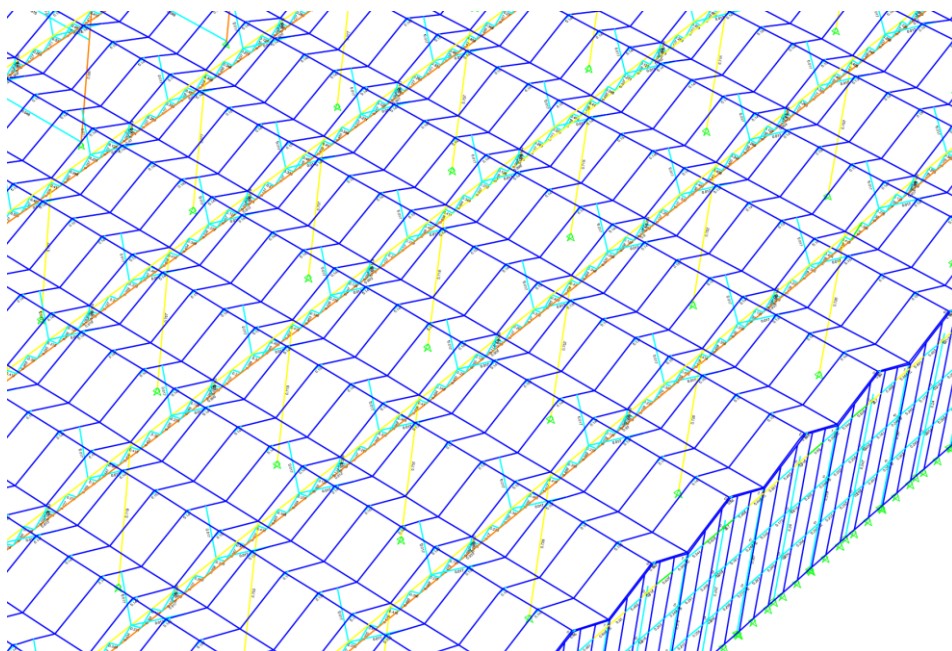
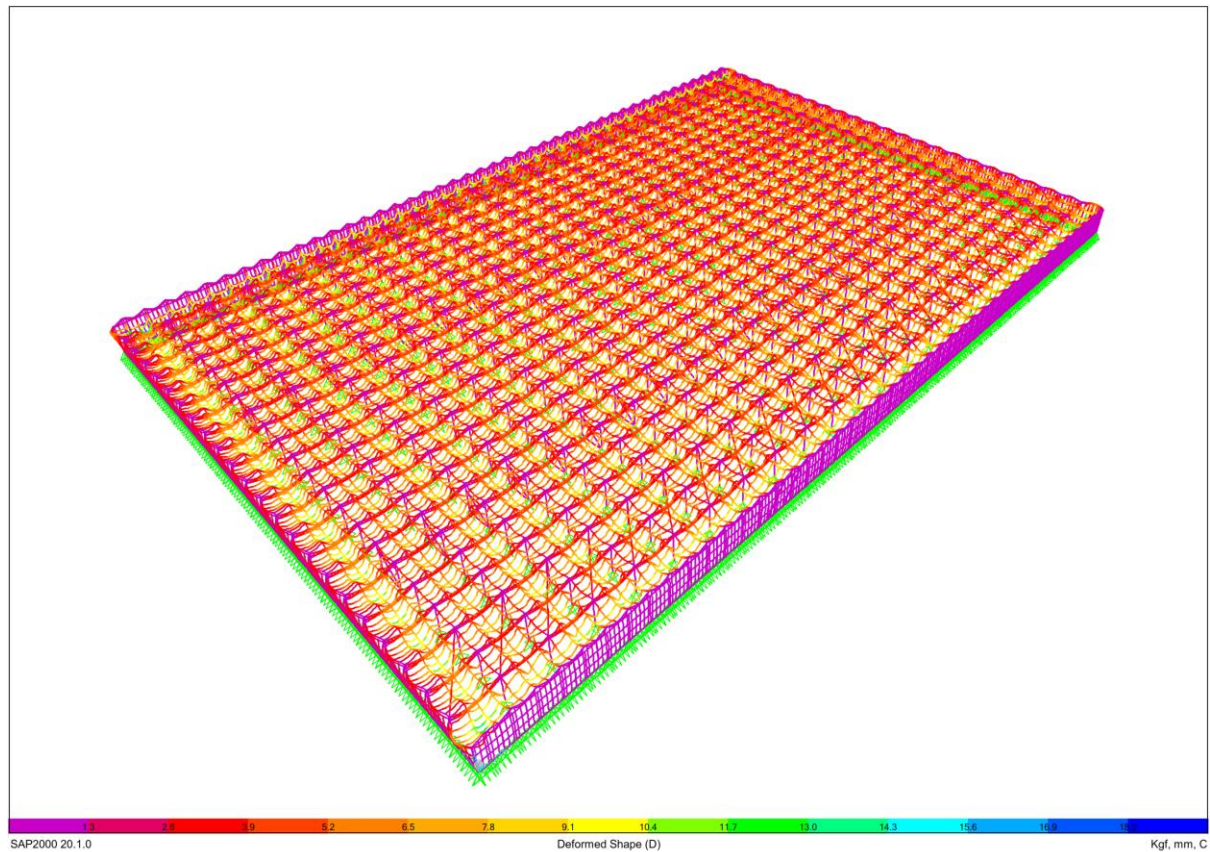


Siah-kal green house project

Client: Exir Sanat Company

ATM provided design review service to our client for this Composite Aluminium and glass light Building for in agricultural industry.

SAP Model

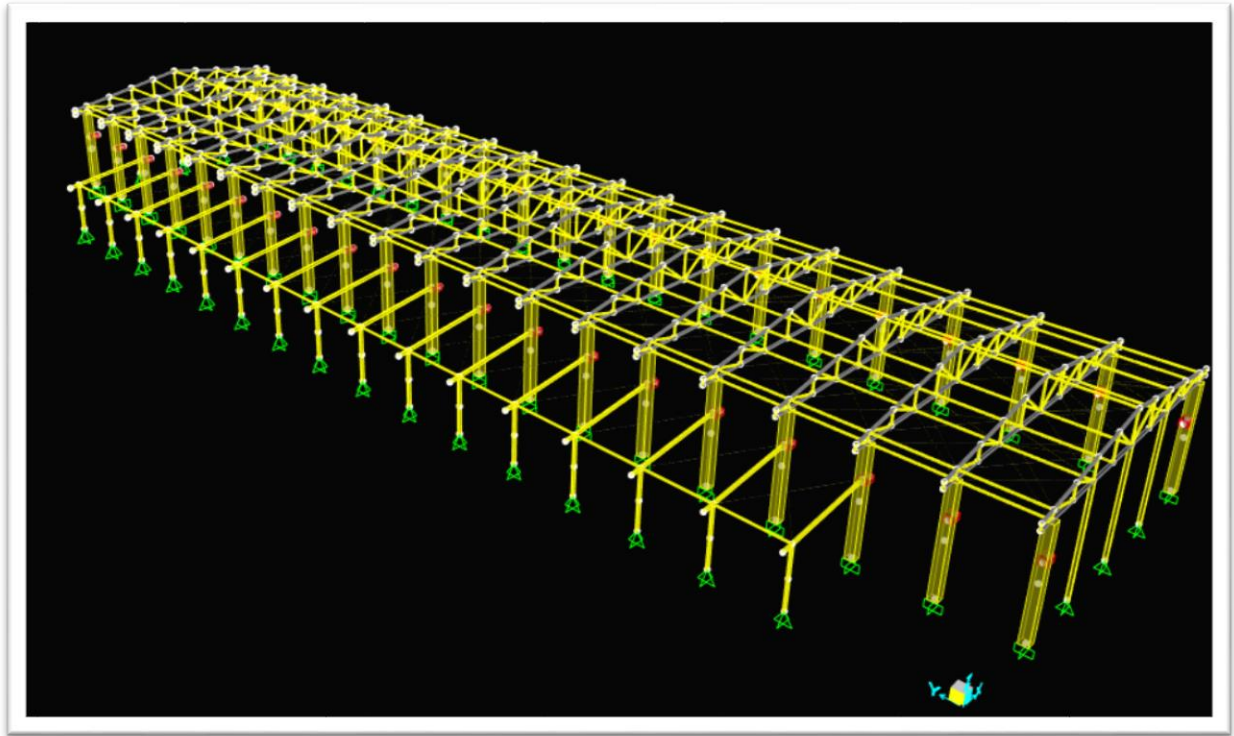


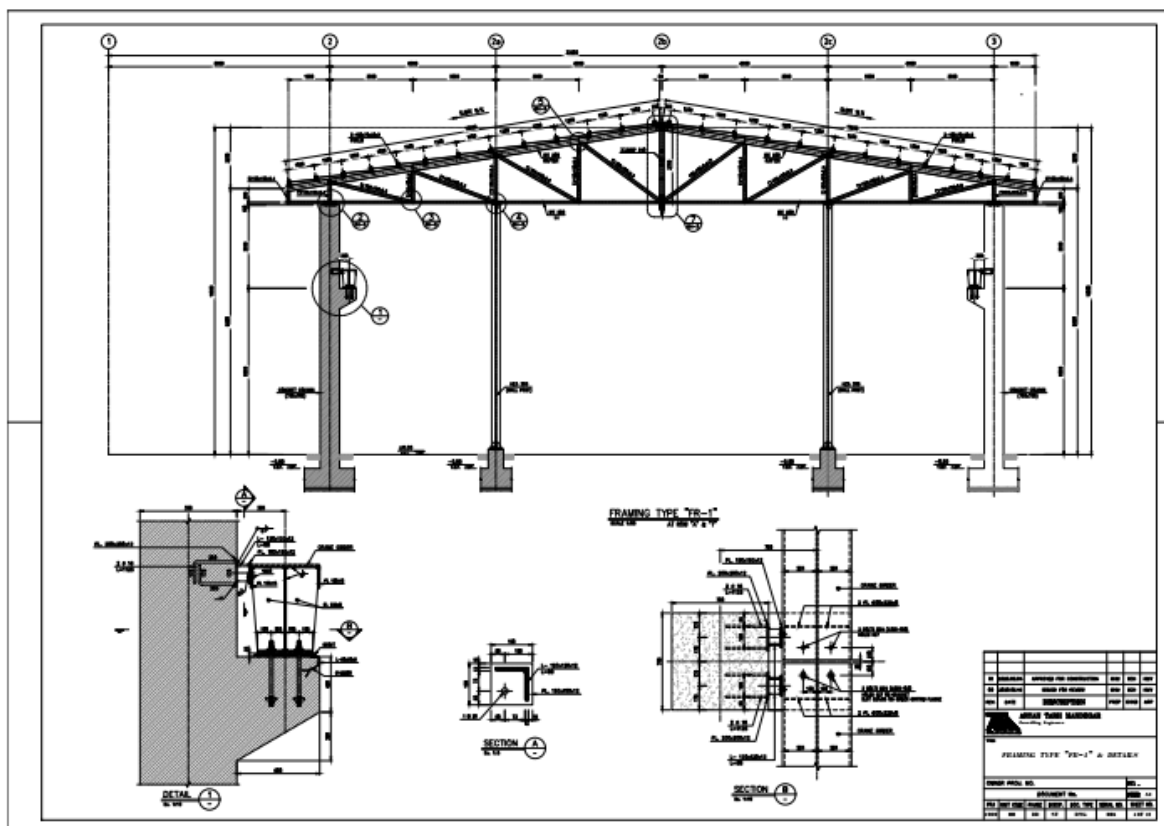
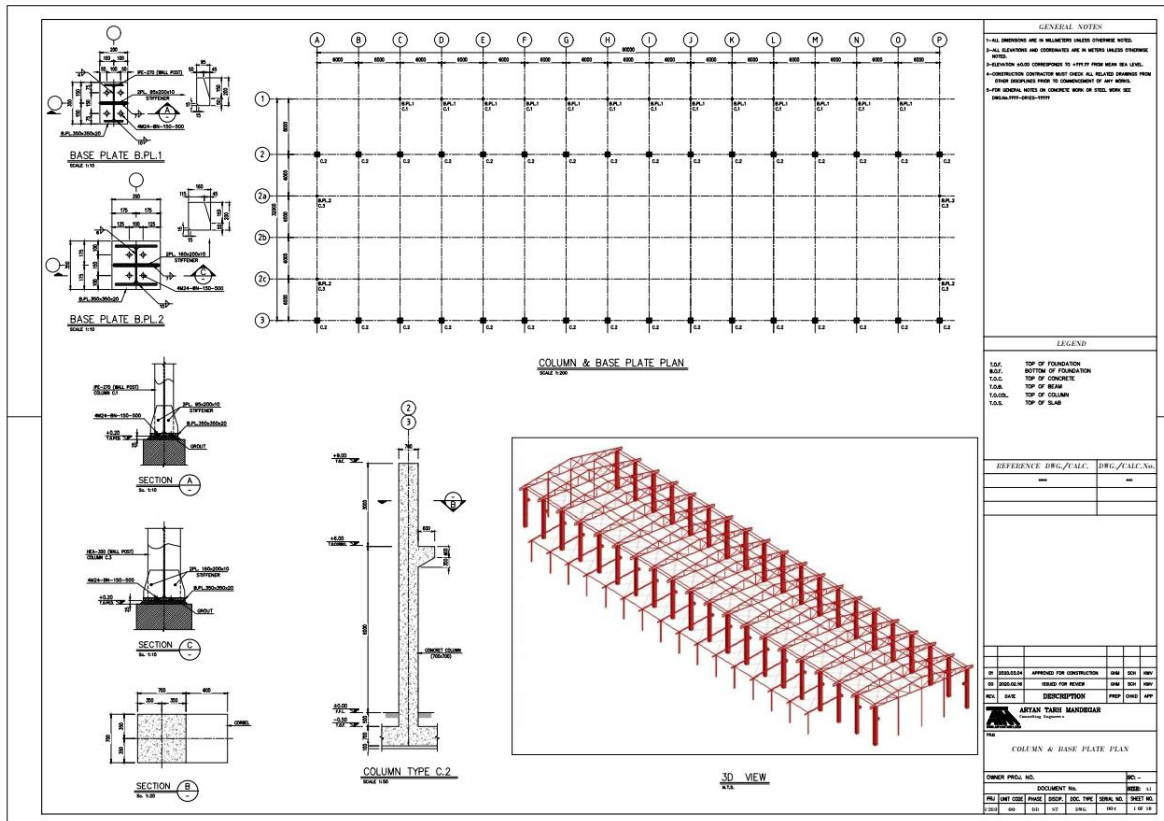
Precast Pile production factory

Client: Exir Sanat Company

ATM designed a reinforced concrete Industrial Building which houses production line for precast concrete piles in Abadan South of Iran.

Structure Model



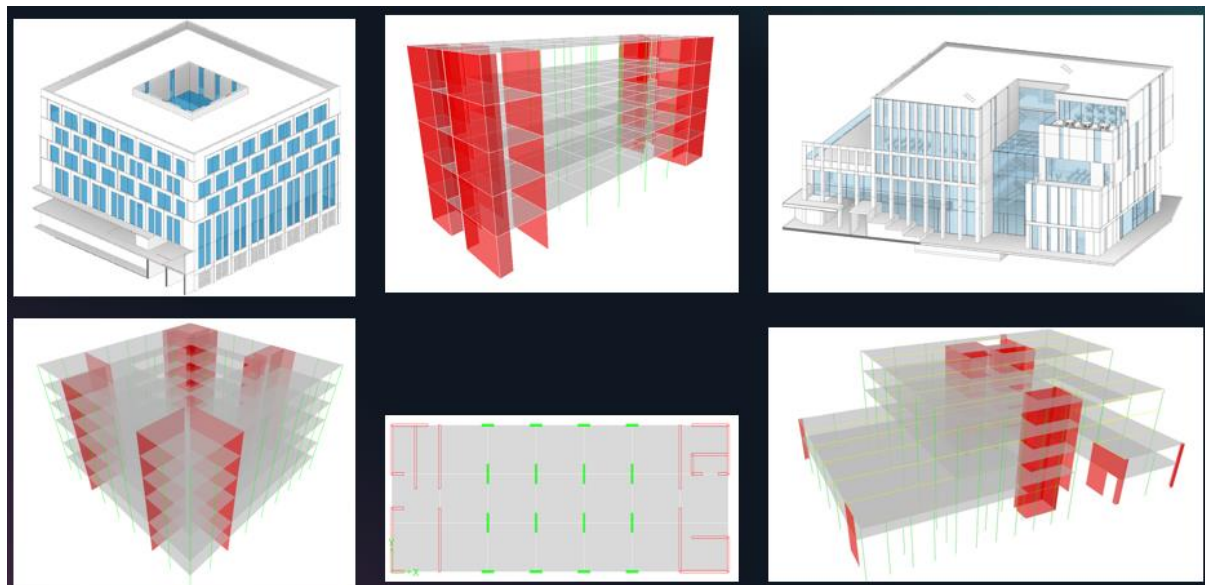
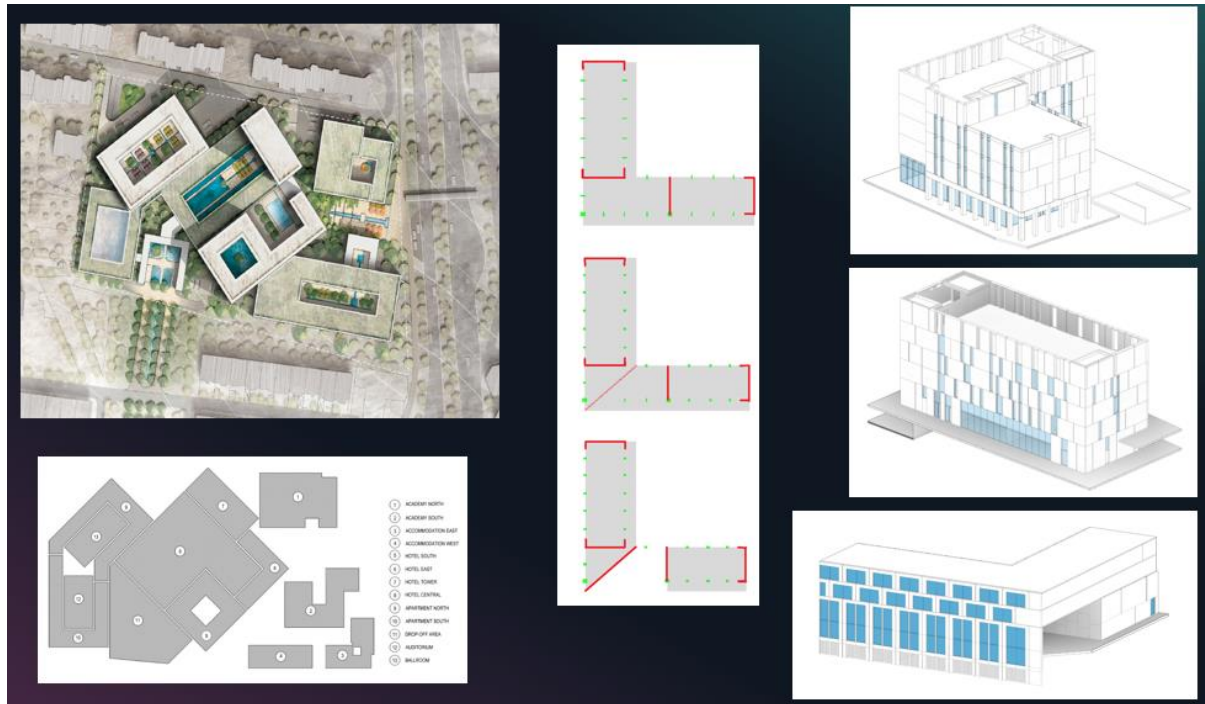


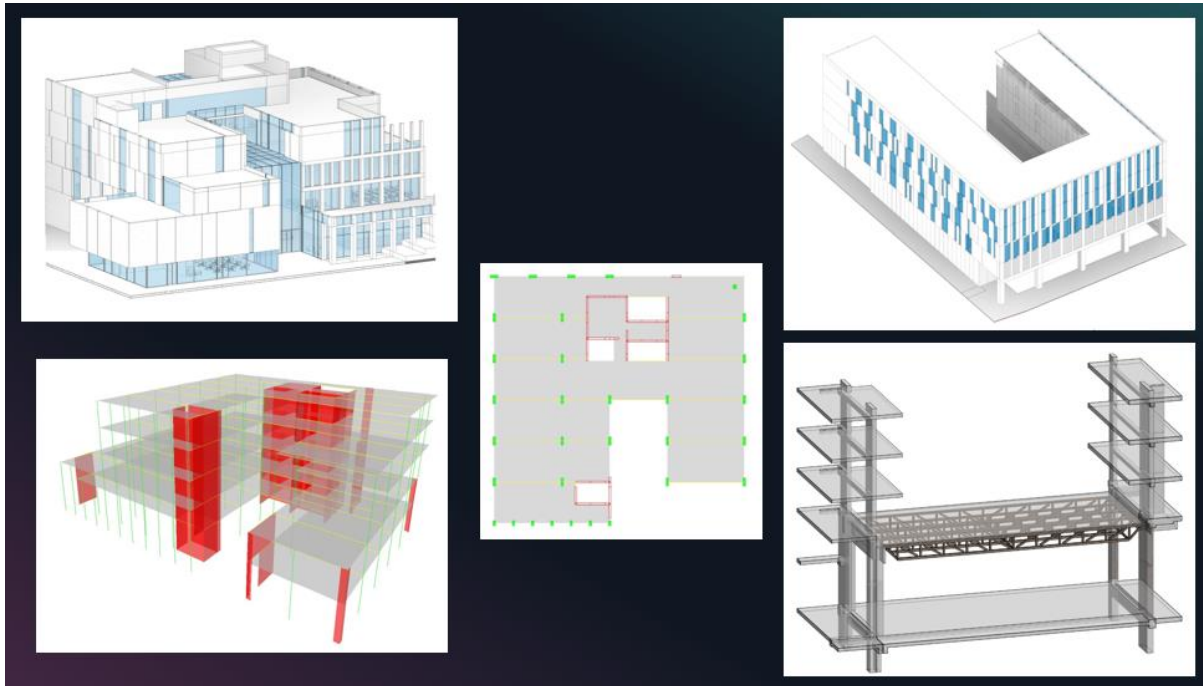
Rotana Hotels

Client: WME Consulting Engineer

In This project ATM served our client by detailed structural design of hotel buildings in Isfahan designed by WME.

Isfahan Hotel & Academy





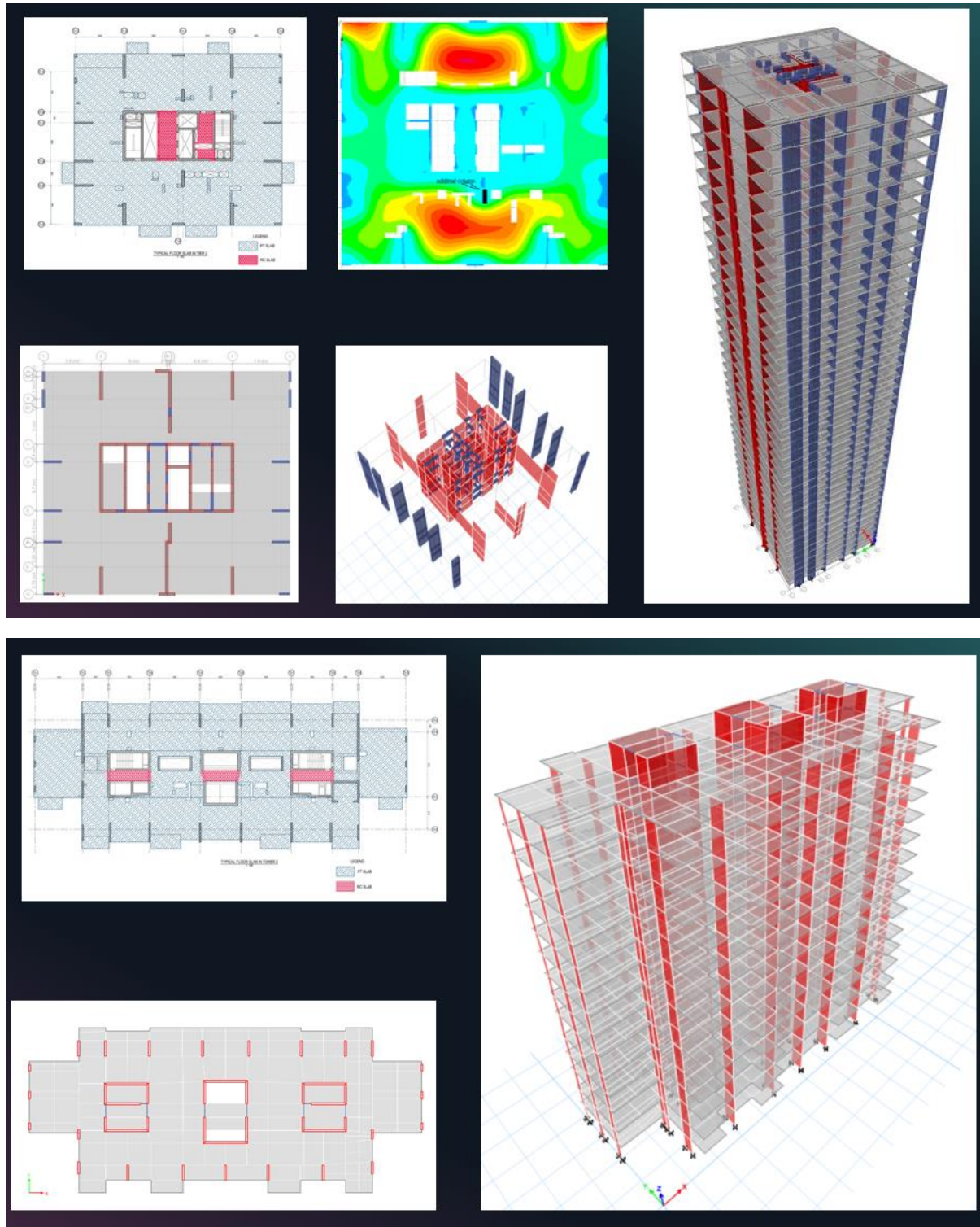
Creek Tower Dubai

Client: WME Consulting Engineer

ATM has completed a conceptual and detailed design for two 16 and 70-story residential Towers in Dubai under close collaboration with Client.

For this project ATM had to incorporate wind tunnel results in structural design which was successfully completed by ATM.

Dubai Creek Harbour



Methanol Soroush

Client: ThinkXpert Company

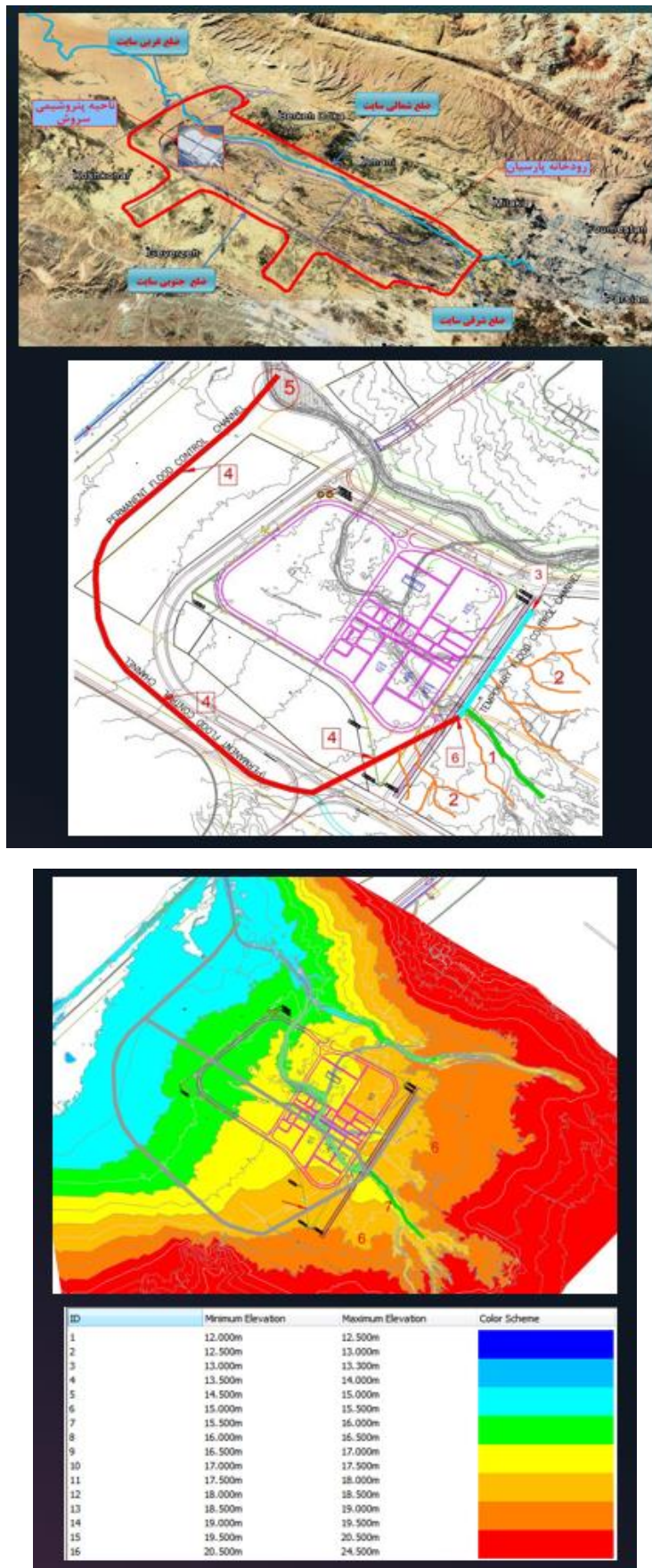
Main Client: Pasargad Energy Development Co. (PEDC)

Located in special Energy Zone in Parsian, Iran, Methanol Soroush is a chemical Plant in Soroush Energy Complex awarded to an EPC contractor. ATM have been selected by client to undertake Civil/Structure/Building design review and verification as a part of managing consultant body.

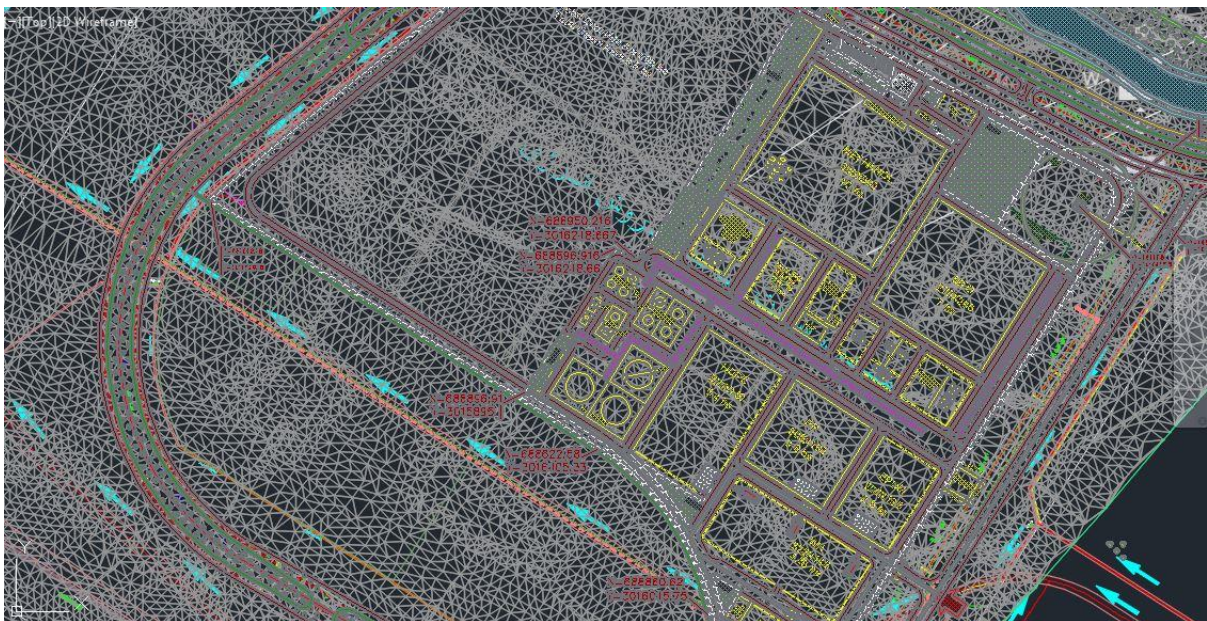
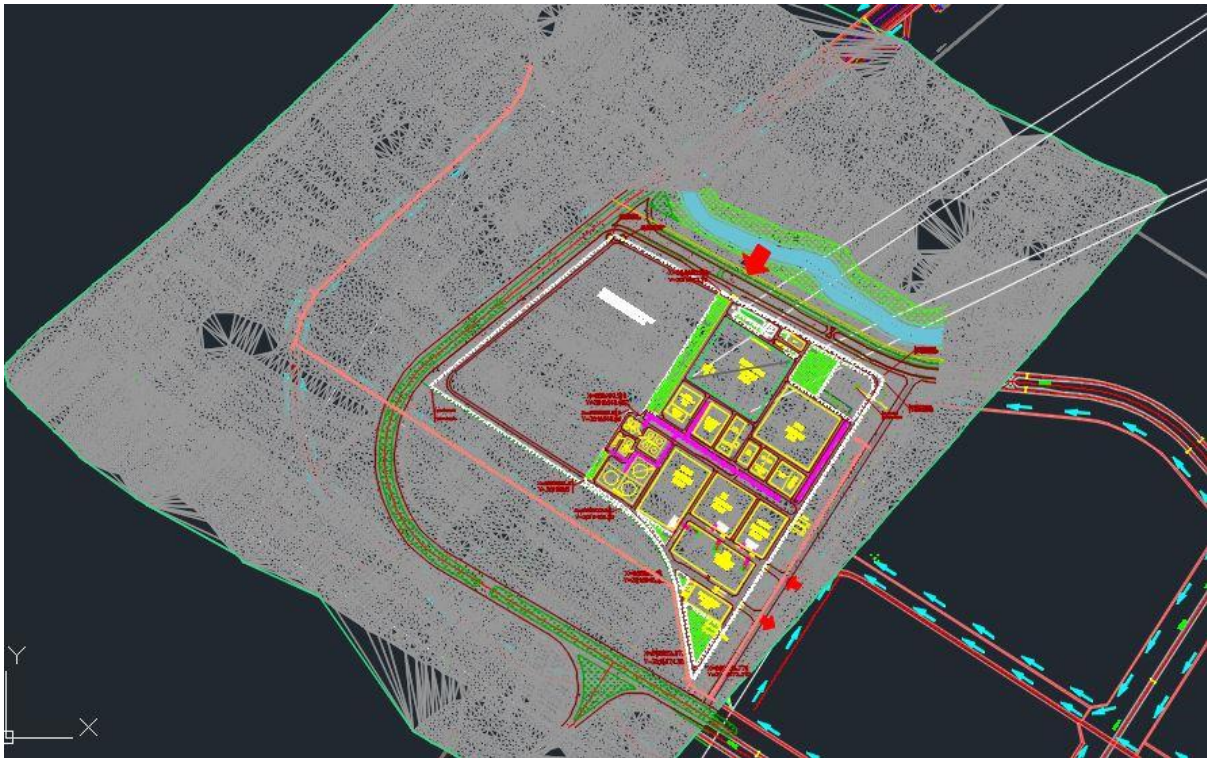
Plot Plan



Surface Analysis



Civil3D Model



Dehloran Petrochemical

Client: Namvaran Pazhouhesh va Tose-a (Namvaran P&T)
Main Client: Dehloran Petrochemical Company (DPC)

Dehloran Petrochemical Plant was awarded to OIEC on EPC basis contract. ATM have been selected by client to undertake Civil/Structure/Building design review and verification as a part of managing consultant body.

Plot Plan



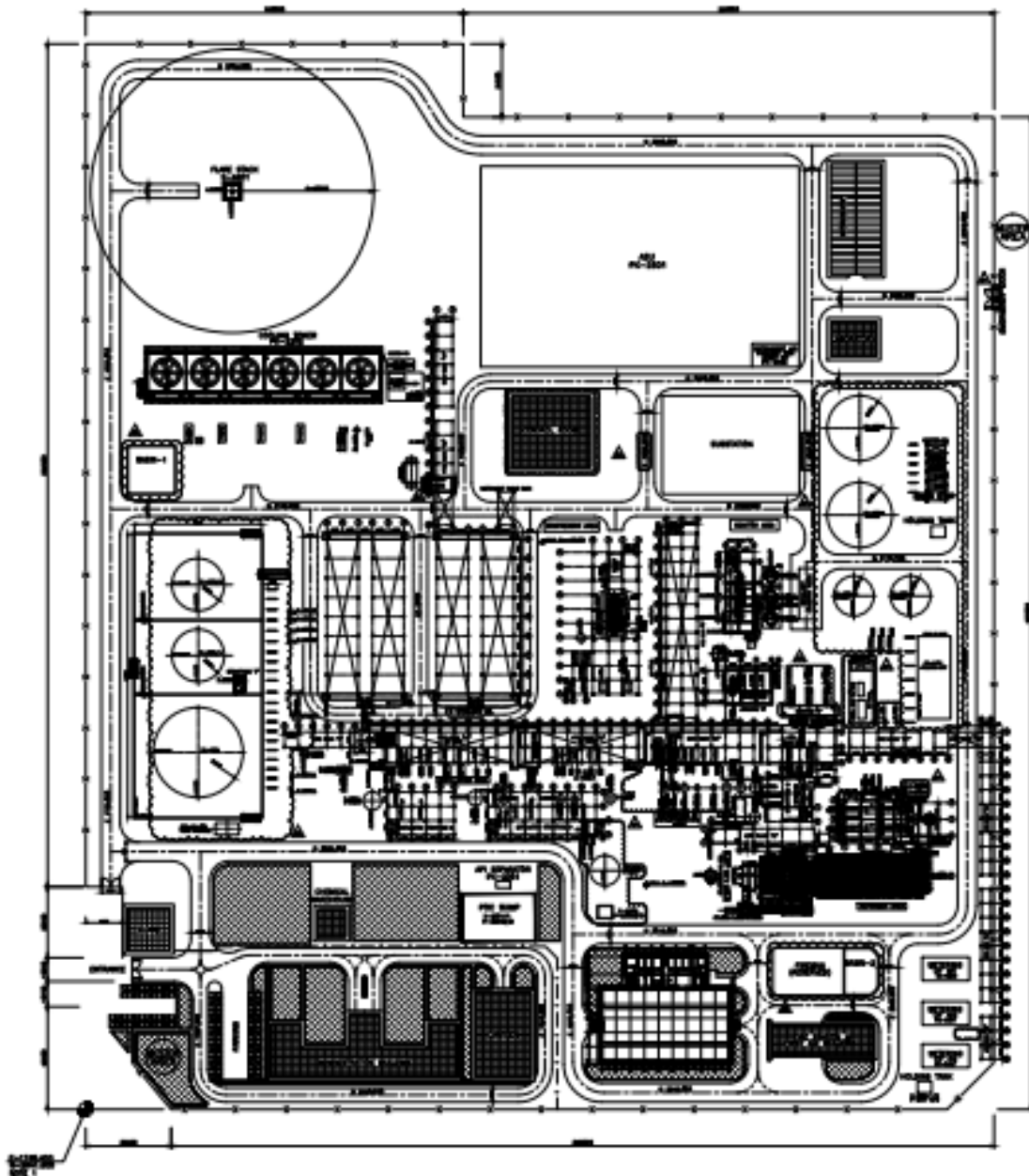
Methanol Sina

Client: ThinkXpert Company

Main Client: Sina Petrochemical Company

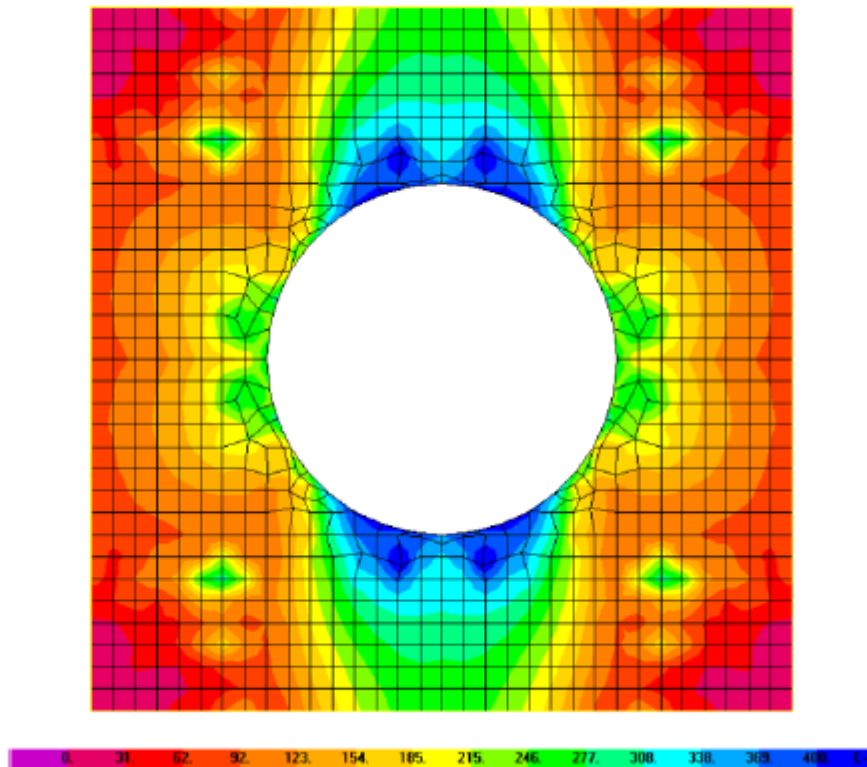
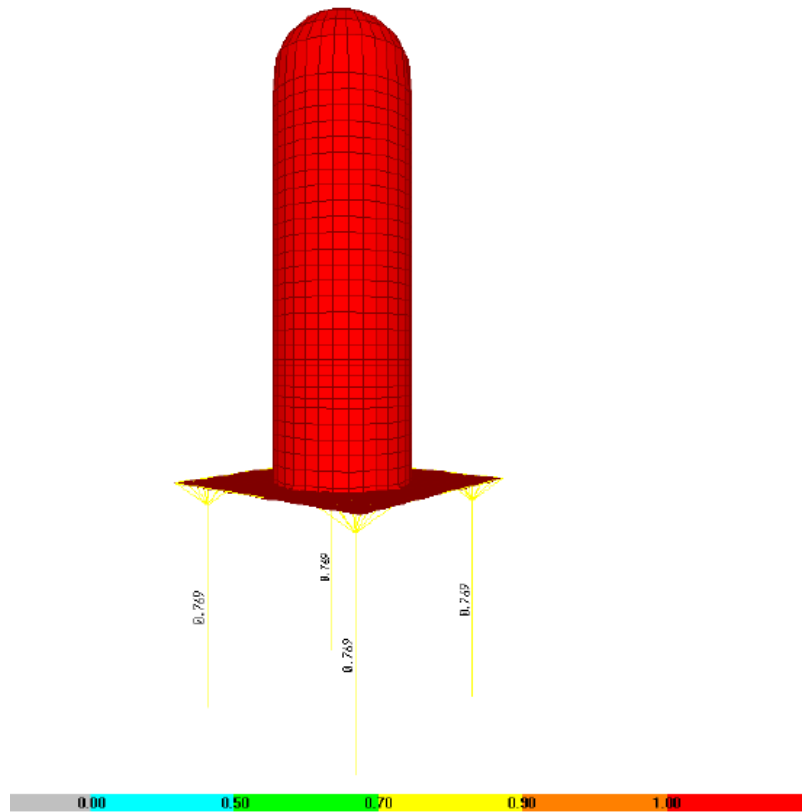
Located in Mokran Petrochemical Site, Iran, Methanol Sina is a chemical Plant project in awarded to an EPC contractor. ATM have been selected by client to undertake Civil/Structure/Building design review and verification as a part of managing consultant body.

Methanol Unit Plot Plan



Equipment Structure & Foundation

Column P-M-M interaction Ratio



Equipment Structure

