REPUBLIC OF TÜRKİYE MINISTRY OF ENVIRONMENT, URBANIZATION AND CLIMATE CHANGE
GENERAL DIRECTORATE OF CONSTRUCTION AFFAIRS

SEISMIC RESILIENCE & ENERGY EFFICIENCY IN PUBLIC BUILDINGS PROJECT
(SREEPB PROJECT)

FIRAT UNIVERSITY

GROUP-1 BUILDINGS

OCCUPATIONAL HEALTH AND SAFETY PLAN

FEBRUARY
2026

Mühendislik Müşavirlik Proje ve Yönetim Hizmetleri A.Ş.

PERSONAL DATA PROCESSING RULES

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- Data Controllers,
- The purposes for which personal data will be processed,
- The relevant sections of this document where personal data is processed,
- Which personal data is processed, where and for what purpose it is used.

Individuals and legal entities reviewing this document are strictly required to comply with the following rules:

- Prevent the unlawful processing of personal data,
- Prevent unauthorized access to personal data,
- Take all necessary technical and administrative measures to ensure the protection of personal data and provide suitable security.

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1. Terms & Abbreviations

ADME(ERT)	Emergency Response Team
Alt Yüklenici	The company assigned by the Contractor to perform a part of the project.
MoEUCC	Ministry of Environment, Urbanization and Climate Change
Corrective Action	A set of activities carried out to eliminate the cause of a detected nonconformity and other undesirable situations. (Corrective actions must be documented including the detection date, the person who detected it, responsible departments/persons, description of the nonconformity and root cause, corrective action proposals, deadline, and the date and method of elimination of the nonconformity.)
LOTO	Lockout-Tagout
HSS	Occupational Health and Safety Specialist
OHSP	Occupational Health and Safety Plan
PPE	Personal Protective Equipment
Root Cause Analysis	When identifying/evaluating an event, problem, or undesirable result, going beyond immediate causes to determine the main reasons/factors that, when addressed, prevent recurrence of similar events or problems in the future. (Corrective actions must focus on eliminating or correcting these main causes.)
Major	Large, very important
MSDS	Material Safety Data Sheet (*) (*) The name of "Material Safety Data Sheet" has been changed to "Safety Data Sheet" (SDS) in Turkish legislation. (See Regulation on the Registration, Evaluation, Authorization, and Restriction of Chemicals published in the Official Gazette dated 23/6/2017 and numbered 30105 repeated.)
Consultant	TİMA –OBS Joint Venture
PAT	Portable Appliance Test
Beneficiary	Elazığ Fırat University
Contractor	The company responsible for carrying out all renovation activities focused on structural strengthening and energy efficiency, following the tender conducted by the Ministry of Environment, Urbanization and Climate Change.

2. Purpose

The WB/CS-DESSUP 05 Structural Feasibility, Energy Audit, Structural-Energy Retrofitting, Design and Construction Supervision Consultancy Services contract covers the **STRUCTURAL STRENGTHENING and RENOVATION** process.

The objectives are:

- Obtaining the completion declarations of high-RİSK activities from External Agencies before the start of the construction phase.
- Identifying hazards and risks related to construction activities and determining the necessary safety precautions.
- Defining minimum requirements for the personnel involved in the construction process and preventing those who do not meet these requirements from participating.

Accordingly, this document defines:

- The construction methods and risk analysis for the structural strengthening and renovation process,
- Personnel qualification schedules,
- Control/inspection methods before, during, and after field operations,
- Record forms and methods,
- Additional safety measures to be taken by the beneficiary institutions,
- Completion of necessary operations in accordance with the legislation by External Supplier Institutions (Natural Gas Distribution Company, Electrical Distribution Company, Local Municipal Infrastructure and Technical Affairs Directorates) before field delivery.

This Occupational Health and Safety Report prepared by the Consultant shall officially notify the Contractor that they must prepare their own HSE plan, risk Assessments, and Construction Methods for project-based operations, referencing the Consultant's prepared OHSP.

3. Scope

Within the scope of the WB/CS-DESSUP-05 Project, the Occupational Health and Safety Plan for the Structural Strengthening and Renovation Works to be implemented for thirteen (13) buildings included in the first group out of a total of twenty-five (25) buildings located within the Fırat University Campus in Elazığ, as well as for the Ground-Mounted Solar Power Plant (SPP) and the newly constructed building, is presented under the heading "Buildings Included in the Project Scope," together with the list of structures with a total construction area of 54,055 m² and the satellite imagery.

The works to be carried out under this Project are described below. This document is limited to the activities listed hereunder.

- Structural strengthening of load-bearing elements
- Renovation of façades and façade components, mechanical and electrical systems within the framework of energy efficiency improvements
- Sustainable clean energy generation (installation of a ground-mounted SPP)
- Construction of a new prefabricated light steel chemical laboratory building.

4. Legal Regulations

This OHSP has been prepared primarily in accordance with the Occupational Health and Safety laws and regulations in Türkiye, and additionally in compliance with the World Bank Environmental and Social Standards, especially ESS2: Labor and Working Conditions, and ESS4: Community Health and Safety. The list of relevant legal regulations is provided below.

Table 1 - List of Relevant Legal Regulations (Laws)

	NO	ACCEPTANCE DATE	OFFICIAL GAZETTE NUMBER & DATE
Labor Law	4857	22.05.2003	RG: 10.06.2003/25134
Labor Courts Law	7036	12.10.2017	RG: 25.10.2017/30221
Occupational Health and Safety Law	6331	20.06.2012	RG: 30.06.2012/28726
Misdemeanors Law	5326	30.03.2005	RG: 31.03.2005/25772 M.
Vocational Education Law	3308	05.06.1986	RG: 19.06.1986/19139
Law on Certain Arrangements Regarding the Vocational Qualification Authority	5544	21.09.2006	RG: 07.10.2006/26312
Social Insurance and General Health Insurance Law	5510	31.05.2006	RG: 16.06.2006/26200
Law on Preparation and Implementation of Technical Legislation Related to Products	4703	29.06.2001	RG: 11.07.2001/24459
European Convention on Human Rights (Universal Declaration of Human Rights)	207 A(III)	10.12.1948	RG: 27.05.1949/7217

Table 2 - List of Relevant Legal Regulations

	OFFICIAL GAZETTE NUMBER & DATE
Subcontracting Regulation	RG: 27.09.2008/27010 Değ. 25.08.2017/30165
Regulation on Protection of Employees from risks Related to Noise	RG: 28.07.2013/28721
Regulation on Procedures and Principles of Occupational Health and Safety Training of Employees	RG: 15.05.2013/28648 Değ. 24.05.2018/30430
Regulation on Procedures and Principles for Medical Examinations for Health Surveillance of Employees	RG: 20.01.2022/31725
Regulation on Manual Handling Works	RG: 24.07.2013/28717
Regulation on Preparation, Completion, and Cleaning Works	RG: 28.04.2004/25466
Regulation on Hygiene Education	RG: 05.07.2013/28698
First Aid Regulation	RG: 29.07.2015/29429
Regulation on Health and Safety Conditions in the Use of Work Equipment	RG: 25.04.2013/28628 Değ. 18.02.2022/31754
Regulation on Duties, Authorities, Responsibilities, and Trainings of Occupational Safety Specialists	RG: 29.12.2012/28512 Değ. 06.07.2021/31533
Regulation on Working Hours Related to the Labor Law	RG: 06.04.2004/25425 Değ. 25.08.2017/30165
Regulation on Overtime and Excess Work Related to the Labor Law	RG: 06.04.2004/25425 Değ. 25.08.2017/30165
Regulation on Occupational Health and Safety Services	RG: 29.12.2012/28512 Değ. 04.02.2024/32450

	OFFICIAL GAZETTE NUMBER & DATE
Regulation on Occupational Health and Safety Committees	RG:18.01.2013/28532
Regulation on risk Assessment for Occupational Health and Safety	RG: 29.12.2012/28512
Regulation on the Duties, Authorities, Responsibilities, and Training of Workplace Physicians and Other Health Personnel	RG: 20.07.2013/28713 Değ. 06.07.2021/31533
Regulation on Emergency Situations in Workplaces	RG: 18.06.2013/28681 Değ. 01.10.2021/31615
Regulation on Stopping Work in Workplaces	RG: 30.03.2013/28603 Değ. 11.02.2016/29621
Regulation on Health and Safety Measures for Working with Chemical Substances -	RG:12.08.2013/28733 Değ. 10.10.2023/32345
Regulation on the Registration, Evaluation, Authorization, and Restriction of Chemicals	RG:23.06.2017/30105M Değ. 23.12.2023/32408
Regulation on Personal Protective Equipment	RG: 01.05.2019/30761
Regulation on the Use of Personal Protective Equipment in Workplaces	RG: 02.07.2013/28695
Machinery Safety Regulation (2006/42/EC)	RG: 03.03.2009/27158 Değ. 28.09.2014/29133
Regulation on Measurement, Evaluation, and Certification of the Vocational Qualification Authority	RG: 15.10.2015/29503
Regulation on Health and Safety Signs	RG: 11.09.2013/28762
Regulation on Vocational Training for Employees Working in Hazardous and Very Hazardous Classes	RG: 13.07.2013/28706 Değ. 11.05.2017/30063
Regulation on Combatting Dust	RG: 05.11.2013/28812
Regulation on Occupational Health and Safety in Construction Works	RG: 05.10.2013/28786 Değ. 31.12.2018/30642.4.M

5. Management Commitments & OHS Objectives

5.1. Management Commitments

As the Project Manager of the TİMA–OBS Joint Venture; throughout the preparation and implementation phases of the Seismic Strengthening and Energy Efficiency of Public Buildings Project, until the completion of the project, it is committed that the health and safety of employees and other stakeholders will be prioritized, all applicable legislative provisions and other defined requirements will be fully complied with, all occupational health and safety measures will be taken timely, priority will be given to collective protection measures when determining and implementing precautions, importance will be attached to the training and informing of employees on occupational health and safety, necessary and sufficient resources will be provided for occupational health and safety, required expenditures will not be avoided, employees' suggestions and opinions regarding occupational health and safety will be considered, necessary participation, exchange of ideas, and cooperation between management and employees will be ensured in the field of occupational health and safety, this plan has been prepared specifically for this construction site, its workers and stakeholders, will be implemented throughout the project, will be updated as necessary, and all employees and visitors, including the top management, will be adequately informed about their responsibilities under this plan.,

Date :11.02.2026

Name&Surname: Bahadır ŞADAN

Signature :

5.2. Policy

By complying with national and international legislation and providing a healthy and safe working environment;

- We will ensure that all our stakeholders embrace and continuously develop an occupational health and safety consciousness,
- We will ensure that all necessary measures are taken in accordance with occupational health and safety regulations,
- We will work to prevent occupational accidents by conducting effective risk assessments,
- We will educate our employees beyond the legislative requirements regarding occupational health and safety,
- We will respect and support our employees' rights to collective bargaining and unionization,
- We will take as reference the Universal Declaration of Human Rights, International Labour Organization (ILO) conventions, United Nations Global Compact, United Nations Sustainable Development Goals, and OECD Guidelines for Multinational Enterprises,
- We will ensure that all levels of visitors, suppliers, and subcontractor employees comply with occupational health and safety rules,
- We will provide a healthy environment where employees feel comfortable, safe, and happy to work, take mental health problems seriously, and support all personnel encountering such problems.

Date : .02.2025
Name & Surname : Dr. Bahadır ŞADAN
Signature :

5.2.1. Basic Strategies Related to OHSP

- Leadership of the management staff,
- Ensuring the involvement and contribution of all employees by obtaining their opinions and suggestions regarding OHS requirements and problem solving,
- Identifying hazards before an occupational accident occurs and planning and implementing sufficient control measures in advance,
- Ensuring that all employees develop adequate awareness and motivation regarding Occupational Health and Safety.

5.3. Objectives

In order to measure the project's OHS performance at regular intervals, "performance indicators" in accordance with the Project Contract and corresponding measurable "objectives" to be monitored monthly have been determined.

An OHS Monthly Activity Report for the previous month shall be prepared in the format deemed appropriate by the Consultant and submitted to the Employer within the first week of each month.

Table 3 - Objectives Table

OBJECTIVE DESCRIPTION	QUANTITIVE VALUE
Number of Lost Time Injury (maximum)	0
Number of Non-Lost Time Injury (maximum)	0
Number of Near Miss Incidents (maximum)	2
Accident Frequency Rate (AFR) (maximum)	60
Accident Severity Rate (ASR) (maximum)	0
OHS trainings specific to this project	20 Person.Hours
Fire drill specific to this project	1 Unit
Earthquake and First Aid drill specific to this project	1 Unit

The performance indicators will be monitored cumulatively throughout the project duration. The data obtained compared to planned targets will be analyzed monthly, deviations will be identified, and corrective actions will be initiated as necessary.

The data and results regarding the objectives shall be submitted to the Consultant along with the OHS Monthly Activity Report within the first week of each month.

Questions to be answered within the scope of performance measurement:

- Are we achieving our Occupational Health and Safety (OHS) objectives?
- Are we working in compliance with OHS legislation?
- Are the control measures planned as a result of the risk assessment effective in reducing risks?
- Are accidents and near-misses recorded? Are accident investigations and root cause analyses conducted to prevent recurrence?
- Are corrective actions planned and implemented for the nonconformities/violations identified on site (by Contractor or Consultant)?
- Are the implemented corrective actions effective?
- When necessary, are the required revisions made to the OHSP?
- Are the trainings provided effective in raising OHS awareness and motivation among employees?

In order to monitor the Contractor's OHS performance, the Contractor must submit the following records to the Consultant on a monthly basis:

- Reports of accidents and near-miss incidents,
- Records regarding legally mandatory trainings (training records, certificates, etc.),
- Periodic inspection reports of machinery/equipment,
- Status (open/closed, corrective action description, etc.) of OHS-related nonconformities recorded by the Contractor or Consultant.

6. Project Information

6.1. General Information

Information regarding the Consultant firm is provided in the table below.

Table 4 - Consultant Information Table

CONSULTANT	TİMA-OBS JOINT VENTURE
SOCIAL SECURITY REGISTRATION NO	271120202003584600607-24/000
ADRESS	Eğitim Mah. Ahsen Çıkmazı Sk. Tunçludemir Plaza No:6 İç Kapı:5 Kadıköy/İSTANBUL
TELEPHONE / E-MAIL	0(216) 347 13 95 (Pbx) / info@timaengineering.com
OCCUPATIONAL SAFETY SPECIALIST	Sevgideğer Bezginoglu | İGU-98457
WORKPLACE PHISICIAN	Dr. Remzi Yıldız| İH-291113

6.1.1 Buildings Included in The Project

Table 5 - Elazığ Fırat University Group - 1 Buildings

No	Name Of The Buildings	Construction Year	Total Const. Area (m²)
1	Atatürk Cultural Center	1967	2.102
2	Library Building	1967	1.771
3	Department of Computer, Metallurgical and Materials Engineering	2006	17.310
4	Department of Electrical Engineering	1968	5.482
5	Department of Civil Engineering	1967	3.621
6	Department of Geological Engineering	1967	5.398
7	Chemical Engineering Laboratory	1967	1.446
8	Department of Mechanical Engineering	1968	4.108
9	Department of Mechanical Engineering – Annex Building	1968	2.929
10	Guesthouse	1970	1.478
11	Faculty of Engineering Dean's Office	1967	1.795
12	Rectorate Building	1987	4.335
13	Faculty of Technology – Metal Workshop	1989	2.280
14	New Prefabricated Light-Steel Chemical Laboratory Building		2.000
15	Ground-Mounted Solar Power Plant (SPP)		-
TOTAL			**56.055**

Figure 1 -Satellite Image of Fırat University Campus in Elazığ Showing the Locations of Atatürk Cultural Center (1), Student Affairs Building (2), Department of Computer, Metallurgical and Materials Engineering(3), Department of Electrical Engineering(4), Department of Civil Engineering(5), Department of Geological Engineering(6), Chemical Engineering Laboratory (7) Department of Mechanical Engineering (8), Annex Building (9), Guesthouse (10), Faculty of Engineering Dean's Office (11),

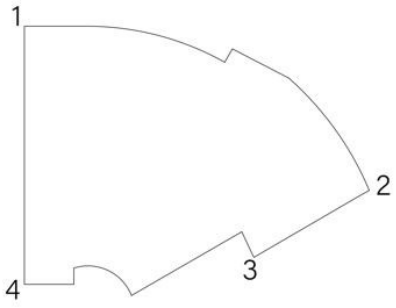
Figure 2 - Satellite Image Showing the Locations of the Fırat University Rectorate Building (12), Faculty of Technology Metal Workshop (13), and the Ground-Mounted Solar Power Plant (15) at the Elazığ Fırat University Campus

Table 6 - Atatürk Cultural Center General Information

BUILDING NAME	Fırat Unıversity Atatürk Cultural Centre			
NUILDING OWNER	Fırat University			
ADRESS	Üniversite Mh. Aziz Sancar Caddesi NO:4 Elazığ			
PROVINCE	Elazığ		POSTAL CODE	23200
CONST. YEAR	1967		CONST. AREA	2.102 m2
INTENDED USE	Education		NUMBER OF BLOCKS IN BUILDING GROUP	1
USABLE INDOOR AREA	2.102 m2		TOTAL ENCLOSED VOLUME	17.951,39 m3
NUMBER OF USERS	Personnel: 38 (29 men, 9 women) Number of Students : 668 (330 women, 338 men),			
TECHNICAL RESPONSIBLE	NAME & SURNAME		Mehmet Aktaş	
	CONTACT INFO	PHONE	0 532 383 54 12	
		E-MAIL		
PLANNED CONSTRUCTION ACTIVITIES IN THE BUILDING				
All planned works in the buildings are listed in Table 20-21.				
DURATION & SEASON OF ACTIVITIES				
Upon completion of the bidding documentation, the Contractor is anticipated to finalize the construction works for the Government House within 12 months following the site handover. Given the current uncertainty regarding the exact commencement date, the construction season has not yet been definitively determined. Nevertheless, the works are expected to be completed subsequent to the tender process scheduled for 2025.				
NUMBER OF WORKERS EXPECTED DURING RENOVATION WORKS				
To complete the planned works within the targeted timeframe, an estimated employment of 25 workers/day is foreseen.				

Fırat Unıversity Atatürk Cultural Centre:
Number of Floors : B+ Z

- The construction activities planned for the next page, together with the estimated number of personnel and the expected completion periods, are presented in a tabular format. This table is provided for general information purposes only, and the Contractor is expected to revise and update it in line with its own work program and implementation schedule.



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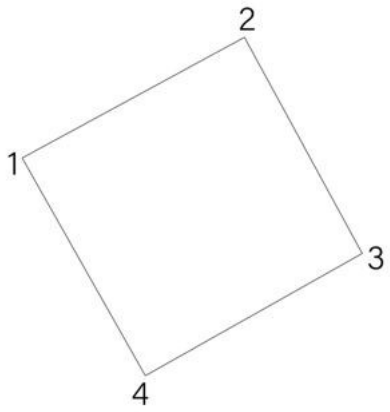
2	516487.32	4280602.30	39.18	38.67
3	516477.26	4280583.78	39.18	38.67
4	516448.23	428055774	39.18	38.67

Figure 3 - Ataturk Cultural Center Coordinate Data

Table 7 - Elazığ Fırat University Student Affairs Building (Old Library) General Information

BUILDING NAME	Fırat University Student Affairs Building (Old Library)			
NUILDING OWNER	Fırat University			
ADRESS	Üniversite Mh. Aziz Sancar Caddesi NO:4 Elazığ			
PROVINCE	Elazığ		POSTAL CODE	23200
CONST. YEAR	1967		CONST. AREA	1.771 m2
INTENDED USE	Education		NUMBER OF BLOCKS IN BUILDING GROUP	1
USABLE INDOOR AREA	1.771 m2		TOTAL ENCLOSED VOLUME	6711,22 m3
NUMBER OF USERS	Personnel:6 (5 women, 1 men), Number of Students : 41.125 (19.098 women, 22.027 men),			
TECHNICAL RESPONSIBLE	NAME&SURNAME		Mehmet Aktaş	
	CONTACT INFORMATION	PHONE	0 532 383 54 12	
		E-MAIL		
PLANNED CONSTRUCTION ACTIVITIES IN THE BUILDING				
All planned works in the buildings are listed in Table 20-21.				
DURATION & SEASON OF ACTIVITIES				
Upon completion of the bidding documentation, the Contractor is anticipated to finalize the construction works for the Government House within 12 months following the site handover. Given the current uncertainty regarding the exact commencement date, the construction season has not yet been definitively determined. Nevertheless, the works are expected to be completed subsequent to the tender process scheduled for 2025.				
NUMBER OF WORKERS EXPECTED DURING RENOVATION WORKS				
To complete the planned works within the targeted timeframe, an estimated employment of 25 workers/day is foreseen.				

Fırat University Student Affairs Building (Old Library)
Number of Floors : B+ Z+1NK



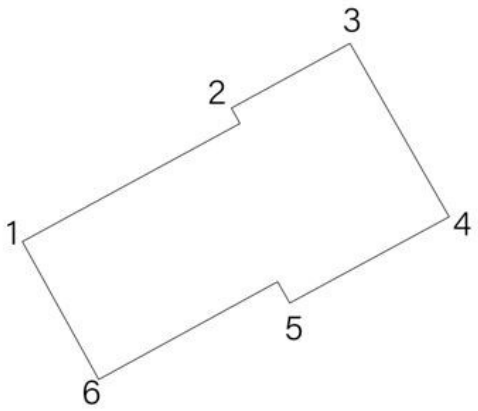
Nokta No	(UTM)Universal Trans Y	ITRF96 (Internationa X	Coğrafi Y2	World Geodetic Syste X2
1	516374.44	4280597.80	39.18	38.67
2	516398.82	4280610.74	39.18	38.67
3	516412.82	4280587.20	39.18	38.67
4	516388.20	4280573.54	39.18	38.67

Figure 4 - Fırat University Student Affairs Building (Old Library) Coordinate Data

Table 8 - Department of Computer, Metallurgical and Materials Engineering Buildings General Information

BUILDING NAME	Fırat University Department of Computer, Metallurgical and Materials Engineering Buildings			
NUILDING OWNER	Fırat University			
ADRESS	Üniversite Mh. Aziz Sancar Caddesi NO:4 Elazığ			
PROVINCE	Elazığ		POSTAL CODE	23200
CONST. YEAR	1967		CONST. AREA	17.310 m2
INTENDED USE	Education		NUMBER OF BLOCKS IN BUILDING GROUP	1
USABLE INDOOR AREA	17.310 m2		TOTAL ENCLOSED VOLUME	68.993m3
NUMBER OF USERS	Personnel: 35 (10 women, 45 men) Number of Students : 928 (306 women, 1234 men),			
TECHNICAL RESPONSIBLE	NAME & SURNAME		Mehmet Aktaş	
	CONTACT INFO	PHONE	0 532 383 54 12	
		E-MAIL		
PLANNED CONSTRUCTION ACTIVITIES IN THE BUILDING				
All planned works in the buildings are listed in Table 20-21.				
DURATION & SEASON OF ACTIVITIES				
Upon completion of the bidding documentation, the Contractor is anticipated to finalize the construction works for the Government House within 12 months following the site handover. Given the current uncertainty regarding the exact commencement date, the construction season has not yet been definitively determined. Nevertheless, the works are expected to be completed subsequent to the tender process scheduled for 2025.				
NUMBER OF WORKERS EXPECTED DURING RENOVATION WORKS				
To complete the planned works within the targeted timeframe, an estimated employment of 25 workers/day is foreseen.				

Department of Computer, Metallurgical and Materials Engineering Buildings
Number of Floor : B+ Z+5 NK



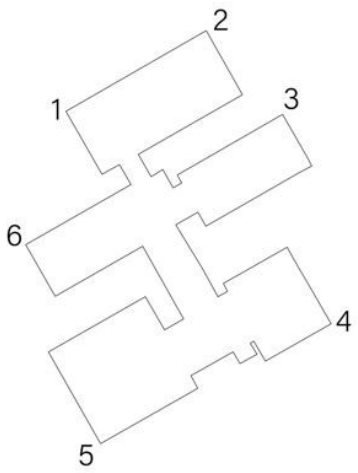
Nokta No	(UTM)Universal Trans Y	ITRF96 (Internationa X	Coğrafi Y2	World Geodetic Syste X2
1	516397.60	4280485.62	39.18	38.67
2	516437.90	4280511.58	39.18	38.67
3	516461.45	4280524.67	39.18	38.67
4	516480.20	4280491.31	39.18	38.67
5	516449.95	4280475.45	39.18	38.67
6	516412.67	4280459.87	39.18	38.67

Figure 5 - Department of Computer, Metallurgical and Materials Engineering Buildings Coordinate Data

Table 9 - Faculty of Electrical Engineering General Information

BUILDING NAME	Fırat University Faculty of Electrical Engineering		
NUILDING OWNER	Fırat University		
ADRESS	Üniversite Mh. Aziz Sancar Caddesi NO:4 Elazığ		
PROVINCE	Elazığ	POSTAL CODE	23200
CONST. YEAR	1967	CONST. AREA	4.482 m2
INTENDED USE	Education	NUMBER OF BLOCKS IN BUILDING GROUP	1
USABLE INDOOR AREA	4.482 m2	TOTAL ENCLOSED VOLUME	16.669,20m3
NUMBER OF USERS	Personnel: 38 (9 women, 29 men), Number of Students : 742 (122 women, 620 men),		
TECHNICAL RESPONSIBLE	NAME & SURNAME	Mehmet Aktaş	
	CONTACT INFO – PHONE	0 532 383 54 12	
	CONTACT INFO – E-MAIL		
PLANNED CONSTRUCTION ACTIVITIES IN THE BUILDING			
All planned works in the buildings are listed in Table 20-21.			
DURATION & SEASON OF ACTIVITIES			
Upon completion of the bidding documentation, the Contractor is anticipated to finalize the construction works for the Government House within 12 months following the site handover. Given the current uncertainty regarding the exact commencement date, the construction season has not yet been definitively determined. Nevertheless, the works are expected to be completed subsequent to the tender process scheduled for 2025.			
NUMBER OF WORKERS EXPECTED DURING RENOVATION WORKS			
To complete the planned works within the targeted timeframe, an estimated employment of 25 workers/day is foreseen.			

Fırat University Faculty of Electrical Engineering
Number Of Floor : Z+2 NK



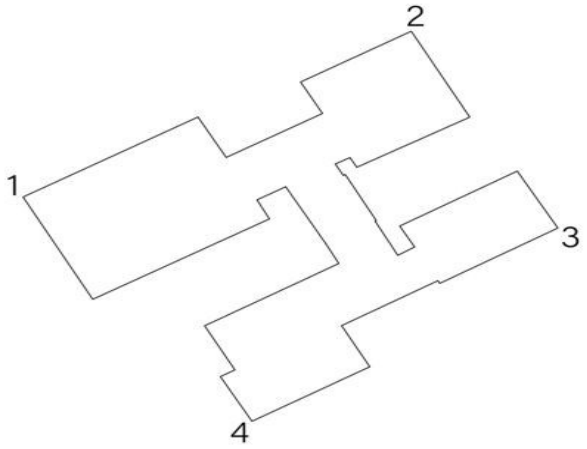
Nokta No	(UTM)Universal Trans Y	ITRF96 (Internationa X	Coğrafi Y2	World Geodetic Syste X2
1	516206.40	4280751.31	39.18	38.67
2	516236.62	4280769.18	39.18	38.67
3	516461.45	4280754.33	39.18	38.67
4	516262.98	4280710.03	39.18	38.67
5	516449.95	4280475.45	39.18	38.67
6	516213.83	4280684.70	39.18	38.67

Figure 6 - Faculty of Electrical Engineering Coordinate Data

Table 10 - Faculty of Civil Engineering General Information Table

BUILDING NAME	Fırat University Faculty of Civil Engineering			
NUILDING OWNER	Fırat University			
ADRESS	Üniversite Mh. Aziz Sancar Caddesi NO:4 Elazığ			
PROVINCE	Elazığ		POSTAL CODE	23200
CONST. YEAR	1967		CONST. AREA	3.621 m2
INTENDED USE	Education		NUMBER OF BLOCKS IN BUILDING GROUP	1
USABLE INDOOR AREA	3.621 m2		TOTAL ENCLOSED VOLUME	11.933,12 m3
NUMBER OF USERS	Personnel: 37 (5 women, 32 men), Number of Students : 331 (61 women, 270 men),			
TECHNICAL RESPONSIBLE	NAME & SURNAME		Mehmet Aktaş	
	CONTACT INFO	PHONE	0 532 383 54 12	
		E-MAIL		
PLANNED CONSTRUCTION ACTIVITIES IN THE BUILDING				
All planned works in the buildings are listed in Table 20-21.				
DURATION & SEASON OF ACTIVITIES				
Upon completion of the bidding documentation, the Contractor is anticipated to finalize the construction works for the Government House within 12 months following the site handover. Given the current uncertainty regarding the exact commencement date, the construction season has not yet been definitively determined. Nevertheless, the works are expected to be completed subsequent to the tender process scheduled for 2025.				
NUMBER OF WORKERS EXPECTED DURING RENOVATION WORKS				
To complete the planned works within the targeted timeframe, an estimated employment of 25 workers/day is foreseen.				

Fırat University Faculty of Civil Engineering
Number of Floors : B+Z+1 NK



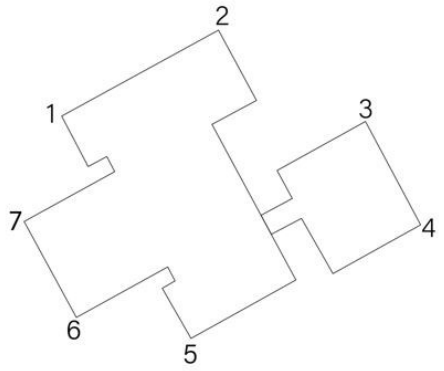
Nokta No	(UTM)Universal Trans Y	ITRF96 (Internationa X	Coğrafi Y2	World Geodetic Syste X2
1	516257.45	4280535.66	39.18	38.67
2	516323.56	4280570.30	39.18	38.67
3	516351.27	4280528.76	39.18	38.67
4	516299.22	4280486.67	39.18	38.67

Figure 7 - Faculty of Civil Engineering Coordinate Data

Table 11 - Department of Geological Engineering Building General Information Table

BUILDING NAME	Fırat University Geological Engineering Building			
NUILDING OWNER	Fırat University			
ADRESS	Üniversite Mh. Aziz Sancar Caddesi NO:4 Elazığ			
PROVINCE	Elazığ		POSTAL CODE	23200
CONST. YEAR	1967		CONST. AREA	5.398 m2
INTENDED USE	Education		NUMBER OF BLOCKS IN BUILDING GROUP	1
USABLE INDOOR AREA	5.398 m2		TOTAL ENCLOSED VOLUME	17.762,57 m3
NUMBER OF USERS	Personnel: 35 (17 women, 18 men), Number of Students : 180 (56 women, 124 men),			
TECHNICAL RESPONSIBLE	NAME & SURNAME		Mehmet Aktaş	
	CONTACT INFO	PHONE	0 532 383 54 12	
		E-MAIL		
PLANNED CONSTRUCTION ACTIVITIES IN THE BUILDING				
All planned works in the buildings are listed in Table 20-21.				
DURATION & SEASON OF ACTIVITIES				
Upon completion of the bidding documentation, the Contractor is anticipated to finalize the construction works for the Government House within 12 months following the site handover. Given the current uncertainty regarding the exact commencement date, the construction season has not yet been definitively determined. Nevertheless, the works are expected to be completed subsequent to the tender process scheduled for 2025.				
NUMBER OF WORKERS EXPECTED DURING RENOVATION WORKS				
To complete the planned works within the targeted timeframe, an estimated employment of 25 workers/day is foreseen.				

Fırat University Geological Engineering Building
Number of Floors : B+Z+2 NK



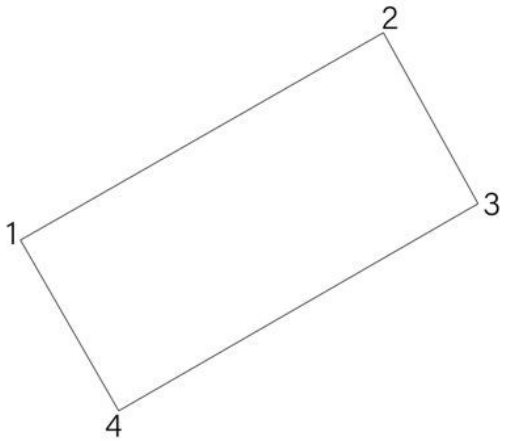
Nokta No	(UTM)Universal Trans Y	ITRF96 (Internationa X	Coğrafi Y2	World Geodetic Syste X2
1	516154.90	4280542.24	39.18	38.67
2	516180.50	4280555.88	39.18	38.67
3	516203.54	4280540.71	39.18	38.67
4	516213.13	4280524.30	39.18	38.67
5	516175.80	4280507.74	39.18	38.67
6	516157.46	4280511.26	39.18	38.67
7	516148.91	4280525.65	39.18	38.67

Figure 8 Department of Geological Engineering Building Coordinate Data

Table 12 - Chemical Engineering Laboratory General Information Table

BUILDING NAME	Fırat University Chemical Engineering Laboratory			
NUILDING OWNER	Fırat University			
ADRESS	Üniversite Mh. Aziz Sancar Caddesi NO:4 Elazığ			
PROVINCE	Elazığ		POSTAL CODE	23200
CONST. YEAR	1967		CONST. AREA	1.446 m2
INTENDED USE	Education		NUMBER OF BLOCKS IN BUILDING GROUP	1
USABLE INDOOR AREA	1.446 m2		TOTAL ENCLOSED VOLUME	1.091,32 m3
NUMBER OF USERS	Personel: 19 (6 women, 13 men), Number of Students : 109 (60 women, 49 men),			
TECHNICAL RESPONSIBLE	NAME & SURNAME		Mehmet Aktaş	
	CONTACT INFO	PHONE	0 532 383 54 12	
		E-MAIL		
PLANNED CONSTRUCTION ACTIVITIES IN THE BUILDING				
All planned works in the buildings are listed in Table 20-21.				
DURATION & SEASON OF ACTIVITIES				
Upon completion of the bidding documentation, the Contractor is anticipated to finalize the construction works for the Government House within 12 months following the site handover. Given the current uncertainty regarding the exact commencement date, the construction season has not yet been definitively determined. Nevertheless, the works are expected to be completed subsequent to the tender process scheduled for 2025.				
NUMBER OF WORKERS EXPECTED DURING RENOVATION WORKS				
To complete the planned works within the targeted timeframe, an estimated employment of 25 workers/day is foreseen.				

Fırat University Chemical Engineering Laboratory
Number of Floors : B+Z+2 NK



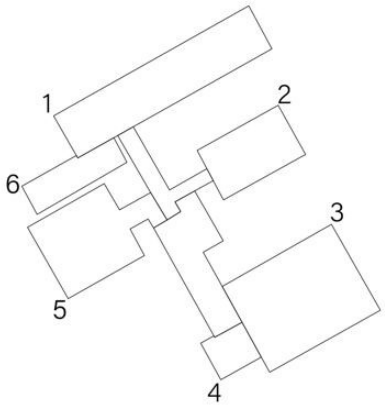
Nokta No	(UTM)Universal Trans Y	ITRF96 (Internationa X	Coğrafi Y2	World Geodetic Syste X2
1	516133.16	4280672.59	39.18	38.67
2	516176.41	4280697.39	39.18	38.67
3	516187.34	4280677.95	39.18	38.67
4	516145.88	4280655.08	39.18	38.67

Figure 9 - Chemical Engineering Laboratory Coordinate Data

Table 13 - Department of Mechanical Engineering General Information Table

BUILDING NAME	Fırat University Department of Mechanical Engineering		
NUILDING OWNER	Fırat University		
ADRESS	Üniversite Mh. Aziz Sancar Caddesi NO:4 Elazığ		
PROVINCE	Elazığ	POSTAL CODE	23200
CONST. YEAR	1967	CONST. AREA	4.108 m2
INTENDED USE	Education	NUMBER OF BLOCKS IN BUILDING GROUP	1
USABLE INDOOR AREA	4.108 m2	TOTAL ENCLOSED VOLUME	15519,89m3
NUMBER OF USERS	Personnel: 40 (6 women, 34 men) Number of Students: 300 (26 women, 274 men),		
TECHNICAL RESPONSIBLE	NAME & SURNAME	Mehmet Aktaş	
	CONTACT INFO – PHONE	0 532 383 54 12	
	CONTACT INFO – E-MAIL		
PLANNED CONSTRUCTION ACTIVITIES IN THE BUILDING			
All planned works in the buildings are listed in Table 20-21.			
DURATION & SEASON OF ACTIVITIES			
Upon completion of the bidding documentation, the Contractor is anticipated to finalize the construction works for the Government House within 12 months following the site handover. Given the current uncertainty regarding the exact commencement date, the construction season has not yet been definitively determined. Nevertheless, the works are expected to be completed subsequent to the tender process scheduled for 2025.			
NUMBER OF WORKERS EXPECTED DURING RENOVATION WORKS			
To complete the planned works within the targeted timeframe, an estimated employment of 25 workers/day is foreseen.			

Fırat University Department of Mechanical Engineering
Number of Floors : B+Z+1 NK



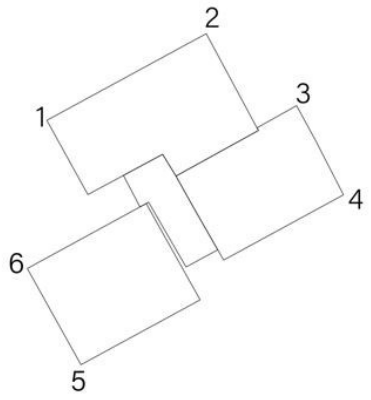
Nokta No	(UTM)Universal Trans Y	ITRF96 (Internationa X	Coğrafi Y2	World Geodetic Syste X2
1	516296.21	4280680.00	39.18	38.67
2	516355.88	4280683.42	39.18	38.67
3	516369.98	4280650.68	39.18	38.67
4	516342.45	4280610.59	39.18	38.67
5	516300.61	4280638.43	39.18	38.67
6	516288.13	4280659.65	39.18	38.67

Figure 10 - Department of Mechanical Engineering Coordinate Data

Table 14 - Department of Mechanical Engineering - Annex Building General Information Table

BUILDING NAME	Fırat University Department of Mechanical Engineering - Annex Building			
NUILDING OWNER	Fırat University			
ADRESS	Üniversite Mh. Aziz Sancar Caddesi NO:4 Elazığ			
PROVINCE	Elazığ		POSTAL CODE	23200
CONST. YEAR	1967		CONST. AREA	2.929 m2
INTENDED USE	Education		NUMBER OF BLOCKS IN BUILDING GROUP	1
USABLE INDOOR AREA	2.929 m2		TOTAL ENCLOSED VOLUME	9.105,62 m3
NUMBER OF USERS	Personnel: 9 (1 women, 8 men), Number of Students : 300 (26 women, 274 men),			
TECHNICAL RESPONSIBLE	NAME & SURNAME		Mehmet Aktaş	
	CONTACT INFO	PHONE	0 532 383 54 12	
		E-MAIL		
PLANNED CONSTRUCTION ACTIVITIES IN THE BUILDING				
All planned works in the buildings are listed in Table 20-21.				
DURATION & SEASON OF ACTIVITIES				
Upon completion of the bidding documentation, the Contractor is anticipated to finalize the construction works for the Government House within 12 months following the site handover. Given the current uncertainty regarding the exact commencement date, the construction season has not yet been definitively determined. Nevertheless, the works are expected to be completed subsequent to the tender process scheduled for 2025.				
NUMBER OF WORKERS EXPECTED DURING RENOVATION WORKS				
To complete the planned works within the targeted timeframe, an estimated employment of 25 workers/day is foreseen.				

Fırat University of Mechanical Engineering - Annex Building
Number of Floors : B+Z+2 NK



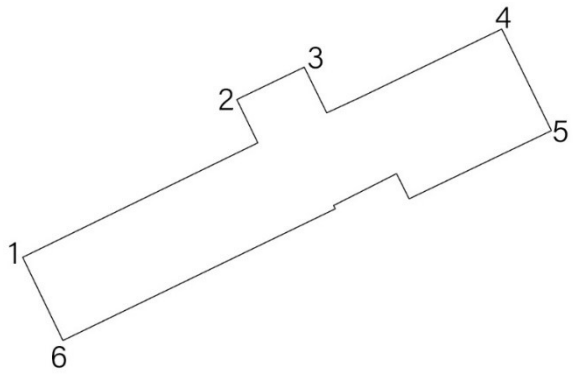
Nokta No	(UTM)Universal Trans Y	ITRF96 (Internationa X	Coğrafi Y2	World Geodetic Syste X2
1	516368.69	4280710.71	39.18	38.67
2	516390.09	4280721.93	39.18	38.67
3	516403.17	4280713.66	39.18	38.67
4	516409.55	4280701.05	39.18	38.67
5	516372.16	4280676.86	39.18	38.67
6	516363.83	4280688.12	39.18	38.67

Figure 11 -Department of Mechanical Engineering - Annex Building Coordinate Data

Table 15 - Guesthouse General Information Table

BUILDING NAME	Fırat University Guesthouse			
NUILDING OWNER	Fırat University			
ADRESS	Üniversite Mh. Aziz Sancar Caddesi NO:4 Elazığ			
PROVINCE	Elazığ		POSTAL CODE	23200
CONST. YEAR	1967		CONST. AREA	1.478 m2
INTENDED USE	Education		NUMBER OF BLOCKS IN BUILDING GROUP	1
USABLE INDOOR AREA	1.478 m2		TOTAL ENCLOSED VOLUME	4.091,9 m3
NUMBER OF USERS	Personnel: 9 (5 women, 4 men), Number of Students : 668 (330 women, 338 men),			
TECHNICAL RESPONSIBLE	NAME SURNAME		Mehmet Aktaş	
	CONTACT INFO	PHONE	0 532 383 54 12	
		E-MAIL		
PLANNED CONSTRUCTION ACTIVITIES IN THE BUILDING				
All planned works in the buildings are listed in Table 20-21.				
DURATION & SEASON OF ACTIVITIES				
Upon completion of the bidding documentation, the Contractor is anticipated to finalize the construction works for the Government House within 12 months following the site handover. Given the current uncertainty regarding the exact commencement date, the construction season has not yet been definitively determined. Nevertheless, the works are expected to be completed subsequent to the tender process scheduled for 2025.				
NUMBER OF WORKERS EXPECTED DURING RENOVATION WORKS				
To complete the planned works within the targeted timeframe, an estimated employment of 25 workers/day is foreseen.				

Fırat University Guesthouse
Number of Floors : B+Z+2 NK



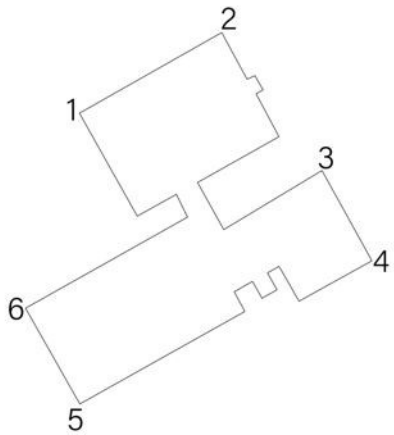
Nokta No	(UTM)Universal Trans Y	ITRF96 (Internationa X	Coğrafi Y2	World Geodetic Syste X2
1	516339.51	4280841.88	39.18	38.67
2	516362.07	4280858.45	39.18	38.67
3	516369.72	4280862.58	39.18	38.67
4	516390.12	4280863.64	3918	38.67
5	516395.38	4280851.86	3918	38.67
6	516343.67	4280833.53	3918	38.67

Figure 12 - Guesthouse Coordinate Data

Table 16 - Faculty of Engineering Dean's Office General Information Table

BUILDING NAME	Fırat University Faculty of Engineering Dean's Office		
NUILDING OWNER	Fırat University		
ADRESS	Üniversite Mh. Aziz Sancar Caddesi NO:4 Elazığ		
PROVINCE	Elazığ	POSTAL CODE	23200
CONST. YEAR	1967	CONST. AREA	1.795 m2
INTENDED USE	Education	NUMBER OF BLOCKS IN BUILDING GROUP	1
USABLE INDOOR AREA	1.795 m2	TOTAL ENCLOSED VOLUME	4.119,05 m3
NUMBER OF USERS	Personnel: 22 (2 women, 17 men),		
TECHNICAL RESPONSIBLE	NAME & SURNAME	Mehmet Aktaş	
	CONTACT INFO – PHONE	0 532 383 54 12	
	CONTACT INFO – E-MAIL		
PLANNED CONSTRUCTION ACTIVITIES IN THE BUILDING			
All planned works in the buildings are listed in Table 20-21.			
DURATION & SEASON OF ACTIVITIES			
Upon completion of the bidding documentation, the Contractor is anticipated to finalize the construction works for the Government House within 12 months following the site handover. Given the current uncertainty regarding the exact commencement date, the construction season has not yet been definitively determined. Nevertheless, the works are expected to be completed subsequent to the tender process scheduled for 2025.			
NUMBER OF WORKERS EXPECTED DURING RENOVATION WORKS			
To complete the planned works within the targeted timeframe, an estimated employment of 25 workers/day is foreseen.			

Fırat University Faculty of Engineering Dean's Office
Number of Floors : B+Z+2 NK



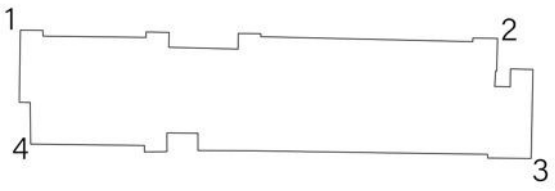
Nokta No	(UTM)Universal Trans Y	ITRF96 (Internationa X	Coğrafi Y2	World Geodetic Syste X2
1	516406.47	4280671.93	39.18	38.67
2	516425.49	4280682.77	39.18	38.67
3	516438.41	4280665.78	39.18	38.67
4	516444.54	4280654.36	39.18	38.67
5	516407.17	4280638.06	39.18	38.67
6	516400.06	4280649.57	39.18	38.67

Figure 13 - Faculty of Engineering Dean's Office Coordinate Data

Table 17 - Rectorate Building General Information Table

BUILDING NAME	Fırat University Rectorate Building			
NUILDING OWNER	Fırat University			
ADRESS	Üniversite Mh. Aziz Sancar Caddesi NO:4 Elazığ			
PROVINCE	Elazığ		POSTAL CODE	23200
CONST. YEAR	1967		CONST. AREA	4.335 m2
INTENDED USE	Education		NUMBER OF BLOCKS IN BUILDING GROUP	1
USABLE INDOOR AREA	4.335 m2		TOTAL ENCLOSED VOLUME	12.206,52m3
NUMBER OF USERS	Personnel: 129 (40 women, 89 men), Number of Student : 668 (330 women, 338 men),			
TECHNICAL RESPONSIBLE	NAME & SURNAME		Mehmet Aktaş	
	CONTACT INFO	PHONE	0 532 383 54 12	
		E-MAIL		
PLANNED CONSTRUCTION ACTIVITIES IN THE BUILDING				
All planned works in the buildings are listed in Table 20-21.				
DURATION & SEASON OF ACTIVITIES				
Upon completion of the bidding documentation, the Contractor is anticipated to finalize the construction works for the Government House within 12 months following the site handover. Given the current uncertainty regarding the exact commencement date, the construction season has not yet been definitively determined. Nevertheless, the works are expected to be completed subsequent to the tender process scheduled for 2025.				
NUMBER OF WORKERS EXPECTED DURING RENOVATION WORKS				
To complete the planned works within the targeted timeframe, an estimated employment of 25 workers/day is foreseen.				

Fırat University Rectorate Building
Number of Floors : Blok 1 Z+2NK
Blok 2 Z+2NK



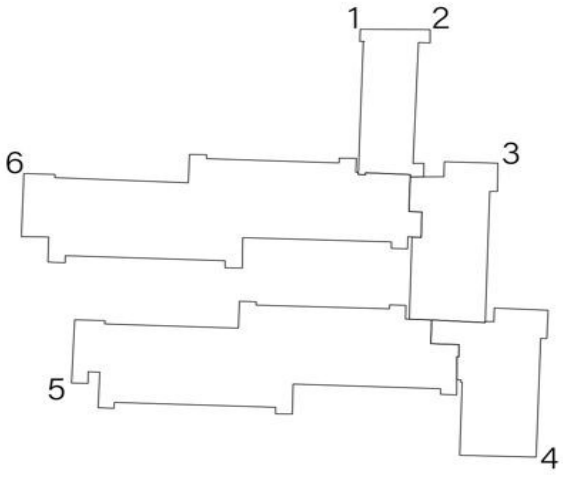
Nokta No	(UTM)Universal Trans Y	ITRF96 (Internationa X	Coğrafi Y2	World Geodetic Syste X2
1	517508.40	4281054.81	39.20	38.67
2	517587.46	4281053.41	39.20	38.67
3	517593.33	4281034.20	39.20	38.67
4	517510.34	4281036.01	39.20	38.67

Figure 14 - Rectorate Building General Information

Table 18 - Faculty of Technology – Metal Workshop General Information Table

BUILDING NAME	Fırat University Faculty of Technology – Metal Workshop		
NUILDING OWNER	Fırat University		
ADRESS	Üniversite Mh. Aziz Sancar Caddesi NO:4 Elazığ		
PROVINCE	Elazığ	POSTAL CODE	23200
CONST. YEAR	1967	CONST. AREA	2.280 m2
INTENDED USE	Education	NUMBER OF BLOCKS IN BUILDING GROUP	1
USABLE INDOOR AREA	2.280 m2	TOTAL ENCLOSED VOLUME	10.712,34m3
NUMBER OF USERS	Personnel: 13 (3 women, 10 men), Number of Students: 194 (32 women, 162 men),		
TECHNICAL RESPONSIBLE	NAME & SURNAME	Mehmet Aktaş	
	CONTACT INFO – PHONE	0 532 383 54 12	
	CONTACT INFO – E-MAIL		
PLANNED CONSTRUCTION ACTIVITIES IN THE BUILDING			
All planned works in the buildings are listed in Table 20-21.			
DURATION & SEASON OF ACTIVITIES			
Upon completion of the bidding documentation, the Contractor is anticipated to finalize the construction works for the Government House within 12 months following the site handover. Given the current uncertainty regarding the exact commencement date, the construction season has not yet been definitively determined. Nevertheless, the works are expected to be completed subsequent to the tender process scheduled for 2025.			
NUMBER OF WORKERS EXPECTED DURING RENOVATION WORKS			
To complete the planned works within the targeted timeframe, an estimated employment of 25 workers/day is foreseen.			

Fırat University Faculty of Technology – Metal Workshop
Number of Floors :Z+1 NK



Nokta No	(UTM)Universal Trans Y	ITRF96 (Internationa X	Coğrafi Y2	World Geodetic Syste X2
1	517035.45	4281476.56	39.19	38.68
2	517048.31	4281476.63	39.19	38.68
3	517064.21	4281440.45	39.19	38.68
4	517073.26	4281367.87	39.19	38.68
5	516971.01	4281387.91	39.19	38.68
6	516960.70	4281438.85	39.19	38.68

Figure 15 - Faculty of Technology – Metal Workshop Coordinate Data

Table 19 - New Prefabricated Light-Steel Chemical Laboratory Building General Information Table

BUILDING NAME	Fırat University New Prefabricated Light-Steel Chemical Laboratory Building		
NUILDING OWNER	Fırat University		
ADRESS	Üniversite Mh. Aziz Sancar Caddesi NO:4 Elazığ		
PROVINCE	Elazığ	POSTAL CODE	23200
CONST. YEAR	2016	CONST. AREA	2.000 m2
INTENDED USE	Education	NUMBER OF BLOCKS IN BUILDING GROUP	1
USABLE INDOOR AREA	2.000 m2	TOTAL ENCLOSED VOLUME	10.100 m3
NUMBER OF USERS			

TECHNICAL RESPONSIBLE	NAME & SURNAME		Mehmet Aktaş
	CONTACT INFO	PHONE	0 532 383 54 12
		E-MAIL	

PLANNED CONSTRUCTION ACTIVITIES IN THE BUILDING
All planned works in the buildings are listed in Table 20-21.
DURATION & SEASON OF ACTIVITIES
Upon completion of the bidding documentation, the Contractor is anticipated to finalize the construction works for the Government House within 12 months following the site handover. Given the current uncertainty regarding the exact commencement date, the construction season has not yet been definitively determined. Nevertheless, the works are expected to be completed subsequent to the tender process scheduled for 2025.
NUMBER OF WORKERS EXPECTED DURING RENOVATION WORKS
To complete the planned works within the targeted timeframe, an estimated employment of 25 workers/day is foreseen.

Fırat University New Prefabricated Light-Steel Chemical Laboratory Building
Floor Number :Z+1 NK

Table 20 - Planned Works for Group 1 Buildings at Fırat University as Presented in Table 5

	GENERAL DESCRIPTION OF WORKS	ESTIMATED NUMBER OF WORKERS	ESTIMATED DURATION (WEEKS)
STRUCTURAL STRENGTHENING	Wall Demolition & Dismantling Works	150	15
	Dismantling of Electrical and Mechanical Systems		15
	Sub-Basement Concrete Breaking and Foundation Filling		15
	Epoxy Anchors and Tests		15
	New Reinforcement Installation		15
	Formwork and Concrete Pouring		15
	FRP Fabrication		12
FINISHING WORKS	Wall Construction		12
	Plastering		15
	Painting		20
	Flooring		25
	Electrical & Mechanical Installation		20

OTHER WORKS	Automation		15
	Solar Panel Installation		10
	New Prefabricated Light-Steel Chemical Laboratory Building Construction		20
	Testing & Inspection		5

Some of the electrical and mechanical installation works specified in Table 20, as well as the automation and solar panel installation sections, are included within the scope of energy efficiency measures. These measures are listed below.

Table 21 - Planned Works for the Thirteen (13) Buildings at Fırat University as Specified in Table 5

GENERAL DESCRIPTION OF WORKS	ESTIMATED NUMBER OF PERSONNEL	ESTIMATED DURATION (WEEKS)
Structural Strengthening and Renovation Works: Within the scope of the structural retrofitting design, required columns and beams will be jacketed using conventional reinforced concrete, and reinforced concrete shear walls will be added to the structures. In addition, for beams, columns, or shear wall elements whose structural behavior has been compromised and/or which are deemed structurally inadequate, strengthening using carbon fiber reinforced polymer (FRP) is planned. The table indicating the strengthening elements to be implemented in the buildings is provided in Annex-4.		
Application of thermal insulation using 12 cm stone wool on building façades and 16 cm glass wool on roof areas. Replacement of existing 4+12+4 mm aluminum windows with 4+16+4 mm PVC-framed windows.	150	4
Installation of thermostatic valves on radiators.		3
At the Atatürk Cultural Center Building, dismantling of the existing faulty chiller and idle air handling units and installation of a 26 kW rooftop HVAC unit.		3
For the Atatürk Cultural Center, Department of Computer, Metallurgical and Materials Engineering, Electrical Engineering, Civil Engineering, Geological Engineering, Chemical Engineering, Mechanical Engineering, Mechanical Engineering Annex Building, Guesthouse, Faculty of Engineering Dean's Office, and Rectorate Building: insulation of mechanical equipment located in the heat exchanger rooms using appropriate insulation materials, and replacement of a total of 28 heating circulation pumps with high-efficiency pumps equipped with IE4 motors and VSDs.		4
Replacement of 6,408 inefficient lighting fixtures with LED luminaires.		4
Installation of a 3,000 kWe ground-mounted Solar Power Plant (SPP) to partially meet the electricity demand (for 25 buildings).		3
Installation of a Building Automation and Energy Monitoring System.		4
Construction of a New Prefabricated Light-Steel Chemical Laboratory Building.		20

6.2 Pre-Construction Information & Site Layout Plans

Field data related to the campuses where the works will take place, building access areas, traffic action plans, temporary storage areas, parking spaces for construction vehicles and machinery, elevation differences, and other risk-prone zones are specified in Annex 1.

6.3 General Side Rules

- Access to and exit from the work areas and parking areas for vehicles (including construction machinery) are specified in Annex 1.
- The buildings within the project scope will be out of use during the implementation of the works. Therefore:
    - The establishment of site facilities such as containers or similar structures within the work areas is not envisaged.
- No dedicated areas will be allocated for workers' meals and rest. The areas within the buildings to be used for workers' common and basic human needs (such as toilets, break/rest areas, dining areas, etc.) during the works will be determined by the technical and administrative units of the beneficiary institution and communicated to the Contractor.
- Accommodation of workers within the campus/site area is not envisaged. The Contractor and subcontractors shall arrange appropriate off-site accommodation (such as hotels, motels, etc.) for their personnel.
- Temporary storage areas (outside the buildings) are defined on a building-by-building basis as specified below. Temporary storage outside the designated areas is not permitted.

During temporary storage, the Contractor shall ensure that materials and equipment are stacked and stored in a safe manner that does not pose any risk, are protected against environmental conditions, and that necessary measures are taken to prevent any leakage of hazardous chemicals into the soil.

Prior to the use of the designated temporary storage areas, the Contractor shall describe and demonstrate how the above-mentioned measures will be ensured. Otherwise, the use of temporary storage areas shall not be permitted.

- Emergency assembly points, emergency exits, and traffic circulation plans are specified below on a building-by-building basis. Warning and information signage shall be installed at these locations, and all workers shall be informed about the assembly points by the OHS Specialist.
- The segregation of the construction site from vehicle and pedestrian traffic, by maintaining adequate safety distances, and the provision of necessary barriers, warning signs, and horizontal and vertical markings, shall be ensured by the Contractor.

• The designated emergency assembly areas listed above shall be used for all OHS drills. For each drill, the OHS Specialist shall determine, record, and document the required evacuation and assembly time.

• These emergency assembly areas shall be included in OHS training materials and briefings.

• Indoor toilets within the building shall be used for sanitary needs.

• Shower facilities shall be provided at the off-site accommodations (hotels, etc.) arranged by the Contractor and subcontractors.

• Sinks located in building toilets shall be used for handwashing purposes only and shall not be used as a source of drinking water. Potable drinking water shall be provided to all workers in bottled form. The following warning signs shall be installed in all toilet facilities.

- Smoking is prohibited inside the buildings and in temporary storage areas.
- Warning signs indicating “No Smoking” and “No Open Flames” shall be posted at building entrances and in all temporary storage zones.

- Smoking areas may be designated outdoors, at least 5 meters away from building entrances. These designated smoking areas must be clearly marked with the relevant warning signs, and all workers must be informed about where smoking is permitted.

All machinery and electrical devices used during construction activities must bear the CE mark. Products falling within the scope[1] of the "CE" MARKING REGULATIONS that do not carry this symbol or do not meet the associated requirements shall not be used.

[1] Relevant Directives:
- Machinery Safety Regulation (2006/42/EC)
- Low Voltage Equipment Regulation (2014/35/EU)
- Pressure Equipment Regulation (2014/68/EU)
- Gas Appliances Regulation (2016/426/EU)

Relevant Standards (must be reviewed for each device separately):
- TS EN ISO 12100 – Safety of Machinery – General Principles for Design – risk Assessment and risk Reduction
- TS EN 60204-1 – Safety of Machinery – Electrical Equipment of Machines – Part 1: General Requirements
- TS EN 60335-1 – Safety Rules – For Electrical Appliances Used in Households and Similar Applications – Part 1: General Requirements
- TS 1203 EN 286-1 – Simple, Non-Flammable, Pressurized Tanks
- TS 10116 – Cranes – Testing and Inspection Methods

7. Health & Safety Organisation

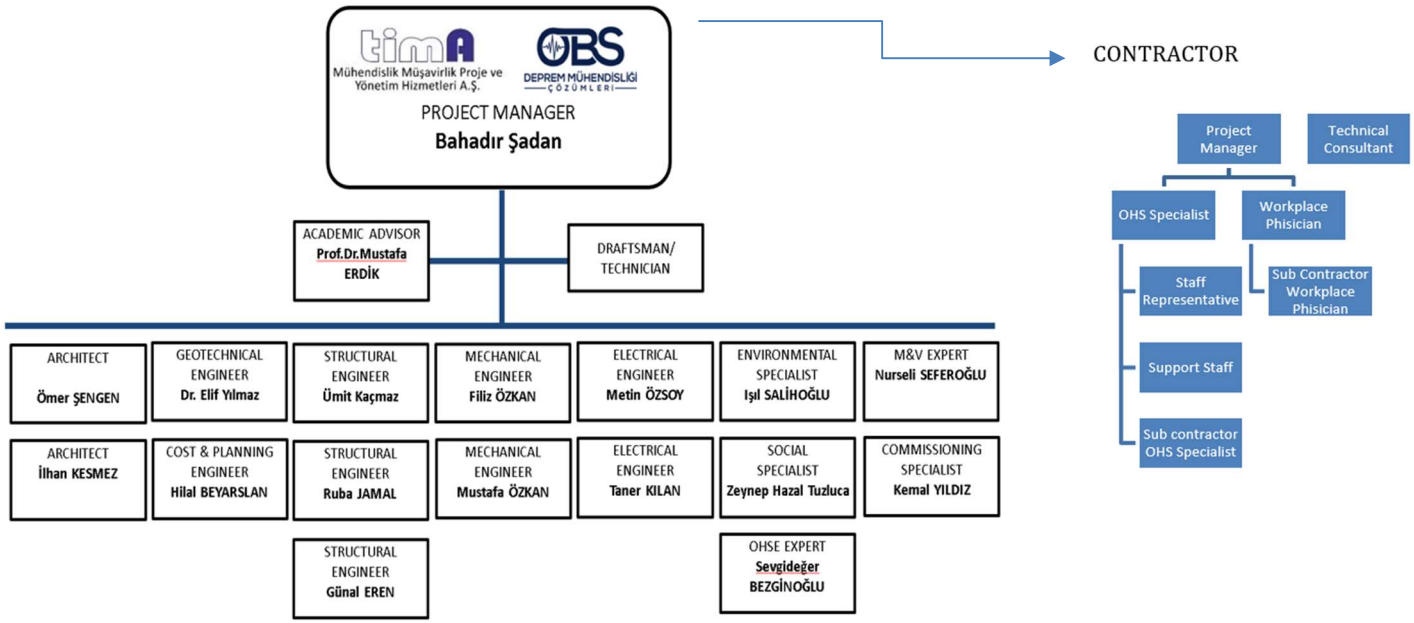


Figure 16 - Fırat University Health & Safety Organisation

- The organizational chart graphic follows here, the title stays exactly as written.

7.1 Consultant

7.1.1. Duties of Project Manager

The Project Manager has been assigned as the Employer's Representative for this project and has assumed employer responsibilities.

Accordingly:

1. Ensure the implementation of the Occupational Health and Safety Plan (OHSP) and legal regulations and practices within the scope of the project.
2. Review the construction methods and risk assessments to be prepared by the Contractor from technical, administrative, and occupational health and safety perspectives. In case of inadequacy, state the reasons and follow up on the revision processes.
    a) Ensure that the construction methods and risk assessments prepared by the Contractor cover all subcontractor activities included in the scope of the project.
    b) Ensure inspections and controls regarding the Contractor and subcontractors on the following topics:
        i. Proper informing of all employees,
        ii. Provision of necessary resources (equipment, tools, human resources),
        iii. Compliance of managers and employees with the determined rules.
3. Ensure that the adequacy and appropriateness of risk assessments are verified through on-site inspections.
    a) Record all nonconformities detected during these inspections as corrective actions. Ensure that the nonconformities are corrected appropriately and within deadlines.
    b) Recognize that identified nonconformities or corrective actions may require the revision of the relevant risk assessment. In such cases, ensure that the revised risk assessment is issued by stating the revision number, date, reasons, and obtaining necessary approvals.
4. Ensure the procurement and verification of the periodic health reports of workers in accordance with their job descriptions.Workers without appropriate health reports shall not be allowed to work.
5. the verification of workers' occupational health and safety training records; workers without proven legal OHS training shall not be allowed to work.
6. Ensure the verification of the vocational qualification certificates of workers; workers without the necessary certificates shall not be allowed to work.
7. Ensure the identification, procurement, and proper distribution of the necessary Personal Protective Equipment (PPE) to workers.
8. Ensure the identification, procurement, and installation of the necessary safety equipment at the construction site (e.g., protective nets, railings, lifelines).
9. Ensure that all work accidents are reported in accordance with Article 14 of the Occupational Health and Safety Law No. 6331.
10. Fulfill all other employer obligations specified in the Occupational Health and Safety Law No. 6331.[2]

    a-) To ensure this, the Project Manager must review the current Occupational Health and Safety

[2] Law No. 6331 on Occupational Health and Safety (Official Gazette Date: 30.06.2012, Issue No: 28339) Article 3, Paragraph 2: Representatives of the employer who act on behalf of the employer and take part in the management of the work or workplace shall be deemed employers within the scope of this Law.

Law No. 6331 and the related regulations together with the OHS Specialist and Workplace Physician.[3]

7.1.2. Duties of OHS Specialist

Occupational Health and Safety (OHS) Specialists shall carry out their duties in accordance with Article 9 of the Regulation on the Duties, Authorities, Responsibilities and Training of Occupational Safety Specialists (Official Gazette Date: 29.12.2012 / Issue: 28512). The OHS activities will be managed in line with the duties listed below:

1. Guidance:

   a) Provide recommendations to the employer to ensure that planning, organization, and execution of the work — including workplace activities and changes to be made, the status, maintenance, selection of machinery and other equipment, materials used, selection, provision, use, maintenance, preservation, and testing of personal protective equipment — are in compliance with occupational health and safety legislation and general safety rules.

   b) Notify the employer in writing of the occupational health and safety measures that must be taken.

   c) Investigate the causes of occupational accidents and diseases occurring in the workplace, recommend preventive measures to avoid recurrence.

   d) Investigate incidents that do not result in injury or death but have the potential to cause harm to workers, equipment, or the workplace, and provide recommendations to the employer.

2. Risk Assessment:

   Participate in the preparation and implementation of risk assessments from an occupational health and safety perspective, provide recommendations to the employer regarding health and safety measures to be taken as a result of the risk assessment, and follow up on their implementation.

3. Workplace Surveillance:

   a) Monitor the working environment; plan and oversee the implementation of periodic maintenance, controls, and measurements required by OHS legislation.

   b) Participate in efforts to prevent accidents, fires, or explosions in the workplace, advise the employer on this matter, follow up on practices; take part in the preparation of emergency plans for natural disasters, accidents, fires, or explosions, ensure that periodic training and drills are conducted, and monitor compliance with emergency plans.

4. Training, Information, and Documentation:

   a) Plan the OHS trainings of workers in accordance with applicable legislation, submit to the employer for approval, and ensure their implementation or supervision.

   b) Record OHS-related activities and results of workplace environment surveillance.

   c) Organize informational activities for employees, submit them for employer approval, and supervise implementation.

   d) Prepare occupational health and safety instructions and work permit procedures where necessary, submit them to the employer for approval, and ensure implementation.

5. Cooperation with Relevant Units:

[3] It should be evaluated within the scope of Corrective Action (including detection dates, justifications, corrective action proposals, deadlines, etc.) and recorded accordingly.

a) Cooperate with the workplace physician to evaluate occupational accidents and diseases, investigate hazardous events to prevent recurrence, prepare preventive action plans, and follow up on implementation.

b) Prepare the annual work plan for the following year in cooperation with the workplace physician.

c) Collaborate with the OHS Committee, if such a committee exists in the workplace.

d) Support and cooperate with worker representatives and support personnel.

In this context, the OHS Specialist shall also:

1. Review construction methods and risk analyses, prepare a report regarding their compliance, and submit it to the Project Manager and the Contractor's Project Manager.
2. During the project preparation phase, prepare weekly monitoring reports and submit them to the Project Implementation Unit.
3. During the implementation phase, ensure that the Contractor prepares monthly OHS reports and submit these to the Employer in the specified format.
4. Ensure that periodic inspection reports for construction equipment are obtained and reviewed. (Maximum inspection interval is 1 year as per legislation.)
5. Ensure the distribution of personal protective equipment (PPE) indicated in the risk assessment to all workers. (During site inspections, review PPE delivery records, assess adequacy and proper use.)
6. Verify the authority and appointments of the Contractor's and Subcontractors' OHS Specialists and Workplace Physicians.
7. Update and improve this document based on on-site findings.
8. Review employee personnel files.
9. Review training records and certificates related to previous OHS training for all workers (valid for a maximum of 1 year).
10. Participate in weekly and monthly OHS meetings and report outcomes to management.
11. Verify the professional qualification certificates of employees.
12. Examine work reports from an OHS perspective and evaluate any noncompliant tasks or equipment.
13. Conduct daily site inspections, assess tasks or equipment for OHS compliance, and evaluate adequacy of risk analyses and protective measures on-site.
14. Review on-site inspection reports prepared by the Contractor's and Subcontractors' OHS Specialists. Monitor and verify that identified nonconformities are followed up.
15. Review records of OHS trainings provided by the Contractor and Subcontractors (e.g., Risk Assessment, Toolbox Talks), evaluate their adequacy (duration, content).
16. Communicate with worker representatives, request feedback. Report any issues raised by worker representatives to the Project Coordinator, identify and implement necessary actions.
17. Review accident reports prepared by the Contractor and Subcontractors, examine content and sequence of events, verify compliance with legal notification requirements.

18. Check suggestion and complaint boxes. Evaluate feedback (printed or digital) within the OHS framework, inform those providing feedback, evaluate requests, and determine necessary actions. (This process shall be conducted in coordination with the Social Specialist.)
19. Inform the Project Manager without delay regarding field observations, feedback, inputs from the Contractor and Subcontractors' OHS Specialists, and work accidents.

7.1.3. Duties of Workplace Phisician

The duties of Workplace Physicians are defined in Article 9 of the Regulation on the Duties, Authorities, Responsibilities and Training of Workplace Physicians and Other Health Personnel (Official Gazette Date: 20.07.2013 / Issue No: 28713). Occupational health activities shall be managed in accordance with the duties listed below

1. Guidance;
    a) Provide recommendations to the employer to ensure that the planning, organization, execution, and maintenance of work — including design, condition, maintenance and selection of machinery and other equipment, materials used, and the selection, provision, use, maintenance, preservation, and testing of personal protective equipment — are carried out in compliance with occupational health and safety legislation and general hygiene rules.
    b) Notify the employer in writing of the necessary health and safety measures to be taken.
    c) Investigate the causes of occupational accidents and diseases that occur in the workplace, and make recommendations to the employer on measures to prevent recurrence.
    d) Investigate events that did not cause death or injury but had the potential to harm employees, equipment, or the workplace, and make recommendations to the employer.
    e) Evaluate the suitability of workers for the job in terms of health, and make recommendations accordingly.
    f) Provide recommendations to the employer regarding the physical and mental strain caused by work on employees and propose solutions.
    g) Assess the adequacy of workplace hygiene conditions and provide necessary guidance.
    h) Provide advice to the employer on ensuring a work environment that supports employee well-being and mental health.
2. Risk assessment

    Participate in the preparation and implementation of risk assessments in terms of employee health, provide recommendations to the employer regarding health-related measures that should be taken as a result of the risk assessment, and follow up on their implementation.

3. Health surveillance of the working environment
    a) Monitor the working environment; plan and supervise the implementation of periodic maintenance, inspections, and measurements that are required by occupational health and safety legislation.
    b) Participate in efforts to prevent workplace accidents, fires, or explosions; provide recommendations to the employer on this matter; follow up on practices; participate in the preparation of emergency plans for events such as natural disasters, accidents, fires, or explosions; ensure that periodic trainings and drills related to this subject are conducted, and that actions are taken in line with the emergency plan.
    c) Conduct regular inspections of food preparation, storage, and consumption areas, as well as other hygiene-related areas used by workers.

d) Ensure that potable drinking water is provided in sufficient quantity and hygiene standards, and that water tanks and distribution lines are maintained properly.

e) Oversee sanitation conditions such as toilets, washbasins, and showers, and ensure their hygienic upkeep.

f) Supervise cleaning activities carried out by the contractor, ensuring appropriate cleaning frequency and the use of suitable cleaning materials.

g) Control the storage and disposal conditions of domestic and medical waste; ensure appropriate collection, labeling, temporary storage, and removal processes are implemented.

h) Observe and document environmental factors (dust, temperature, humidity, lighting, noise, etc.) and share these with the employer as part of periodic workplace environment evaluations..

4. Training, information, and record keeping

a) Prepare a plan for occupational health and hygiene trainings for employees in accordance with applicable legislation, submit it to the employer for approval, and implement or supervise its implementation.

b) Record occupational health activities related to the working environment and the results of health surveillance.

c) Organize informational activities for employees, submit them to the employer for approval, and supervise their implementation.

d) Prepare occupational health and hygiene instructions and work permit procedures for use where necessary, submit them to the employer for approval, and supervise their implementation.

e) Evaluate records of health surveillance and occupational health training regularly, identify deficiencies, and inform the employer of required corrective actions.

5. Cooperation with relevant units

a) Together with the Occupational Safety Specialist, evaluate occupational accidents and occupational diseases; investigate hazardous incidents to prevent recurrence; prepare the necessary preventive action plans and follow up on their implementation.

b) Prepare the annual work plan for the following year, which includes occupational health and safety-related activities, in cooperation with the Occupational Safety Specialist.

c) If present, work in cooperation with the Occupational Health and Safety Committee of which they are a member.

d) Support the work of employee representatives and designated support staff, and cooperate with these persons.

e) Collaborate with administrative units to ensure the maintenance and hygiene of health facilities (infirmaries, first aid rooms), and verify the adequacy of medical supplies.

f) Inform the employer and Project Manager without delay in the event of detection of contagious diseases, mental health risks, or health-related emergencies.

g) Coordinate with the Social Specialist to address health risks related to nutrition, shelter, hygiene, stress, and social well-being.

Within this framework;

1. Verify the authority and appointments of the Contractor’s and Subcontractors’ Workplace Physicians.
2. Improve this document and update it based on field findings.
3. Support the risk analysis review process by examining the construction methods and site-specific data obtained from subcontractors and other specialists.
4. Check the personnel files of employees.

5. Review the periodic health reports of employees.
6. Review weekly work reports from an occupational health perspective; assess the existence of noncompliant practices or equipment.
7. Review reports related to site inspections conducted by the Workplace Physicians of the Contractor and Subcontractors. Monitor and control identified nonconformities.
8. Review the records of recent trainings provided by the Contractor's and Subcontractors' Workplace Physicians. Verify their compliance (duration, content).
9. Maintain contact with Employee Representatives, request feedback. Report the matters raised by Employee Representatives to the Social Specialist and the Project Manager, determine and implement necessary actions from an occupational health perspective.
10. Obtain occupational disease reports issued by the Contractor's and Subcontractors' Workplace Physicians, review them in terms of content and event chronology, and verify whether the notifications have been made in accordance with legal requirements.
11. Evaluate the feedback obtained through the suggestion and complaint system from an occupational health perspective in line with the requests of the Social Specialist and determine the necessary actions.

Inform the Project Manager without delay regarding field observations, feedback, information obtained from the Contractor's and Subcontractors' Workplace Physicians, and workplace accidents.

7.1.4. Duties of Technical Specialists

The Technical Specialist Unit, consisting of Civil Engineering, Mechanical Engineering, and Electrical Engineering disciplines, shall perform the following duties within OHS processes:

1. Inform the OHS Specialists about the technical details and processes of the work.
2. Ensure that the work they inspect is conducted in a manner that protects the health and safety of employees.
3. Review the construction methods prepared by the Contractor and render an opinion on their adequacy.
4. Evaluate the matters specified in the risk assessments (hazards, risks, and measures) from a technical perspective and render an opinion on their appropriateness.
5. If deemed necessary by the OHS Specialist, participate in the work permit system, respond to the OHS Specialist's questions, and evaluate and review the documents submitted by the OHS Specialist within this framework.
6. Evaluate the OHS training contents conducted by the Contractor from a technical perspective and render an opinion on their adequacy (e.g., LOTO system, scaffold erection and use, etc.).

7.1.5. Duties of Social Specialist Regarding OHS

1. Receive and list the printed suggestion and complaint forms collected by the OHS Specialist.
2. Review the feedback obtained through the Suggestion & Complaint System; where necessary, involve the OHS Specialist and Workplace Physician in the feedback evaluation process.
3. Maintain communication with Employee Representatives and support the establishment of healthy and strong communication between the OHS Specialist, Workplace Physician, and Employee Representatives.

7.1.6. Duties of Support Staff

Carry out the tasks requested by the OHS Specialist and Workplace Physician.

7.2 Contractor

7.2.1. Dutiesof the Employer & Employer's Representative

The Project Manager has been assigned as the Employer's Representative for this project only. In this context, he/she has assumed the employer's duties.

1. Fulfill all duties defined under Occupational Health and Safety Law No. 6331[4] as the employer.
2. Ensure the monitoring requirements, frequencies, and responsibilities stated in Table 29 – OHS Monitoring Plan are met.
3. Ensure that this document provided by the Consultant's OHS Specialist is delivered to and understood by all relevant units.
4. Ensure that the construction methods and risk analysis are prepared and submitted to the Consultant before site work begins.
5. Ensure that the OHS Plan, construction methods, and risk analysis are prepared and submitted to the Consultant before site activities commence.
6. Ensure that the information and documents requested by the Consultant's Social Specialist are promptly obtained and delivered.
7. Establish and ensure the effectiveness of the Suggestion & Complaint System conveyed by the Consultant's Social Specialist.
8. Participate in meetings and interviews requested by the Consultant's Project Manager.
9. Monitor and control the performance of the assigned OHS Specialist and Workplace Physician.
10. Review the records related to the performance of the OHS Specialist and Workplace Physician as reported by the Consultant's OHS Specialist and fulfill the related requests (replacement of personnel, warnings, etc.).

7.2.2. Duties of OHS Specialist

1. Fulfill all duties defined under the **Regulation on the Duties, Authorities, Responsibilities, and Training of Occupational Safety Specialists** without exception.
2. Ensure that the Contractor company prepares the OHS Plan in accordance with this OHS Plan, that the risk assessment is created within the framework of the construction method, and that both are submitted to the Consultant's OHS Specialist before site activities commence.
3. Deliver the employees' previous OHS training records and certificates to the Consultant's OHS Specialist.
4. Provide updated trainings to employees within the framework of this document and the risk assessment, keep the training records, and deliver these records to the Consultant's OHS Specialist.
5. Plan and implement additional trainings requested by the Consultant's OHS Specialist, keep the training records, and deliver them to the Consultant's OHS Specialist.
6. Deliver the Vocational Qualification Certificates of employees to the Consultant's OHS Specialist.
7. Inform all employees about the Suggestion & Complaint System applied specifically to this

4 Law No. 6331 on Occupational Health and Safety (Official Gazette Date: 30.06.2012, Issue No: 28339) Article 3, Paragraph 2: Representatives of the employer who act on behalf of the employer and take part in the management of the work or workplace shall be deemed employers within the scope of this Law.

project.

8. Deliver the periodic inspection reports of construction machinery to the Consultant's OHS Specialist.
9. Deliver the PPE Lists (standards, quantities, etc.) and delivery records to the Consultant's OHS Specialist.
10. Participate in site inspections carried out by the Consultant's OHS Specialist and have the requested information and documents ready for review.
11. Deliver the records regarding work accidents to the Consultant's OHS Specialist.
12. Implement the corrective actions notified by the Consultant and inform the Consultant's OHS Specialist and/or Workplace Physician regarding the progress of the process.
13. Plan, participate in, and report weekly and monthly OHS meetings. Plan, participate in, and report monthly İSG meetings.

7.2.3. Duties of Subcontractor Workplace Physicians

11. Fulfill all duties defined under the Regulation on the Duties, Authorities, Responsibilities, and Training of Workplace Physicians and Other Health Personnel without exception.
12. Ensure the creation of the risk assessment within the framework of the construction method.
13. Deliver the employees' periodic occupational health reports to the Consultant's Workplace Physician.
14. Deliver the records and certificates related to employees' previous occupational health trainings to the Consultant's Workplace Physician.
15. Plan and implement additional trainings requested by the Consultant's Workplace Physician, keep the training records, and deliver them to the Consultant's Workplace Physician.
16. Deliver the records related to occupational diseases to the Consultant's Workplace Physician.

7.2.4. OHS Duties of Technical Specialists

The Technical Specialist Unit, consisting of Civil Engineering, Mechanical Engineering, and Electrical Engineering disciplines, shall perform the following duties within OHS processes:

1. Inform the OHS Specialists about the technical details and processes of the work.
2. Ensure that the work being carried out protects the health and safety of the employees.
3. Prepare the construction methods and deliver them to the OHS Specialist.
4. Evaluate the matters specified in the risk assessments (hazards, risks, and preventive measures) from a technical perspective and render an opinion on their appropriateness.
5. If deemed necessary by the OHS Specialist, participate in the work permit system, respond to the OHS Specialist's questions, and evaluate and review the documents submitted by the OHS Specialist within this framework.
6. Support the technical improvement of OHS training contents (e.g., LOTO system, scaffold erection and usage, etc.).

7.2.5. Duties of Staff Representative

1. Fulfill all duties and responsibilities defined under the **Occupational Health and Safety Law No. 6331** (Official Gazette Date: 30.06.2012 / Issue No: 28339) without exception.
2. Participate in the risk assessment studies within the framework of the construction method.
3. Support the OHS Specialist in ensuring that employees' feedback is collected through the Suggestion & Complaint System specifically prepared for this project, and inform employees about

this system.

4. Establish strong communication with the Consultant's OHS Specialist, Workplace Physician, and Social Specialist, and provide information about employees' general requests and conditions.
5. Immediately notify the Consultant's OHS Specialist regarding situations encountered related to the right to abstain from work.
6. Inform the Consultant's Social Specialist of any situation that may negatively affect the effectiveness of the Suggestion & Complaint System.

7.2.6. Duties of Support Staff

Carry out the tasks requested by the OHS Specialist and the Workplace Physician. Two occupational health and safety workers shall perform regular duties on site.

8. Management Of Works

General Work Program and Cross-Interaction

The general work program is presented below for your information. This program is not final and has only been created to identify the risks of cross-interactions during the works. The detailed work schedule/plan must be prepared by the contractor and submitted to the Consultant.

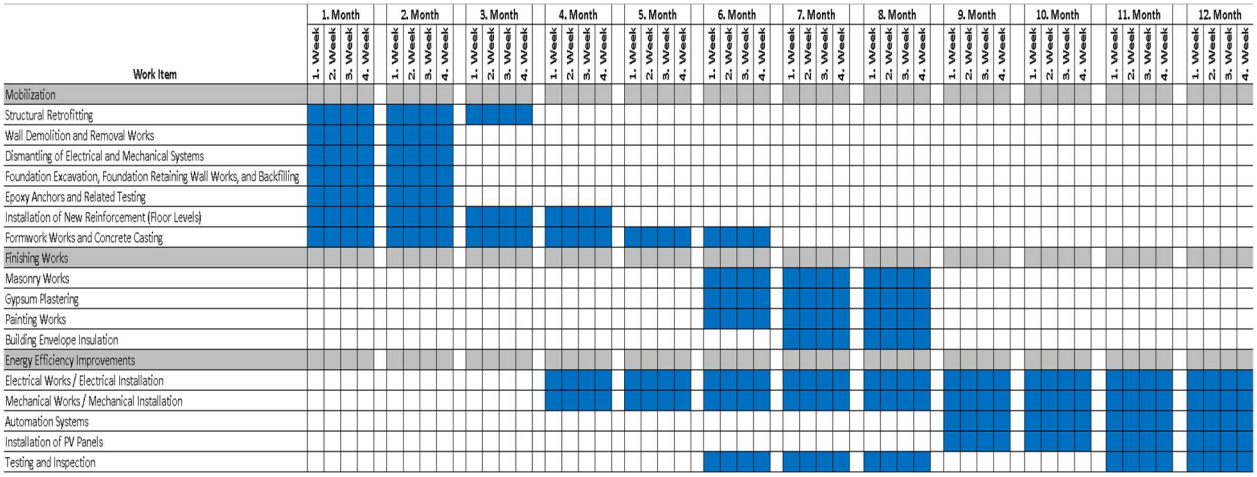


Figure 17 - Work Schechule of Fırat University Gropu-1

8.1 Work Methods

The general descriptions related to the construction process specified below have been prepared to guide the contractor in developing detailed construction methods and risk analysis studies. The contractor shall prepare the construction method and risk analysis before starting each new work and shall submit it to the consultant for approval. Work shall commence only after receiving the approval.

8.1.1 Structural Strengthening

1. The Current Status Performance Report prepared in line with the structural research and findings provides objective evidence that the strengthening of the structure is necessary. The infrastructure construction around the buildings, land surveying, route excavation, adjustment of route elevations, scaffolding installation, and formation of shafts will be carried out by conventional methods. The superstructure coming out of the building will be connected to the new shafts. Important points to be considered are listed below:

    - The use of construction machinery is very important. Excavation works include the use of excavators, loaders, and trucks. Before starting the work, it is mandatory to check the periodic inspection reports and the user competency documents (operator license, Class C driver's license) of these machines.
        - In areas where there are underground natural gas pipeline facilities, before the Phase II (Construction Phase) of the Projects starts, the Natural Gas Provider Company is responsible for performing the necessary works to provide a suitable environment. The implementation of the project must be carried out under the supervision of Infrastructure Construction Control Personnel Level 4 (National Vocational Qualification Institution (MYK) Law No. 5544 – 12UY0042-4).
            - (The mentioned Natural Gas Pipeline process will be fully ready, all control and tests will be carried out by the Local Distribution Company Service Provider before the Site Handover in order to ensure the creation of the necessary

environment, and the delivery will be ensured as specified in the projects. The Property Owner must apply for the construction of the said facilities in accordance with the relevant legislation. Therefore, it is ABSOLUTELY impossible for either the Consultant Firm or the Contractor to intervene in these natural gas pipelines.)

2. In the superstructure strengthening application, dismantling operations will primarily be carried out from the upper floors to the lower floors.The reinforcement shear walls and column jackets on the determined axes will be demolished starting from the top floor using hammers and breakers. Before the demolition of walls, items that may be damaged such as doors, windows, fixtures, countertops, electrical and mechanical installations must be dismantled and protected. Important points to be considered are listed below:

   - The potential danger of the elements to be demolished containing electrical cables should be taken into account. Priority should be given to power cuts in the area; the electricity needs of cutters, drills, etc. should be supplied from alternative sources. Distribution boxes, sockets, lighting component lines, switches, etc. components should be checked before demolition and it should be verified that there is no electricity. In this process, only inspection items are not sufficient. Control devices such as phase voltage detectors must be used at minimum. Functional checks of these test devices must be performed daily (using working sockets).

Figure 18 - Phase Detector Sample Image

   - All electric hand tools must have undergone PAT tests. PAT test reports will be requested and checked before the work begins. During site inspections, the presence of PAT inspection and approval labels on the electrical devices will be checked. Devices and equipment that do not bear a conformity label shall not be permitted for use. (Extension cables are also included in this scope.)

Figure 19 - PAT Test Label Sample Image

   - Care must be taken to prevent damage to electrical extension cords and to ensure that such cables do not come into contact with water. Extension cords and power cables of other electrical devices shall be checked daily. The use of damaged cables is not

permitted.

- Both sides of the walls must be checked during demolition, and the necessary restrictions must be implemented to prevent workers from being trapped under debris (restricting access, monitoring the impact zones of the walls to be demolished, use of warning and caution signs, etc.)
- In wall demolitions affecting the exterior of the building, impact zones must be identified and access to these areas must be prohibited.
- Reinforced areas must be marked before wall demolition. It is essential that the said reinforced elements (load-bearing) are not damaged. The demolition team shall be warned about this matter daily.
- In order to prevent the demolition works from damaging the slab, the walls must be broken into pieces and dropped in a controlled manner. The techniques that must be applied to prevent the demolition of walls in whole form must be communicated to the workers. Protective covers of appropriate thickness must be used for surfaces that need to be preserved.
- Workers involved in debris transportation must be informed about manual handling procedures. Throwing debris outside uncontrollably from height is prohibited. The method of debris removal shall be determined and announced by the contractor.
- Workers involved in the transportation of debris must be informed about manual handling rules. Throwing debris outside uncontrollably from height is prohibited. The method of debris disposal shall be determined and announced by the contractor.
- Use of dust masks and protective goggles is mandatory to protect workers from dust during demolition.
- Use of earplugs or earmuffs is essential to protect workers from noise during demolition.
- Use of protective goggles is mandatory to protect workers from flying particles during demolition.

3. After the dismantling process, in order to connect the strengthening elements to the foundations, it is necessary to break the subbasement concrete and excavate the infill inside the foundation to open the surroundings of the shear wall and column jacket. These breaking and excavation processes will be carried out manually (with the help of breaker and sledgehammer) and/or with small machines (such as bobcat) that can enter the building.

   The major points to be considered are listed below:

   - For the use of small excavators and loaders to be used during excavation works; first of all, it is mandatory to check the periodic inspection reports of the said machines and the operator competency certificates (operator license).
   - Before maneuvers with construction machinery in narrow spaces, responsible operators must be informed in advance to prevent damage to walls and reinforced components that need to be preserved. The construction methods related to the use of these machines inside the building must be submitted to the consultant in advance. (In this document, the transport of the construction machine to the work area, the walls to be demolished to bring the machine inside the building, whether there is a risk of permanent damage during maneuvering and operation inside the building must be specified.)
   - Warning tapes must be installed around the excavated areas. In case of night work, the said tapes must be reflective.

4. After the breaking and excavation processes are completed, anchor bars are driven into the

existing columns, beams, and foundations. The anchor holes are drilled into the existing elements using rotary hammers in accordance with the dimensions in the detailed drawings, the holes are cleaned with an air compressor, epoxy adhesive is injected into the hole, and the pre-prepared anchor bar (prepared from standard ribbed reinforcement steel) is inserted into the hole.

Figure 20 - Sample Image of Anchor Bar Installation

Major points to be considered are listed below:

- Anchor bars left exposed present a serious risk of injury or even death in the event of a fall. As long as these areas contain risk, they must be enclosed with warning labels and workers must be warned. (Care must be taken to ensure that the tips of the anchor bars are not sharp or cutting.) Areas with fall risk must especially be enclosed with warning tapes using the impact zone principle.
- All electric hand tools must have undergone PAT tests. PAT test reports will be requested and checked before the work begins. During site inspections, the presence of PAT inspection and approval labels on the electrical devices will be checked. Devices and equipment that do not bear a conformity label shall not be permitted for use. (Extension cords are also included in this scope.)
- Care must be taken to prevent damage to electrical extension cords and to ensure that such cables do not come into contact with water. Extension cords and power cables of other electrical devices shall be checked daily. The use of damaged cables is not permitted.
- There is a risk of anchor bars being driven falling to the ground from the outside of the building. Workers must consider this risk during the stacking and placement of said ribbed bars. The use of helmets by all workers within the worksite is a minimum requirement.
- It is likely that the anchor bars are rusty. Therefore, it is mandatory that workers use protective gloves of appropriate type. In addition, all workers must have received their tetanus vaccinations. (The Workplace Physician must inform workers during trainings about infections and tetanus caused by rusty metals.)
- The compressors to be used in hole cleaning must be inspected by qualified mechanical engineers and their compliance must be verified.
- MSDS sheets of epoxy adhesives must be checked by the workplace physicians and workers must be informed (volatility, eye contact, etc.).
- The necessity of an eye wash station against dust and chemical use must be determined by the Workplace Physician.
- Personnel who will process reinforcement bars must hold a Reinforced Concrete Ironworker Level 3 (11UY0012-3) certificate.

5. Performing the installation of reinforcement for the strengthening element together with anchor production works.

   Major points to be considered are listed below:
   - During the placement of reinforcement metals, puncture and cutting risks must be taken into account, and their ends must not be left exposed in a way that creates danger.
   - The ends of reinforcement metals that carry a risk of puncture and are difficult to see due to elevation differences, etc., must be covered with plastic pads and made visible with warning signs.
   - It is likely that the reinforcement bars are rusty. Therefore, it is mandatory that workers use protective gloves of appropriate type. In addition, all workers must have received their tetanus vaccinations. (The Workplace Physician must inform workers during trainings about infections and tetanus caused by rusty metals.)
   - In the case of using rebar bending and cutting machines during the shaping of reinforcement bars, said machines must have undergone PAT tests. PAT test reports will be requested and checked before the work begins. During site inspections, the presence of PAT inspection and approval labels on the electrical devices will be checked. Devices and equipment that do not bear a conformity label shall not be permitted for use. (Extension cords are also included in this scope.)
   - Personnel who will process reinforcement bars must hold a Reinforced Concrete Ironworker Level 3 (11UY0012-3) certificate.

6. After the tests and reinforcement samples are received by the control organization, plywood formworks are closed, and “self-compacting concrete” (fine aggregate, superplasticizer additive concrete) is poured into the formwork through the hole opened from the slab of the upper floor or through funnels produced from formwork also known as bird mouths. The concrete pouring process is carried out using a transit mixer and a concrete pump. In areas where the tip of the pump cannot reach inside the existing structure, if necessary, mobile pipes (corrugated pipes, etc.) or manual transport of concrete can be used. After pouring the concrete of the strengthening elements of one floor, the concrete of the upper floor should be poured at least 2 days later. Possible gaps that will occur due to the inability of concrete to reach between the existing element and the new strengthening element after concrete casting shall be filled with high-strength, polymer fiber-reinforced repair mortars.

   Major points to be considered at this stage are listed below:

   - ll electric hand tools (mobile concrete mixer, vibrator, concrete pump, etc.) must have undergone PAT tests. PAT test reports will be requested and checked before the work begins. During site inspections, the presence of PAT inspection and approval labels on the electrical devices will be checked. Devices and equipment that do not bear a conformity label shall not be permitted for use. (Extension cords are also included in this scope.)
   - Care must be taken to prevent damage to electrical extension cords and to ensure that such cables do not come into contact with water. Extension cords and power cables of other electrical devices shall be checked daily. The use of damaged cables is not permitted.
   - MSDS sheets of repair mortars and similar materials must be checked by the workplace physicians and workers must be informed (inhalation, eye contact, etc.).
   - During the access of transit mixers to the work area, action must be taken in accordance

with the traffic action plan rules. During parking and operation, the access of unrelated workers near the transit mixer must be prevented with warning tapes.

- Personnel who will take part in formwork works must hold a Timber Formwork Worker Level 3 (11UY0011-3) certificate.
- Personnel who will take part in concrete pouring works must hold a Concrete Worker Level 3 (12UY0049-3) certificate.

7. After the completion of the rough construction, repair works begin. Plastering, painting, insulation, etc. applications on the interior and exterior surfaces of the strengthening shear walls, screed concrete and floor covering material arrangements on damaged floor surfaces, installation of electrical and mechanical installations, and if necessary, fabrication of doors and windows are carried out to complete the strengthening works.

Where required, mobile and fixed temporary work scaffolding shall be designed and constructed in compliance with TS EN 12811-1 and TS EN 12810-2 standards, in a manner that prevents accidental movement and collapse. Scaffolding components shall be designed to allow safe transportation, assembly, use, maintenance, dismantling, and stacking. The materials used shall comply with the requirements set out in TS EN 12810-1 and TS EN 12811-2, which provide the relevant design data, and shall be sufficiently strong and durable to withstand normal working conditions. All personnel working on scaffolding must have received working-at-height training, and the use of full-body safety harnesses and fall protection / fall arrest equipment shall be mandatory.

Major points to be considered at this stage are listed below:

- In necessary cases, mobile and fixed temporary work scaffolds that must be installed shall be designed and constructed in accordance with TS EN 12811-1 and TS EN 12810-2 standards, in a manner that prevents accidental movement and collapse.
- Scaffold components must be designed in a way that ensures safe transport, assembly, use, maintenance, disassembly, and storage.
- The materials used must meet the requirements specified in the TS EN 12810-1 and TS EN 12811-2 standards, in which the design data is given, and must be strong and durable enough to withstand normal working conditions.
- It is mandatory that all personnel working on these scaffolds have received working-at-height training and use full body safety harnesses and fall protection equipment.

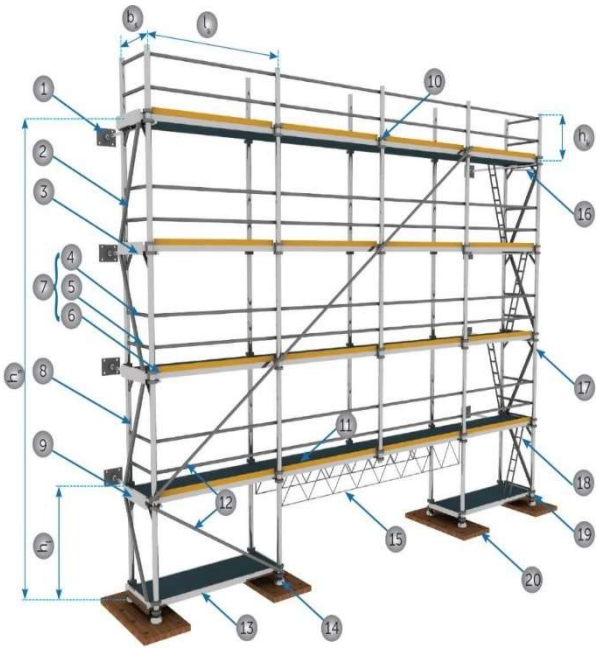


Figure 21 - Exterior Facade Scaffold Sample Image

- Personnel who will install scaffolding must hold a Scaffold Installer Level 3 (12UY0056-3) certificate.
- Personnel who will work on electrical installations must hold at minimum an Electrical Installer Level 3 (15UY0241-3) certificate.
- Personnel who will perform assembly on electrical panels and boards must hold at minimum an Electrical Panel Assembler Level 3 (12UY0075-3) certificate.
- During electrical panel/board assembly, torque-controlled screwdrivers and tightening equipment must be used. Appropriate tightening forces must be determined in advance according to the type of switchgear or screw-nut sizes and communicated to the responsible personnel.
- Personnel who will take part in the mechanical installation process must hold at minimum a Heating and Natural Gas Internal Installation Worker Level 3 (11UY0031-3) certificate.
- Personnel who will build walls must hold a Mason Level 3 (12UY0048-3) certificate.
- Personnel who will perform plastering must hold a Plasterer Level 3 (11UY0024-3) certificate.
- Personnel who will perform gypsum applications must hold a Gypsum Plaster Applicator Level 3 (12UY0055-3) certificate.
- Personnel who will take part in ceramic tile works must hold a Ceramic Tile Installer Level 3 (12UY0051-3) certificate.
- Personnel who will take part in painting works must hold a Construction Painter Level 3 (11UY0023-3) certificate.
- Personnel who will work on site must hold at minimum a Construction Worker Level 2 (16UY0253-2) certificate.
- MSDS sheets of repair mortars, paint, and similar chemicals must be checked by workplace physicians and workers must be informed (inhalation, eye contact, etc.).
- All personnel who will carry heavy loads must receive manual lifting and handling training.

Table 22 - Strengthening & Infrastructure Works Control Table

Task:	**Building Strengthening & Infrastructure Works**

WORK METHOD

Technical Description and Requirements

Construction Technique and Technology

- Explained under the subheading Building Strengthening and Infrastructure Works in 7 main items and their sub-items.

Use of Work Equipment

- BACKHOE LOADER
- TRANSIT MIXER
- TRUCK
- BREAKER DRILL
- SPIRAL
- MORTAR MIXER
- COMPRESSOR
- MOBILE CONCRETE MIXER
- REBAR BENDING MACHINE
- REBAR CUTTING MACHINE
- CORDLESS / STATIONARY DRILL
- CORDLESS SCREW / NUT DRIVER
- PHASE VOLTAGE DETECTOR
- MULTIMETER
- TORQUE-CONTROLLED SCREWDRIVER
- TORQUE-CONTROLLED TIGHTENER
- INDOOR SCAFFOLDING (MOBILE / FIXED)
- HAMMER & CHISEL
- CORDLESS SCREWDRIVER
- EXTENSION CABLE

Use of Chemical Substances

- CEMENT, PLASTER, EPOXY BINDER, PAINT, PAINT THINNER

Access to the Work Area

- The access route is provided in plan form under the heading Pre-Construction Information & Site Layout Plans.
  - The maximum speed limit for trucks within the campus is restricted to 20 km/h.
  - The maximum speed limit for mobile cranes within the campus is restricted to 20 km/h.

Transport & Supply of Materials

- Details regarding the lifting, transportation, and unloading of consumables and related technical materials are specified and explained under the subheading General Site Rules.

PPE – GENERAL	**Need for Trained Personnel**
• HELMET TS EN 397+A1 • EARPLUGS TS EN 352-2 • PROTECTIVE GOGGLES TS EN ISO 16321-3 • GENERAL PURPOSE WORK GLOVES TS EN ISO 21420 • WORK SHOES TS EN ISO 20347 • HALF FACE MASK TS EN 140 • FULL BODY SAFETY HARNESS EN 361 • ROPE BRAKING SYSTEM EN 353 • SAFETY HOOK EN 362 • FALL ARRESTER • SAFETY ROPES EN 355	**• MECHANICAL ENGINEER** **• ELECTRICAL ENGINEER** **• CIVIL ENGINEER** **• ARCHITECT** **• SCAFFOLDING ASSEMBLER LEVEL 3 (12UY0056-3)** **• ELECTRICAL INSTALLER LEVEL 3 (15UY0241-3)** **• HEATING AND NATURAL GAS INTERNAL INSTALLATION PERSONNEL LEVEL 3 (11UY0031-3)** **• BRICKLAYER LEVEL 3 (12UY0048-3)** **• PLASTERER LEVEL 3 (11UY0024-3)** **• GYPSUM PLASTER APPLICATOR LEVEL 3 (12UY0055-3)** **• CERAMIC TILE INSTALLER LEVEL 3 (12UY0051-3)** **• CONSTRUCTION PAINTER LEVEL 3 (11UY0023-3)** **• CONSTRUCTION WORKER LEVEL 2 (16UY0253-2)**

Table 23 - Risk Analyses

TASK	SOURCE OF HAZARD	RISKS	MEASURE
Natural Gas Line Interventions	▪ Gas Leak and Explosion	▪ Trauma ▪ Severe burns ▪ Limb loss ▪ Death	▪ Before excavation, it must be verified through İGDAŞ that there are no natural gas pipelines in the area. ▪ Natural gas pipelines must be shut off prior to intervention and safeguarded using the LOTO (Lockout Tagout) system. ▪ Interventions on existing pipelines or new installations shall be conducted under the supervision of a Natural Gas Infrastructure Construction Control Personnel Level 4 (12UY0042-4). ▪ Personnel involved must wear safety shoes, protective goggles, helmet, dust mask, and earplugs. ▪ The work area shall be cordoned off with safety tapes and the riskS shall be visibly posted with warning signs.
Wall Demolition	▪ Being trapped under heavy load ▪ Electric shock	▪ Crushing ▪ Trauma ▪ Electric shock	▪ The risk of electrical wiring within structural elements to be demolished must be taken into consideration. The power supply to the area must be cut; the power needs of breakers, drills, etc. must be met from other lines. ▪ In the case of power cut, LOTO (Lockout-Tagout) rules must be applied. ▪ Before starting the work, the presence of sockets, switches, commutators, junction boxes, etc. on the wall must be checked, and dismantling of equipment and cables must be carried out in accordance with the instructions of the Electrical Engineer. ▪ Before demolition, it must be confirmed with a phase voltage detector that there is no power at sockets, junction boxes, and switches. ▪ All breaking and drilling equipment to be used must have passed PAT tests and confirmed to be electrically safe. ▪ Necessary care must be taken to ensure that electrical extension cables are not damaged and do not come into contact with water. Extension cables and other electrical device power cords must be checked daily. Damaged cables are not allowed to be used. ▪ The opposite sides of the walls to be demolished must be separated with safety barriers and warning signs must be installed. ▪ Walls must not be demolished as a whole but must be demolished in a controlled manner in parts. ▪ Personnel on duty must wear work shoes, protective goggles, helmets, dust masks, and earplugs.

TASK	SOURCE OF HAZARD	RISKS	MEASURE
Wall demolition	▪ Falling of heavy objects from height. ▪ Falling of workers from height.	▪ Head and body trauma ▪ Death	▪ The building perimeter shall be separated with safety barriers and warning signs. ▪ High-risk areas where wall debris may fall shall be identified before the work begins and shall be monitored by responsible personnel. ▪ Personnel involved in wall demolition shall use full body harnesses and fall arrest equipment. These safety devices shall be attached to lifelines anchored to secure structures. (Such personnel must receive working-at-height training.) ▪ The demolished wall sections shall be secured with temporary guardrails and warning tape/signage until new walls are installed. If night work is to be carried out, these tapes and signs must be reflective. ▪ All personnel involved must wear safety shoes, protective goggles, helmets, dust masks, and earplugs.
Perimeter opening around shear walls and column jackets	▪ Construction machinery (Concrete breaker, excavator)	▪ Injury due to collision during maneuvering of construction machinery. ▪ Limb entrapment or cuts during machine adjustment or part replacement .	▪ The suitability of the construction machinery must be verified with a periodic inspection report. ▪ efore starting the construction machinery, the operator must visually inspect it and evaluate any physical defects. ▪ Construction machinery must be functionally inspected by the operator before each use. (e.g., reverse maneuver warning siren, warning/alert lights, etc.) ▪ The construction machinery may only be operated by an authorized operator. Operator's vocational qualification certificates must be checked and verified. ▪ No personnel other than authorized personnel and experts (e.g., operator, mechanical engineer) are allowed to intervene with the construction machinery. ▪ The working area of the construction machinery must be demarcated with safety tapes, and it must be clearly indicated by warning signs that approaching the machinery is prohibited. ▪ Personnel involved must wear safety shoes, protective goggles, helmets, dust masks, and ear protection.
Perimeter opening around shear walls and column jackets	Pit	▪ Injury resulting from falling into the pit.	▪ Warning tapes and signs must be installed around the excavated areas. If work is carried out at night, these tapes and signs must be reflective.

TASK	SOURCE OF HAZARD	RISKS	MEASURE
Driving anchor rods into existing columns, beams, and foundation	▪ Rusty metal ▪ Sharp, pointed edges ▪ Use of electrical tools	▪ Serious trauma due to cuts and punctures ▪ Tetanus ▪ Respiratory ailments ▪ Foreign bodies/small particles in the eyes Electric shock	▪ All electric equipment used in drilling and rebar cutting must undergo PAT testing and be verified as electrically safe. ▪ Extension cords and equipment power cables must be physically protected. Cables should not be left lying loosely on the ground, and wheelbarrows or workers must not be allowed to pass over them. Cables must not be left in puddles. ▪ Electrical equipment must be visually inspected before use, and any device with physical defects must be removed from service. ▪ Areas where anchor rods are installed must be marked with warning tapes and signs. If work is performed at night, such tapes and signs must be reflective. ▪ Workers must be vaccinated against tetanus. (The Workplace Physician should inform employees during training about infections and tetanus risks caused by rusty metals.) All employees must use appropriate protective gloves. ▪ The necessity of an eye wash station against dust and chemical exposure must be determined by the Workplace Physician. ▪ Personnel handling reinforcement steel must hold the Reinforced Concrete Steel Fixer Level 3 (11UY0012-3) certificate. ▪ Sharp, pointed edges must be beveled using appropriate cutting tools or grinders. Unbeveled sharp ends must be fitted with rubber bumpers. ▪ Personnel on duty must wear safety shoes, protective goggles, helmet, dust mask, and ear protection.
Driving anchor rods into existing columns, beams, and foundation	Epoxy adhesives	▪ Ailments caused by chemical contact.	▪ MSDSs of epoxy adhesives must be checked by workplace physicians, and employees must be informed (volatile properties, eye contact, etc.). ▪ The necessity of an eye wash station against dust and chemical use must be determined by the workplace physician.

TASK	SOURCE OF HAZARD	RISKS	MEASURE
Placement of reinforcement elements	▪ Metal, cutting, bending ▪ Rusty metal ▪ Sharp, pointed parts ▪ Use of electrical tools	▪ Serious trauma due to cuts or punctures ▪ Limb entrapment ▪ Tetanus ▪ Respiratory disorders ▪ Entry of debris/small particles into the eye Electric shock	▪ Personnel who will process reinforcement bars must hold the Reinforced Concrete Ironworker Level 3 (11UY0012-3) certificate. ▪ Cutting and bending of reinforcement bars requires that all electrical equipment be subjected to PAT tests and verified to be electrically safe. ▪ Extension cords and power cables must be physically protected. Cables must not be left loosely on the ground, nor should wheelbarrows or workers be allowed to pass over them. Cables must not be left in puddles. ▪ Before use, electrical equipment must be visually inspected, and any devices with physical defects must be taken out of service. ▪ When the electric rebar bending device is USABLE, protective gloves must be removed before performing work near the bending heads. ▪ Sharp and pointed ends must be chamfered using appropriate cutting tools or grinders. For sharp and pointed ends that cannot be chamfered, rubber buffers must be installed. ▪ Personnel assigned to the task are required to use safety shoes, protective goggles, helmet, dust mask, and ear protection.
Placement of reinforcement elements	Temporary work scaffold	▪ Fall from height ▪ Traumas caused by impact from falling objects from height	▪ It is essential that all scaffolds to be erected, regardless of their size, comply with the requirements of the TS EN 12811-1 standard. All personnel working on said scaffolds must have received working at height training and must use full-body safety harnesses and fall arrest equipment. ▪ Personnel assigned to the task are required to use safety shoes, protective goggles, helmet, dust mask, and ear protection.

TASK	SOURCE OF HAZARD	RISKS	MEASURE
Concrete batching plant	▪ Temporary work scaffold ▪ Use of electrical equipment ▪ Use of chemical substances	▪ Fall from height ▪ Traumas caused by impact from falling objects from height ▪ Health issues due to chemical exposure ▪ Electric shock	▪ Personnel assigned to formwork operations must hold the Carpenter – Timber Formwork Level 3 (11UY0011-3) certificate. ▪ Personnel assigned to concrete casting operations must hold the Concrete Worker Level 3 (12UY0049-3) certificate. ▪ It is essential that all scaffolds to be erected, regardless of their size, comply with the requirements of the TS EN 12811-1 standard. All personnel working on said scaffolds must have received working at height training and must use full-body safety harnesses and fall arrest equipment. ▪ All electrical equipment such as vibrators must be subjected to PAT tests and verified to be electrically safe. ▪ Extension cords and power cables must be physically protected. Cables must not be left loosely on the ground, nor should wheelbarrows or workers be allowed to pass over them. Cables must not be left in puddles. ▪ Material Safety Data Sheets (MSDS) of repair mortars and similar materials must be reviewed by Workplace Physicians and workers must be informed (regarding inhalation, eye contact, etc.). ▪ Personnel assigned to the task are required to use safety shoes, protective goggles, helmet, dust mask, and ear protection.
Wall construction	▪ Heavy load handling ▪ Chemical substances ▪ Temporary work scaffold	▪ Orthopedic disorders ▪ Health issues due to chemical exposure ▪ Fall from height ▪ Traumas caused by impact from falling objects from height	▪ Personnel assigned to wall construction must hold the Bricklayer Level 3 (12UY0048-3) certificate. ▪ It is essential that all scaffolds to be erected, regardless of their size, comply with the requirements of the TS EN 12811-1 standard. All personnel working on said scaffolds must have received working at height training and must use full-body safety harnesses and fall arrest equipment. ▪ Material Safety Data Sheets (MSDS) of mortar and similar materials must be reviewed by Workplace Physicians, and workers must be informed (regarding inhalation, eye contact, etc.). ▪ Personnel assigned to the task are required to use safety shoes, protective goggles, helmet, dust mask, and ear protection.

TASK	SOURCE OF HAZARD	RISKS	MEASURE
FRP Works	Grinding dust (concrete/silica)	▪ Respiratory disorders ▪ Eye irritation / foreign particle intrusion ▪ Noise exposure	▪ Dust-free grinding (wet system) ▪ Restricting dusty work areas ▪ Limiting noise exposure levels ▪ Mandatory use of PPE by assigned personnel including safety footwear, protective goggles, P3-class particulate respirator or full-face mask, and hearing protection
FRP Works	Temporary work scaffolds or platforms	▪ Falls from height ▪ Trauma caused by falling objects	▪ All scaffolds, regardless of size, must comply with TS EN 12811-1 standard requirements ▪ Personnel working on scaffolds must be trained for working at height and must use full body harnesses and fall-arrest systems ▪ Secure fastening of materials and installation of toe boards ▪ Mandatory use of PPE including safety footwear, protective goggles, helmet, dust mask, and hearing protection
FRP Works	Epoxy chemical exposure	▪ Skin burns ▪ Allergic reactions	▪ Use of PPE (full face shield, nitrile/elastomer gloves, long-sleeved antistatic clothing) ▪ Availability of chemical spill response kits
FRP Works	Ergonomic load (manual handling, repetitive motion)	▪ Musculoskeletal disorders	▪ Breaks and task rotation ▪ Adjustable work platforms ▪ OHS ergonomic manual handling training ▪ PPE use (gloves, steel-toe footwear, helmet)
FRP Works	Cutting tools and FRP fabric cutting	▪ Hand lacerations ▪ Wrist strain	▪ Use of PPE (cut-resistant gloves) ▪ Wrist support equipment

TASK	SOURCE OF HAZARD	RISKS	MEASURE
Concrete batching plant	▪ Temporary work scaffold ▪ Use of electrical equipment Use of chemical substances	▪ Fall from height ▪ Traumas caused by impact from falling objects from height ▪ Health issues due to chemical exposure ▪ Electric shock	▪ Personnel assigned to formwork operations must hold the Carpenter – Timber Formwork Level 3 (11UY0011-3) certificate. ▪ Personnel assigned to concrete casting operations must hold the Concrete Worker Level 3 (12UY0049-3) certificate. ▪ It is essential that all scaffolds to be erected, regardless of their size, comply with the requirements of the TS EN 12811-1 standard. All personnel working on said scaffolds must have received working at height training and must use full-body safety harnesses and fall arrest equipment. ▪ All electrical equipment such as vibrators must be subjected to PAT tests and verified to be electrically safe. ▪ Extension cords and power cables must be physically protected. Cables must not be left loosely on the ground, nor should wheelbarrows or workers be allowed to pass over them. Cables must not be left in puddles. ▪ Material Safety Data Sheets (MSDS) of repair mortars and similar materials must be reviewed by Workplace Physicians and workers must be informed (regarding inhalation, eye contact, etc.). ▪ Personnel assigned to the task are required to use safety shoes, protective goggles, helmet, dust mask, and ear protection.
Wall construction	▪ Heavy load handling ▪ Chemical substances Temporary work scaffold	▪ Orthopedic disorders ▪ Health issues due to chemical exposure ▪ Fall from height ▪ Traumas caused by impact from falling objects from height	▪ Personnel assigned to wall construction must hold the Bricklayer Level 3 (12UY0048-3) certificate. ▪ It is essential that all scaffolds to be erected, regardless of their size, comply with the requirements of the TS EN 12811-1 standard. All personnel working on said scaffolds must have received working at height training and must use full-body safety harnesses and fall arrest equipment. ▪ Material Safety Data Sheets (MSDS) of mortar and similar materials must be reviewed by Workplace Physicians, and workers must be informed (regarding inhalation, eye contact, etc.). ▪ Personnel assigned to the task are required to use safety shoes, protective goggles, helmet, dust mask, and ear protection.

TASK	SOURCE OF HAZARD	RISKS	MEASURE
Electrical installation	▪ Temporary work scaffold Electricity	▪ Fall from height ▪ Traumas caused by impact from falling objects from height ▪ Electric shock	▪ Personnel working on electrical installations must at minimum hold the Electrical Installer Level 3 (15UY0241-3) certificate. ▪ Personnel performing electrical panel and board installations must at minimum hold the Electrical Panel Installer Level 3 (12UY0075-3) certificate. All electrical works shall be carried out under the supervision of a responsible Electrical or Electrical-Electronics Engineer. ▪ Torque-controlled screwdrivers and fastening tools must be used during electrical panel/board installation. Appropriate torque values must be predetermined based on the type of switchgear or screw/nut sizes and communicated to responsible personnel. ▪ All personnel involved must use insulated electrical gloves and work shoes suitable for low voltage safety limits. The compliance of such PPE must be specifically verified by the OHS Specialist based on relevant standards and CE markings. ▪ It is essential that all scaffolds to be erected, regardless of their size, comply with the requirements of the TS EN 12811-1 standard. All personnel working on said scaffolds must have received working at height training and must use full-body safety harnesses and fall arrest equipment.

TASK	SOURCE OF HAZARD	RISKS	MEASURE
Lighting fixture installation	▪ Temporary work scaffold Electricity	▪ Fall from height ▪ Traumas caused by impact from falling objects from height ▪ Electric shock	▪ Personnel performing the work must, at minimum, hold the Electrical Installer Level 3 (15UY0241-3) certificate. ▪ Before installing the lighting fixture, the relevant line must be de-energized via the switchgear and secured using the LOTO system. ▪ Before dismantling, it must be verified using control devices such as a phase voltage detector that power has been cut at switches, commutators, etc., where electrical energy was previously supplied. ▪ It is essential that all scaffolds to be erected, regardless of their size, comply with the requirements of the TS EN 12811-1 standard. All personnel working on said scaffolds must have received working at height training and must use full-body safety harnesses and fall arrest equipment. ▪ All assigned personnel must use electrically insulated gloves and work shoes suitable for low voltage safety limits. The compliance of such PPE must be specifically verified by the OHS Specialist based on relevant standards and CE markings.

TASK	SOURCE OF HAZARD	RISKS	MEASURE
Gypsum plaster application	▪ Temporary work scaffold ▪ Chemical substance Electricity	▪ Fall from height ▪ Traumas caused by impact from falling objects from height ▪ Electric shock ▪ Health issues due to chemical exposure	▪ Personnel performing gypsum / plaster works must hold the Gypsum Plaster Applicator Level 3 (12UY0055-3) certificate. ▪ It is essential that all scaffolds to be erected, regardless of their size, comply with the requirements of the TS EN 12811-1 standard. All personnel working on said scaffolds must have received working at height training and must use full-body safety harnesses and fall arrest equipment. ▪ All electrical equipment, such as inspection lights and mixers, must be subjected to PAT tests and verified to be electrically safe. ▪ Extension cords and power supply cables must be physically protected. Cables must not be left loosely on the ground, nor should wheelbarrows or workers be allowed to pass over them. Cables must not be left in puddles. ▪ Material Safety Data Sheets (MSDS) for repair mortars, gypsum, plaster, and similar materials must be reviewed by Workplace Physicians, and workers must be informed (regarding inhalation, eye contact, etc.). ▪ Personnel assigned to the task are required to use safety shoes, protective goggles, helmet, dust mask, and ear protection.

TASK	SOURCE OF HAZARD	RISKS	MEASURE
Painting	▪ Temporary work scaffold ▪ Chemical substance Electricity	▪ Fall from height ▪ Traumas caused by impact from falling objects from height ▪ Electric shock ▪ Health issues due to chemical exposure	▪ Personnel assigned to painting works must hold the Construction Painter Level 3 (11UY0023-3) certificate. ▪ It is essential that all scaffolds to be erected, regardless of their size, comply with the requirements of the TS EN 12811-1 standard. All personnel working on said scaffolds must have received working at height training and must use full-body safety harnesses and fall arrest equipment. ▪ All electrical equipment, such as inspection lighting and mixers, must be subjected to PAT tests and verified to be electrically safe. ▪ Extension cords and power cables must be physically protected. Cables must not be left loosely on the ground, nor should wheelbarrows or workers be allowed to pass over them. Cables must not be left in puddles. ▪ Material Safety Data Sheets (MSDS) for repair mortars, paint, solvents, and similar materials must be reviewed by Workplace Physicians, and workers must be informed (regarding inhalation, eye contact, etc.). ▪ Personnel assigned to the task are required to use safety shoes, protective goggles, helmet, dust mask, and ear protection.
Ceramic tile and similar flooring works	▪ Chemical substance Electricity	▪ Electric shock ▪ Health issues due to chemical exposure	▪ Personnel assigned to ceramic tile works must hold the Ceramic Tile Installer Level 3 (12UY0051-3) certificate. ▪ All electrical equipment such as mixers, breakers/drills must be subjected to PAT tests and verified to be electrically safe. ▪ Extension cords and power supply cables must be physically protected. Cables must not be left loosely on the ground, nor should wheelbarrows or workers be allowed to pass over them. Cables must not be left in puddles. ▪ Material Safety Data Sheets (MSDS) for adhesives and similar materials must be reviewed by Workplace Physicians, and workers must be informed (regarding inhalation, eye contact, etc.). ▪ Personnel assigned to the task are required to use safety shoes, protective goggles, helmet, dust mask, and ear protection.

TASK	SOURCE OF HAZARD	RISKS	MEASURE
Mechanical installation	Electricity	▪ Electric shock	▪ Personnel assigned to mechanical installation works must, at minimum, hold the Heating and Natural Gas Indoor Installation Technician Level 3 (11UY0031-3) certificate. ▪ All electrical equipment must be subjected to PAT tests and verified to be electrically safe. ▪ Extension cords and power supply cables must be physically protected. Cables must not be left loosely on the ground, nor should wheelbarrows or workers be allowed to pass over them. Cables must not be left in puddles. ▪ Personnel assigned to the task are required to use safety shoes, protective goggles, helmet, dust mask, and ear protection.

8.1.2 Energy Efficiency

Energy efficiency–focused renovation components are outlined below.

Based on calculations conducted within the campus and considering the existing consumption values, it has been determined that a total installation of 3,000 kWe PV capacity would be sufficient for the 25 buildings (Group 1, Group 2, Group 3, and Group 4) within the scope.

Upon reviewing the potential areas for the installation of solar power plants within the campus, it has been observed that the area shown in Figure 39 is the most suitable location in terms of implementation feasibility and shading conditions.

Although the solar power plants will be ground-mounted systems, construction safety nets will be used during works to prevent hazards related to falling persons or materials. This preventive measure to mitigate fall risks at construction sites must comply — in terms of raw materials, production method, and application — with TSE 1263-1 and TSE 1263-2 standards.

Safety nets are considered among the most effective general safety measures within passive fall-arrest systems.

- **Electricity generation via ground-mounted photovoltaic (PV) systems**

Figure 22 - Fırat Üniversity PV Layout

- All works must be carried out under the supervision of an authorized Electrical or Electronics Engineer.
- All personnel involved must have completed working-at-height training.
- All personnel must use full body safety harnesses and fall-arrest equipment.
- Installation of a horizontal lifeline system is required for anchoring fall-arrest equipment.
- Trucks and mobile cranes used for transporting panels must operate in accordance with the Traffic Management Plan.
- During mobile crane lifting operations, the lifting path must be secured (preventing entry into areas exposed to falling hazards).
- Inspection reports for mobile cranes, shackles, and slings must be checked and compliance verified.
- The operator license of the personnel controlling the mobile crane must be checked and verified.
- Personnel installing tag lines and lifting slings must hold Signaller Level 2 (15UY0218-2) / Rigger certification.
- All electrical hand tools (mobile concrete mixer, vibrator, concrete pump, etc.) must have undergone PAT testing. PAT test reports shall be requested and verified prior to work. During site inspections, the presence of PAT inspection and approval labels on equipment shall be checked. Equipment without valid compliance labels shall not be permitted for use (including extension cables).
- Personnel working on electrical installations must hold at minimum Electrical Installer Level 3 (15UY0241-3) certification.
- Personnel performing installation on electrical panels/boards must hold at minimum Electrical Panel Assembler Level 3 (12UY0075-3) certification.
- Torque-controlled screwdrivers and tightening equipment must be used during panel/board installation. Appropriate torque values shall be predefined according to switchgear type or bolt/nut dimensions and communicated to responsible personnel.
- The electrical grounding system must be reported by authorized Electrical or Electronics Engineers.
- Insulated work gloves (suitable for low-voltage conditions) and insulated safety footwear must be used to prevent electric shock.

Table 24 - Ground-Mounted Solar Power Plant (SPP) Implementation Control Table

Task:	Installation of the Photovoltaic Energy System

WORK METHOD

Technical Description and Requirements

Construction Technique and Technology

- PV panels, solar inverters, and structural support components will be transported to the site by trucks. All equipment will be securely fastened to the truck in a safe manner. After the supporting structural mounting bases are installed and securely anchored to the ground, the superstructure will be assembled. The PV panels, transported by crane, shall be fixed to the structure in accordance with the approved project design. The power and grounding cables shall be connected via connectors and linked to the inverter mounted on the main panel and to the solar panels. Finally, testing, commissioning, and acceptance shall be carried out.
- Truck
- Mobile crane
- Load handling equipment (lifting eyes, slings, hooks, chains)
- Torque wrench
- Cordless drill
- Screwdriver set
- Multimeter
- Cable cutting and stripping hand tools (cutter, pliers, needle-nose pliers, etc.)

Use of Chemical Substances

- None

Access to the Work Area

- The access route is presented in the form of a layout under the General Construction Technique section.
  - The maximum speed limit for trucks within the campus is restricted to 20 km/h.
  - The maximum speed limit for mobile cranes within the campus is restricted to 20 km/h.

PPE – GENERAL	**Need for Trained Personnel**
1. EN 397 Safety Helmet 2. EN 420 Insulated Gloves 3. EN 345 Insulated Safety Shoes (200J) 4. EN 340 General Workwear 5. Full Body Safety Harness (EN 361) 6. Rope Fall Arrest System (EN 353) 7. Safety Hook (EN 362) 8. Fall Arrest Lanyard (EN 355)	1. Electrical-Electronics Engineer 2. Truck Driver with Class C Driver's License 3. Mobile Crane Operator (Qualification Code: 13UY0172-3 | Level 3) 4. Signalman (Qualification Code: 15UY0218-2 | Level 2) 5. Electrical Panel Installer (Qualification Code: 12UY0075-3 | Level 3)

Table 25 - Ground-Mounted PV System Implementation Risk Assessment

TASK	HAZARD	RISK	MEASURE
Material Transport	Truck	Injury or fatality due to traffic accident	▪ Trucks shall be operated by personnel holding a Class C driver's license. ▪ The urban speed limit (50 km/h) shall not be exceeded. ▪ The speed limit within the campus area is restricted to 20 km/h. On-site movements and maneuvers shall be monitored by the OHS Specialist.
Material Transport	PV panels and mounting components	Injury or fatality due to tipping over of PV panels or components	▪ All materials shall be placed in a balanced manner at the center of the truck bed, taking into account their center of gravity. ▪ Units shall be secured with slings. ▪ Mounting components shall be transported packaged on pallets. ▪ The side and rear gates of the truck shall be closed and secured.
Material transport and unloading	Mobile Crane & lifting equipment	Injury or fatality due to dropped load during lifting, transporting, or unloading	▪ The crane shall be operated only by a certified Mobile Crane Operator (Qualification Code: 13UY0172-3 | Level 3). ▪ Slings and load guidance shall be performed by certified signalmen. ▪ The crane's periodic inspection report shall be checked and verified by the OHS Specialist prior to work. (It must be issued within a maximum of 6 months.) ▪ The periodic inspection reports for slings, chains, lifting eyes, and hooks shall be checked and verified by the OHS Specialist prior to work. (It must be issued within a maximum of 6 months.) ▪ Slings, lifting eyes, and hooks shall be visually inspected before work. Load capacity and physical condition must be verified. ▪ The hydraulic stabilizing legs of the mobile crane shall be fixed securely to the ground. ▪ Prior to lifting, the main boom angle of the mobile crane and its corresponding lifting capacities must be checked. ▪ The load shall be guided by the signalman using a guide rope. ▪ Access to the work area shall be restricted during lifting and transport operations. Passing under suspended loads is strictly prohibited. ▪ Warning signs shall be installed. ▪ All operations shall be subject to the WORK PERMIT SYSTEM.

TASK	HAZARD	RISK	MEASURE
PV Panel Installation Works	Working at height	Falls from height, falling materials	• Workers must receive Rope Access and Working at Height Training prior to starting work. Training shall be delivered by experts holding at least IRATA (Industrial Rope Access Trade Association) International Level 2 certification. • The installation area shall be marked with safety tape to prevent entry of workers and third parties. • During work at height, particularly along edge lines (within 1 m), restraint systems (horizontal lifelines) shall be used. • Materials to be installed shall not be stored at edges and shall be secured using loose-material fixing nets when not in use.
PV Panel and Structure Installation	Installation works	Limb cuts or crushing during installation of PV panels and structures	• Installation of PV panels and supporting structures shall be carried out by a Mechanical Assembler (Vocational Qualification: 12UY0105-3 | Level 3). • Hard hats and general protective work gloves shall be used throughout installation to prevent head and hand injuries.
Line de-energization and re-energization via electrical panel	Line de-energization and re-energization via electrical panel	Line de-energization and re-energization via electrical panel	• Panel intervention shall be carried out under the supervision of an Electrical or Electronics Engineer by at least an Electrical Panel Assembler (Vocational Qualification: 12UY0075-3 | Level 3). • After de-energization, absence of voltage in the neutral and grounding lines shall be verified using a multimeter. • Prior to disconnecting existing connections or making new connections, absence of voltage shall be reconfirmed using a multimeter. • The relevant panel shall be locked and tagged. • During electrical works, 1 kV insulated gloves compliant with EN 60903:2003 and insulated electrician safety footwear compliant with EN 344 shall be used, and an insulating mat (EN 60243-1) or platform (EN 60243-1) shall be placed on the working surface. • Works shall be carried out by at least two technical personnel, who shall not physically contact each other during operations. • Technical personnel performing these works shall receive training and drills on the effects of electric shock and first response procedures.
PV Panel and Structure Installation	PV Panel and Structure Installation	PV Panel and Structure Installation	• Installation of PV panels and supporting structures shall be carried out by a Mechanical Assembler (Vocational Qualification: 12UY0105-3 | Level 3). • Hard hats and general protective work gloves shall be used during installation to prevent head and hand injuries.

TASK	HAZARD	RISK	MEASURE
Outdoor Work	Excessive Heat	Heat Stress	• Shade • Breaks • Fluid Consumption
Outdoor Work	Lightning	Electric Shock	• No work shall be carried out during stormy weather
Outdoor Work	Wind	Injury due to panel being blown away	• Work shall be carried out within wind speed limits
Outdoor Work	Snakes, Scorpions, Ticks, Insects	Allergic reactions, stings, disease	• First Aid Kit • Use of PPE

- **Rooftop Facility**

▪ All works shall be carried out under the supervision of a qualified Mechanical Engineer.
▪ The truck to be used for transporting rooftop units and mechanical installation components shall operate in accordance with the Traffic Management Plan.
▪ Personnel involved in mechanical installation works must hold at minimum Heating and Natural Gas Internal Installation Construction Personnel Level 3 (11UY0031-3) certification.
▪ Suitability of the mobile crane used for lifting and transporting the rooftop unit shall be verified through periodic inspection reports issued by authorized Mechanical Engineers.
▪ Operator certificates of crane operators shall be verified.
▪ During the renovation process, the rooftop installation area and the surroundings of the heating center shall be cordoned off with safety tape to prevent entry of unauthorized personnel.
▪ Personnel performing electrical installation and panel assembly works must hold at minimum Electrical Panel Assembler Level 3 (12UY0075-3) certification.
▪ The electrical grounding system shall be reported by authorized Electrical or Electronics Engineers.
▪ Insulated work gloves (suitable for low-voltage conditions) and insulated safety footwear shall be used to prevent electric shock.
▪ All personnel handling heavy loads must receive manual lifting and handling training.

Table 26 - Control Tablo for Rooftop Facility

Task	Rooftop Facility
WORK METHOD	
Technical Description and Requirements **Construction Technique and Technology** – Existing motor power shall be disconnected. Using an appropriately sized screwdriver, electrical connections shall first be removed, followed by the removal of fastening connections, and components shall be stacked on the ground. Pumps shall be removed using suitable hand tools and stacked on the ground. Motor and pump components shall be fixed to the pipeline in accordance with the project specifications, and electrical connections shall be completed as specified by the manufacturer. – During panel installation, ferrules of appropriate size shall be used and live wire ends shall not be left exposed. **Use of Work Equipment** – Truck, Mobile Crane – Electric Hand Tools (pliers, voltage tester, screwdriver, etc.) – Rotary Hammer Drill – Angle Grinder – Torque Wrench – Multimeter **Use of Chemical Substances** – Mechanical System Oils **Access to the Work Area** – Heat center is in the building **Transportation of Materials** - Trucks may operate within the campus at a maximum speed of 20 km/h. A Traffic Management Plan has been established.	
PPE – GENERAL	**Need for Trained Personnel**

1. EN 397 Safety Helmet 2. EN 420 General Purpose Gloves 3. EN 345 Safety Shoes (200J) EN 340 General Workwear	1. Truck Driver with Class C Driver's License 2. Mobile Crane Operator (Qualification Code: 13UY0172-3 | Level 3) 3. Signalman (Qualification Code: 15UY0218-2 | Level 2) 4. Heating and Natural Gas Indoor Installation Technician Level 3 (11UY0031-3) Electrical Panel Installer (Qualification Code: 12UY0075-3 | Level 3)

Table 27 - Rooftop Facility Risk Analyses

TASK	HAZARD	RISK	MEASURE
Material Transport	Truck	Injury or fatality due to traffic accident	▪ The truck shall be operated by personnel holding a Class C driver's license. ▪ The urban speed limit (50 km/h) shall not be exceeded. ▪ The speed limit within the building campus area is restricted to 20 km/h. On-site movement and maneuvers shall be supervised by the OHS Specialist.
Material Transport	PV Panels and Mounting Components	Injury or fatality due to tipping over of PV panels or components	▪ in a balanced manner at the center of the truck bed, taking the center of gravity into account. ▪ Units shall be secured with slings. ▪ Mounting components shall be transported packaged on pallets. ▪ The side and rear gates of the truck shall be closed and securely fastened.
Material Transport and Unloading	Mobile Crane & Lifting Equipment	Injury or fatality due to dropped load during lifting, transport, or unloading	▪ The crane shall only be operated by a certified Mobile Crane Operator (Qualification Code: 13UY0172-3 | Level 3). ▪ Slings and load guidance shall be performed by certified signalmen. ▪ The crane's periodic inspection report shall be checked and verified by the OHS Specialist before operation. (The report must be issued within a maximum of 6 months.) ▪ Periodic inspection reports for slings, chains, lifting eyes, and hooks shall be checked and verified by the OHS Specialist before operation. (The report must be issued within a maximum of 6 months.) ▪ Slings, lifting eyes, and hooks shall be visually inspected prior to use. Load capacity and physical condition shall be confirmed. ▪ The mobile crane's hydraulic stabilizing legs shall be securely fixed to the ground. ▪ Before the lifting operation, the crane boom angle and corresponding lifting capacities for that angle shall be checked. ▪ The load shall be guided by the signalman using a control rope. ▪ Access to the work area shall be restricted throughout the lifting and transport operation. Passing under suspended loads is strictly prohibited. ▪ Warning signs shall be installed. ▪ All operations shall be subject to the WORK PERMIT SYSTEM..

Cutting the Natural Gas Line	Natural Gas	Fire, explosion, and ignition	▪ The natural gas line must be shut off prior to dismantling and secured using the LOTO (Lockout-Tagout) system. ▪ The absence of natural gas must be confirmed using gas detection devices. ▪ After the new line connections are completed, gas must be restored in compliance with LOTO procedures. After opening the gas valves, the system must be checked for leaks using gas detection devices.
TASK	HAZARD	RISK	▪ MEASURE

▪ Renewal of the heating pumps located in the Heating Center with high-efficiency pumps (Variable-Speed Pumps) – Renewal of Mechanical Installations

- Personnel who will carry out motor line and panel switchgear equipment connections shall, at minimum, hold the Electric Panel Assembler Level 3 (12UY0075-3) qualification certificate.
- During electrical panel/board assembly, torque-controlled screwdrivers and tightening tools shall be used. Appropriate tightening torques shall be predetermined according to the type of switchgear equipment or the size of the bolt/nut and communicated to the responsible personnel.
- Insulated work gloves (suitable for low-voltage conditions) and insulated safety shoes shall be used to protect against electric shock.
- The LOTO (Lockout/Tagout) system shall be used to ensure panel safety.
- All personnel responsible for lifting and carrying heavy loads shall have received manual handling and lifting training.

Table 28 - Control Table for Building Circulation Pump Replacement Works

Task	Replacement of Heating Pumps with Variable-Speed Pumps

WORKING METHOD

Technical Description and Requirements –
Construction Technique and Technology

- – The power supply to the existing motor will be disconnected. Using appropriate screwdrivers and tightening tools, the electrical connections will first be removed, followed by the removal of the mounting connections, after which the unit will be placed on the floor in a stacked/secured position. The pumps will be dismantled using appropriate hand tools, removed from their position, and stacked on the floor. The motor–pump assembly will be fixed to the pipeline in accordance with the project design, and the electrical connections will be completed as specified by the manufacturer.
- – During panel assembly, appropriately sized ferrules shall be used, and no live wire ends shall be left exposed.

Use of Work Equipments

– Multimeter
– Electric hand tools (pliers, test pen, screwdriver, etc.)

Use of Chemical Substance

- – No chemical use is anticipated.

Access to Working Area

- – The Heating Center is located inside the building.

Transportation of Materials

- – Materials will be carried manually (**manual handling training must be provided**).

PPE – GENERAL	**Qualified Personnel Requirement**
1 EN 397 Safety Helmet 2 EN 420 Insulated Gloves 3 EN 345 Insulated Safety Shoes (200 J) 4 EN 340 General Workwear	1. Electric Panel Assembler (Qualification Code: 12UY0075-3 | Level 3)

Table 29 - Risk Analysis for Building Circulation Pump Replacement Works

TASK	HAZARD	RISK	MEASURE
Cutting the line power from the electrical panel	Cutting the line power from the electrical panel	Cutting the line power from the electrical panel	▪ Panel intervention shall be carried out by a Certified Electric Panel Assembler (Qualification Code: 12UY0075-3 | Level 3) under the supervision of an Electrical / Electrical-Electronics Engineer. ▪ During electrical works, 1 kV insulated gloves (EN 60903:2003) and insulated electrician's safety shoes (EN 344) shall be used; an insulated mat or platform (EN 60243-1) shall be placed beneath the worker. ▪ The work shall be performed by at least two technical personnel, and they shall avoid physical contact with each other during the task. ▪ Technical personnel shall receive training on electric shock hazards and first response, and a practical drill shall be conducted.
Re-energization after installation	Re-energization after installation	Re-energization after installation	▪ Panel intervention shall be carried out by a Certified Panel Assembler (Qualification Code: 12UY0075-3 | Level 3) under the supervision of an Electrical or Electrical-Electronics Engineer. ▪ During electrical works, 1 kV insulated gloves compliant with EN 60903:2003 and insulated electrician's safety shoes compliant with EN 344 shall be used; an insulated floor mat (EN 60243-1) or insulated platform (EN 60243-1) shall be placed under the worker. ▪ The work shall be performed by at least two technical personnel, and they shall avoid physical contact with each other during the operation. ▪ Technical personnel conducting the work shall receive training on the effects of electric shock and first-response procedures, and a practical drill shall be carried out.

- Replacement of non-LED luminaires with high-efficiency LED luminaires of the same size.
    - Personnel involved in luminaire replacement must hold, at minimum, the Electrical Installer Level 3 certificate (15UY0241-3).
    - To prevent electric shock, insulated gloves (suitable for low voltage conditions) and insulated safety shoes must be used.
    - Personnel performing internal panel connections must hold the Electrical Panel Installer certificate (12UY0075-3 | Level 3).
    - Use of the LOTO (Lockout-Tagout) system is required for panel safety.
    - If the lighting circuit's protective fuse is not labeled, labeling must be performed.
    - Mobile scaffolds must comply with TS EN 12811-1 standards. All personnel working on these scaffolds must have received working at height training and must use full-body safety harnesses and fall arrest equipment.
    - Personnel responsible for scaffold installation must hold the Scaffold Installation Operator Level 3 certificate (12UY0056-3).

Figure 23 - Mobile Scaffold Sample Illustration

Table 30 - Plan for the Completion of LED Conversion of Existing Lighting Fixtures

Task:	Completion of the LED Conversion of Existing Lighting Fixtures

WORK METHOD

Technical Description and Requirements

Construction Technique and Technology

- The power supply to the lighting fixture shall be cut off via the column and circuit line, and verified using a multimeter.
- Mounting screws of the existing lighting fixture shall be removed. Once the fixture is free, the terminal connections shall be exposed.
- The cable power connection shall be disconnected from the terminals using appropriately headed screws. The cable shall be visually inspected and made suitable for the new fixture connection.
- The new fixture shall be connected through the terminal block, the connection strength shall be checked manually, and the fixture shall be mounted to the ceiling using the mounting elements provided by the manufacturer.

Use of Work Equipment

– Electrical hand tools (pliers, voltage tester, screwdriver, etc.), H-type or L-type mobile scaffold

Use of Chemical Substances

– No use of any chemical substances is foreseen.
  - The newly supplied LED luminaires will be installed.

Access to the Work Area

– The work area is located at various points inside the building. Internal building access routes will be used.

Material Transport

– Materials will be carried by hand.

KKD – GENEL	**Need for Trained Personnel**
1. EN 397 Safety Helmet 2. EN 420 Insulated Electrical Gloves 3. EN 345 Insulated Work Shoes 4. EN 340 General Workwear 5. Full-Body Safety Harness (EN 361) 6. Rope Fall Arrest System (EN 353) 7. Safety Hook (EN 362) 8. Fall Arrest Lanyard (EN 355)	1. ELECTRICAL INSTALLER LEVEL 3 (15UY0241-3) 2 .ELECTRICAL PANEL INSTALLER (Qualification Code: 12UY0075-3 | Level 3)

Table 31 - Risk Analysis for the Completion of LED Conversion of Lighting Fixtures

TASK	HAZARD	RISK	MEASURE
Cutting Power via Electrical Panel	Power Panel, Line Cable	Injury or fatality due to electric shock caused by unauthorized re-energizing by others or technical issues	▪ Panel intervention shall be carried out by a certified Electrical Panel Installer (Qualification Code: 12UY0075-3 | Level 3) under the supervision of an Electrical or Electrical-Electronics Engineer. ▪ After the power is cut, the absence of voltage in the neutral and grounding lines shall be confirmed using a multimeter. ▪ The panel in question shall be locked and tagged in accordance with LOTO (Lockout-Tagout) procedures. ▪ Prior to disconnection of devices and making new connections, it shall be reconfirmed with a multimeter that there is no power.
Dismantling and Installation	Scaffold	Fall from height, Falling materials	▪ An H-type or L-type mobile scaffold shall be erected. The scaffold must comply with TS EN 1004-19 standards. Scaffold installation shall be performed by personnel certified as Scaffold Installation Operator (Qualification Code: 12UY0056-3 | Level 3). ▪ The installed mobile scaffold must be secured before work begins using the stabilizing components provided by the manufacturer. Working while the scaffold is in motion is strictly prohibited. ▪ Completed scaffold installations shall be inspected and approved by the Site OHS Specialist. Use of unapproved mobile scaffolds is prohibited. ▪ The scaffold must display signage indicating the maximum load capacity and warning signs. ▪ Toe boards shall be installed on the scaffold to prevent falling materials.
Dismantling, Installation, and Re-Energizing	Power panel, line cable	Electric shock during work inside the panel	▪ The dismantling and installation of luminaires shall be carried out by technical personnel holding the ELECTRICAL INSTALLER LEVEL 3 (15UY0241-3) qualification certificate. ▪ Prior to dismantling, the absence of electric current shall be verified using a multimeter. During this verification, not only the phase lines but also the grounding and neutral lines shall be checked. ▪ Panel intervention shall be performed by a certified ELECTRICAL PANEL INSTALLER (Qualification Code: 12UY0075-3 | Level 3) under the supervision of an Electrical or Electrical-Electronics Engineer. ▪ During electrical works, 1kV insulated gloves compliant with EN 60903:2003 and insulated electrician work shoes compliant with EN 344 shall be used. An insulating mat or platform compliant with EN 60243-1 shall be placed on the floor. ▪ Works shall be conducted by at least two technical personnel. These individuals shall not make physical contact with each other during the operation. ▪ Technical personnel assigned to the task shall receive training and participate in drills regarding the effects of electric shock and first aid response.

▪ The energy monitoring system and automation system shall be installed in accordance with the requirements of EN ISO 50001 Energy Management System, and their effectiveness shall be ensured.

▪ Personnel involved in the installation of the energy monitoring and automation systems shall hold, at minimum, the Automation Systems Installer Level 4 (12UY0076-4) qualification certificate.

▪ Insulated work gloves (suitable for low-voltage conditions) and insulated safety shoes shall be used to protect against electric shock.

▪ The LOTO (Lockout/Tagout) system shall be used to ensure panel safety.

Table 32 - Control Plan for Electronic Building Management System and Automation System Works

Task:	General Construction Technique for the Electronic Building Management System & Automation System
WORK METHOD	
Technical Description and Requirements **Construction Technique and Technology** – Control cables for central HVAC systems such as boilers and heat pumps, as well as flowmeter cables, shall be routed to the floor MCC & DCC panels. – Motor–pump control cables shall be routed to the floor MCC & DCC panels, and the frequency inverter connections shall be made. – Line differential pressure and temperature sensors shall be connected to the installation in accordance with the project design, and their signal cables shall be routed to the floor MCC & DCC panels. – Floor MCC & DCC cables shall be routed to the central panel, and the connections for switches and similar components shall be completed. **Use of Work Equipment** – No equipment usage is foreseen. **Use of Chemical Substances** – No use of any chemical substances is foreseen. **Access to the Work Area** – The work area is located in the basement of the building, and existing access routes will be used. **Material Transport** – It will be carried by hand.	
PPE – GENERAL	**Need for Trained Personnel**
1. EN 397 Safety Helmet 2. EN 420 General Purpose Gloves 3. EN 345 Safety Shoes (200J) 4. EN 340 General Workwear	1. Electric Panel Assembler (Qualification Code: 12UY0075-3 | Level 3) 2. Automation Systems Installer (12UY0076-4 | Level 4)

Table 33 - Risk Analysis for the Electronic Building Management System and Automation System

TASK	HAZARD	RISK	MEASURE
Cutting the line power from the electrical panel	Cutting the line power from the electrical panel	Cutting the line power from the electrical panel	▪ Panel intervention shall be carried out by a Certified Electric Panel Assembler (Qualification Code: 12UY0075-3 | Level 3) under the supervision of an Electrical or Electrical-Electronics Engineer. ▪ After the power is cut, the absence of voltage on the neutral and grounding lines shall be verified using a multimeter. ▪ The panel shall be locked and tagged (LOTO). ▪ Before removing device connections or making new connections, the absence of voltage shall again be verified using a multimeter. ▪ The work shall be performed by at least two technical personnel, and they shall avoid physical contact with each other during the task. ▪ Technical personnel performing this work shall receive training on the effects of electric shock and first-response procedures, and a practical drill shall be carried out.

• Insulation of Mechanical Installation Equipment Using Insulation Materials

• Personnel involved in the mechanical installation process shall hold, at minimum, the Heating and Natural Gas Internal Installation Technician Level 3 (11UY0031-3) qualification certificate.

Table 34 - Control Table for the Insulation of Equipment Using Appropriate Insulation Materials

Work:	Insulation of Mechanical Installations
WORK METHOD	
Technical Description and Requirements – **Construction Technique and Technology** ▪ Pre-fabricated insulation jackets, produced in appropriate dimensions, will be installed over the designated installation components and secured using jacket fastening cords/Velcro straps. **Use of Work Equipment** – No equipment usage is foreseen. **Use of Chemical Substances** – No use of any chemical substances is foreseen. **Access to Working Ares** – The work area is located in the basement level of the building. Internal circulation routes of the building will be used. **Transportation of Materials** – Materials will be transported manually.	
PPE – GENERAL	**Need for Trained Personnel**
1. EN 397 Industrial Safety Helmet 2. EN 420 Electrically Insulated Gloves 3. EN 345 Safety Work Shoes (Safety Footwear) 4. EN 340 General Work Clothing	Heating and Natural Gas Internal Installation Practitioner, Level 3 (11UY0031-3)

A specific risk list has not been deemed necessary for this matter. General risk assessment rules shall apply.

Prefabricated Light Steel Building Installation

- All works shall be carried out under the supervision of an authorized Civil Engineer.
- Personnel involved in mechanical installation works must hold at minimum Heating and Natural Gas Internal Installation Construction Personnel Level 3 (11UY0031-3) certification.
- All personnel must have completed working-at-height training.
- All personnel shall use full body safety harnesses and fall-arrest equipment.
- Trucks and mobile cranes used for transporting steel structures and panels shall operate in accordance with the Traffic Management Plan.
- During mobile crane lifting operations, the lifting path shall be secured (preventing entry into areas exposed to falling hazards).
- Inspection reports for mobile cranes, shackles, and slings shall be checked and compliance verified.
- Operator certificates of personnel controlling the mobile crane shall be checked and verified.
- Personnel installing tag lines and lifting slings must hold Signaller Level 2 (15UY0218-2) / Rigger certification.
- Personnel performing scaffold installation must hold Scaffolding Installer Level 3

(12UY0056-3) certification.

- All electrical hand tools (mobile concrete mixer, vibrator, concrete pump, etc.) must have undergone PAT testing. PAT reports shall be requested and verified prior to work. During site inspections, the presence of PAT inspection and approval labels on equipment shall be checked. Equipment without valid compliance labels shall not be permitted for use (including extension cables).
- Personnel working on electrical installations must hold at minimum Electrical Installer Level 3 (15UY0241-3) certification.
- ▪ Personnel performing installation on electrical panels/boards must hold at minimum Electrical Panel Assembler Level 3 (12UY0075-3) certification.
- ▪ The electrical grounding system shall be reported by authorized Electrical or Electronics Engineers.
- ▪ Insulated work gloves (suitable for low-voltage conditions) and insulated safety footwear shall be used to prevent electric shock.
- ▪ Personnel performing plaster works must hold Gypsum Plaster Applicator Level 3 (12UY0055-3) certification.
- Personnel working on site must hold at minimum Construction Worker Level 2 (16UY0253-2) certification.

Table 35 - Installation Works for Prefabricated Light Steel Building Control Table

Task:	**Installation Works for Prefabricated Light Steel Buildings**
WORK METHOD	
Technical Description and Requirements **Construction Technique and Technology** – Profile and load-bearing structural components manufactured in the factory and delivered to site shall be transported by trucks. All equipment shall be securely fastened to the trucks. After the ground concrete is cast, the columns, beams, floor, and wall system components delivered to the site shall be assembled sequentially onto the light steel frame using bolted and screwed connections, and subsequently clad with insulated panels. **Use of Work Equipment** – Backhoe Loader (Mini Excavator) – Transit Mixer – Truck – Crane (Mobile & Fixed) – Angle Grinder – Mortar Mixer – Compressor – Mobile Concrete Mixer – Rebar Bending Machine – Rebar Cutting Machine – Cordless / Fixed Drill – Cordless Screw/Nut Driver – Phase Voltage Detector – Multimeter – Torque-Controlled Screwdriver – Torque-Controlled Tightening Tool – Indoor Scaffolding (Mobile / Fixed) – Hammer & Chisel – Cordless Screwdriver – Extension Cable	

Use of Chemical Substances

– – CEMENT, GYPSUM, EPOXY BINDER, PAINT, PAINT THINNER

Access to the Work Area

– The access route is shown in the plan under the General Construction Technique section.

• The maximum speed limit within the campus for trucks is restricted to 20 km/h.
• The maximum speed limit within the campus for the mobile crane is restricted to 20 km/h.

PPE – GENERAL	Need for Trained Personnel
• HARD HAT TS EN 397+A1 • EARPLUG TS EN 352-2 • PROTECTIVE GOGGLES TS EN ISO 16321-3 • GENERAL PURPOSE WORK GLOVES TS EN ISO 21420 • SAFETY FOOTWEAR TS EN ISO 20347 • HALF FACE MASK TS EN 140 FULL BODY SAFETY HARNESS EN 361 • ROPE BRAKING SYSTEM EN 353 • SAFETY HOOK EN 362 • FALL ARREST DEVICE • SAFETY LANYARDS EN 355	• CIVIL ENGINEER / ARCHITECT • MECHANICAL ENGINEER • ELECTRICAL ENGINEER • LIGHT STEEL INSTALLATION MASTER • SCAFFOLDING INSTALLER LEVEL 3 (12UY0056-3) • MOBILE CRANE OPERATOR (Voc. Qual.: 13UY0172-3 | Level 3) • ELECTRICAL INSTALLER LEVEL 3 (15UY0241-3) • HEATING AND NATURAL GAS INTERNAL INSTALLATION PERSONNEL LEVEL 3 (11UY0031-3) • MASON LEVEL 3 (12UY0048-3) • GYPSUM PLASTER / DRYWALL APPLICATOR LEVEL 3 (12UY0055-3) • CONSTRUCTION PAINTER LEVEL 3 (11UY0023-3) • CONSTRUCTION WORKER LEVEL 2 (16UY0253-2)

Tablo 1 Prefabrik Hafif Çelik Bina Montaj İşleri Risk Analizi

TASK	HAZARD	RISK	MEASURE
Natural gas line interventions	Gas leakage and explosion	▪ ▪ Trauma ▪ Severe burns ▪ Loss of limbs ▪ Death	▪ Prior to excavation works, the absence of natural gas pipelines in the relevant area shall be verified through İGDAŞ. ▪ Natural gas pipelines shall be shut off prior to intervention and secured under a Lockout-Tagout (LOTO) system. ▪ Intervention to existing pipelines or installation of new lines shall be carried out under the supervision of Natural Gas Infrastructure Construction Control Personnel Level 4 (12UY0042-4). ▪ Assigned personnel must use safety footwear, protective goggles, helmet, dust mask, and hearing protection. ▪ Work areas shall be segregated with safety tape and risks shall be displayed through safety signage.
Concrete Plant	Transit mixer and equipment movement	▪ ▪ Crushing ▪ Entrapment ▪ Impact	▪ ▪ Personnel involved in concrete pouring works must hold Concrete Worker Level 3 (12UY0049-3) certification. ▪ Transit mixer area shall be restricted. ▪ Unauthorized personnel shall not be allowed into the area. ▪ Assigned personnel must use safety footwear, protective goggles, helmet, dust mask, and hearing protection.
Concrete Plant	Wet concrete contact	Skin burns, irritation	▪ Chemical-resistant PPE shall be used

TASK	HAZARD	RISK	MEASURE
Transport of materials	Truck	Injury or death due to traffic accident	▪ ▪ Trucks shall be operated by personnel holding a Class C driving license. ▪ Urban speed limits shall not be exceeded (50 km/h). ▪ Campus site speed limit is restricted to 20 km/h. On-site movements and maneuvers shall be monitored by the OHS specialist.
Transport of materials	Prefabricated materials and assembly parts	Injury or death due to prefabricated materials falling or tipping over	▪ ▪ All materials shall be placed in a balanced manner at the center of the truck bed considering the center of gravity. ▪ Units shall be secured using slings. ▪ Assembly parts shall be transported packaged on pallets. ▪ Truck side and rear gates shall be closed and secured.
Transport and unloading of materials	Mobile crane & lifting equipment	Injury or death due to load falling during lifting, transport, or unloading	▪ ▪ Crane operations shall be performed by a Mobile Crane Operator (Vocational Qualification: 13UY0172-3

TASK	HAZARD	RISK	MEASURE
Light steel component installation	Falls from height	Death Injury	▪ Full body safety harnesses, lifelines, and fall-arrest systems shall be used. ▪ Scaffolds shall comply with TS EN 1004-1 standards. Installation shall be carried out by certified scaffolding personnel (Qualification Code: 12UY0056-3
Light steel component installation	Falling materials	Crushing Head trauma	▪ Safe stacking shall be ensured. ▪ Working under suspended loads shall be prohibited. ▪ Hard hat use is mandatory.
Electrical installation works	Working under live energy	Electric shock Death	▪ Energy shall be isolated and Lockout-Tagout (LOTO) procedures applied. ▪ Voltage checks shall be performed using a phase voltage detector. ▪ Works shall be carried out by a qualified electrical installer.
Use of electrical hand tools	Electrical leakage	Electric shock	▪ Residual current device (RCD) shall be used. ▪ Extension cables shall be inspected daily. ▪ Damaged equipment shall not be used.
Rebar Cutting Machine	Cutting blades	Cuts	▪ Work shall be performed by trained personnel. ▪ Protective guards shall remain active. ▪ Gloves, goggles, and safety footwear are mandatory. ▪ Emergency stop button shall be operational.
Rebar Bending Machine	—	Entrapment Crushing Finger amputation	▪ Machine shall be secured in place. ▪ Unauthorized use shall be prevented. ▪ Safe distance of hands and body shall be maintained.
Manual handling	Heavy lifting	Musculoskeletal and lower back disorders	▪ Mechanical lifting equipment shall be used. ▪ Personnel trained in lifting techniques shall perform the work. ▪ Lifting limits shall be respected.

Risk analysis lists are prepared for illustrative purposes. The Contractor shall conduct detailed risk assessments for each activity under their responsibility, taking these lists into consideration. Risk assessments shall be prepared in accordance with the Occupational Health and Safety Risk Assessment Regulation (Official Gazette: 29.12.2012/28512) and shall be revised when necessary.

9. Identification of Risk and Control Measures

9.1. Identification of Risks and Control Measures Affecting the General Construction Site

All construction sites have been reviewed using solid models generated by drone footage, and site-specific Risks have been identified. The risks determined as a result of this review are listed item by item below. Objective evidence related to these items is presented under the section of this report titled "Pre-Construction Information & Site Layout Plans."

- The areas listed below must be inspected by the Contractor's OHS Specialist, and if necessary, workers must be informed about additional safety precautions.
- Site-related risks may not be limited to these findings; if the Contractor encounters hazardous areas not listed here, this must be reported immediately to the Supervisor's OHS Specialist.

a.1 Risk of Falling and Falling from Heights:

In a renovation project involving elevation differences, especially where stairs, platforms, passages, and slopes lack adequate safety precautions, the risk of falls increases. Renovation works on upper floors can lead to serious fall accidents, particularly when protective barriers and guardrails are missing.

a.2 Access and Transportation Difficulties:

Work carried out at varying elevations may complicate material transport and worker movement. During the lowering or carrying of materials from heights, unstable worker movements can lead to accidents.

a.3 Risk of Injury:

Due to elevation differences, temporary ladders or scaffolding may be required to provide access to work areas. If such temporary structures are not built safely, the risk of falling, slipping, or injury increases significantly.

a.4 Surface Slippage and Instability:

If proper ground preparation is not carried out in areas with elevation differences, or construction materials are not positioned properly, risks such as slippage, tipping, or instability may occur. This is especially dangerous for workers operating under challenging conditions.

Precautions:

- Protective Measures: Appropriate safety equipment (helmet, safety harness, fall arrest system, etc.) must be provided to workers operating in areas with elevation differences.
- Marking and Warnings: Areas with elevation differences must be clearly marked, and passageways should be well defined. Surface flatness must also be checked.
- Temporary Structures: Temporary structures such as ladders, scaffolds, or ramps must be installed safely and made available for use with appropriate supervision.
- Training and Awareness: Workers must be trained on elevation differences and the associated risks, and safe working methods must be taught.

As a result, when renovating buildings with elevation differences, it is of critical importance to identify the risks caused by these differences and to take appropriate safety precautions.

9.2. Identification of Possible Work-Related Risks and Control Measures

The risks related to the structural feasibility process within the scope of the project are presented in table format under the section "General Site Rules and Management of Works" in this document. Apart from these risks:

- Traffic accidents that may occur during employees' access to the buildings under the project should be considered. In this context:
    - The traffic action plans specified in the report must be followed.
    - All individuals inside the vehicle, including back seat passengers, must wear seat belts.
    - Vehicle drivers must strictly comply with traffic rules and speed limits.
    - Before driving, visual checks such as fuel, oil leakage, tire tread and pressure status must be carried out by the driver. The use of defective or malfunctioning vehicles is prohibited. Detected faults must be reported immediately to the Subcontractor OHS Specialists.
    - Passengers must not refrain from warning drivers when encountering violations of traffic rules and must immediately report such situations to the Subcontractor OHS Specialists.
- Maneuvers of trucks, drilling machines, and other construction equipment around the building inherently pose risks. Before accessing the site, solid models of the building must be reviewed via online access, and the working zones, road elevations and slopes, road widths, and approach limits must be evaluated. Access links to the solid models must be requested from the main contractor via PHONE or email.
- Pedestrian movements must be considered during the use of cars, pickup trucks, trucks, and construction equipment around the building. Pedestrian crossings must always be given priority. The reverse maneuver warning sirens of trucks, pickup trucks, and construction equipment must be checked and confirmed functional before each use.
- The use of trucks and construction equipment at night is not permitted unless strictly necessary. In such cases, the work permit system shall be activated, and permission must be requested from the OHS Specialist by stating a justification.
- Third parties and stakeholders must not be allowed to approach within 20 meters of drilling works and construction equipment operations. For this, the perimeter of the working area must be demarcated with safety tapes, and warning signs must be installed.
- The surroundings of buildings under construction must be enclosed with physical barriers (e.g., metal sheets) in such a way that prevents unauthorized access by third parties, and the area must be fully locked at the end of each working day.

9.3. Risk Arising from Time and Space Overlapping Tasks

Plans have been reviewed, and no risks caused by overlapping tasks have been observed. If overlapping tasks in terms of time and space are encountered once construction works begin, this situation shall be evaluated by the contractor in the work schedule and risk assessments and reported to the supervisor. After appropriate precautions are taken for the risks, work shall commence upon the supervisor's approval.

10. Determination of the Requirements and Specifications of Work Equipment

- The Contractor shall identify all devices and equipment to be used during the works in accordance with safety directives[10] (CE Marking Regulation) and relevant standards[11], and shall prepare a list together with periodic inspection reports to be submitted to the Supervisor.
- All electrical devices and equipment must undergo PAT testing and must be marked with PAT approval labels indicating their electrical safety compliance.

[10] Relevant Directives:
– Machinery Safety Regulation (2006/42/EC)
– Regulation on Electrical Equipment Designed for Use Within Certain Voltage Limits (2014/35/EU)
– Pressure Equipment Regulation (2014/68/EU)
– Regulation on Appliances Burning Gaseous Fuels (2016/426/EU)

[11] Relevant Standards (to be reviewed individually for each device):
– TS EN ISO 12100 — Safety of machinery – General principles for design – Risk assessment and risk reduction
– TS EN 60204-1 — Safety of machinery – Electrical equipment of machines – Part 1: General requirements
– TS EN 60335-1 — Safety requirements for household and similar electrical appliances – Part 1: General requirements
– TS 1203 EN 286-1 — Simple unfired pressure vessels
– TS 10116 — Cranes – Test and inspection methods
– TS ISO 9927-1 — Cranes – Inspections – Part 1: General

10.1 Determination of Protective Equipment Needs

10.1.1. Collective Protection System

Table 36 - List of Collective Protection Systems

Type of Protection	Usage Area	Duration of Use	Standards
Safety Tape	Hazardous work areas (falling objects from height, heavy machinery, fall risk, electrical work, heavy load handling)	Until local work is completed	-
Access / Fall-Restraining Guardrail	Drilling work areas, edges of demolished exterior walls	Until local work is completed	TS EN 13374+A1
Lifeline	Work on scaffolding, roofs, near demolished façade walls	Until local work is completed	TS EN 795
Safety Net	Areas where guardrails/barriers cannot or are not preferred to be used (e.g., PV installation above parking lots)	Until local work is completed	TS EN 1263-2

10.1.2. Personal Protective Equipments (PPE)

Table 37 - PPE Table

Definition	Category	Maintenance/ Renewal Period	Max. Usage Duration	Standard	Color Code
Helmet	II	1 Year	Continuous	TS EN 397+A1	White: Engineer, Yellow: Worker, Red: OHS Specialist, Green: ERT
Earplugs	I	Daily	During Noisy Tasks (≥80 dB)	TS EN 352-2	-
Protective Goggles	I	3 Months	Throughout Tasks With Eye Injury risk	TS EN ISO 16321-3	-
General Purpose Work Gloves	I	3 Months	Continuous	TS EN ISO 21420	-
Work Shoes	II	1 Year	Continuous	TS EN ISO 20347	-
Half-Face Mask	I	Daily	For Dusty Tasks	TS EN 140	-
Full Body Safety Harness	II	1 Year	For All Work at Height	TS EN 361	-
Fall Arrest Equipment & Lifelines	II	1 Year	For All Work at Height	EN 355	-
Insulated Gloves & Work Shoes	I	3 Months	For Electrical Tasks	TS EN ISO 21420	-

11.Permit to work System

Work activities subject to the permit-to-work system are listed below.
▪ All types of night work.
No work may be carried out without approval from the OHS Specialist. The elements to be checked for night work are listed below;

– Approval of the building administration and technical units,
– Verification of appropriate lighting and lighting levels for outdoor works,
– Whether building technical teams can accompany the work,
– Working hours of the employees,
– Information about the work area (photograph),
– Professional qualifications of the employees,

▪ Working at height,

– Installation of scaffolding in compliance with TS EN 12811-1
– Anchoring the scaffolding to suitable points on the ground and façade
– Installation of horizontal and vertical lifelines,
– Indicating the capacities of the scaffolding and lifelines (total number of users – load)
– Training of personnel who will work at height (Working at Height Training), medical reports stating fitness for working at height

▪ Within the scope of this project; confined space work, welding, plasma cutting, etc. are not anticipated. However, if such works are required even for partial and simple tasks, the permit-to-work system will be activated.

The process of the permit-to-work system is described below;

1. For the activities listed under work requiring a permit, preparation of the PERMIT-TO-WORK form and requesting approval is mandatory. Work may only begin if approval is granted for the form. It is prohibited to start work without approval.
   a) Necessary personal protective equipment must be fully provided and used in a disciplined manner.
   • PPE to be used prior to work must be visually inspected, and if any physical defect or end-of-service-life condition is detected, it must be replaced immediately. Under no circumstances shall unsuitable PPE be used.
   b) Persons without professional qualification cannot take part in work requiring a permit. Therefore, vocational qualification certificates related to the work must be kept in employees' personnel files or uploaded to a digital form.
   • The validity status of vocational qualification certificates must be verified before work. Individuals with expired or renewal-required certificates shall not be authorized to participate in field work.
   According to the permit-to-work system, the person commissioning the work is the project manager, and work cannot begin without their approval. This system will be implemented to ensure continuous monitoring and control of work requiring a permit and to determine methods aimed at reducing occupational health and safety risks. The work permit form to be used throughout the project is provided in Annex-2.

12.LOTO System

The combined use of physical barriers and informational tags to eliminate risks such as unexpected energy/gas release, operation, electric shock/fire, explosion, etc., during the control, maintenance, and replacement of energized systems, devices, and natural gas lines is referred to as the Lockout-Tagout (LOTO) system.

During such operations:

- It is mandatory for all personnel involved to receive lockout/tagout training.
- Equipment required for lockout/tagout must be provided and kept ready by the contractor.
- The neutral and grounding lines of the devices must also be disconnected from the busbar/connection points to prevent electric shock from other systems/devices.
- To eliminate energy caused by pressure in the devices, valves feeding the intervention section must be closed and locked. Existing pressure must be discharged through a vent or relief valve.

Figure 24 - Lockout-Tagout (LOTO) Training Examples

[13] Lockout-Tagout(LOTO)

13. Observation and Inspection

The minimum checklist presented below shall be used during routine site inspections. In addition, the Contractor shall prepare inspection forms appropriate to the nature of the work to be performed.

Table 38 - OHS Check List

NO	CHECK SUBJECT	SCORE	DEADLINE	RESPONSIBLE	ACTION
01	Have the necessary OHS trainings been provided to the employees?				
02	Is the continuity of OHS measures being observed?				
03	Is regular information obtained from employee representatives and support personnel regarding the workplace?				
04	Are pre-employment medical examinations and periodic health checks of employees carried out regularly?				
05	Are health records kept in accordance with the principle of confidentiality?				
06	Is there guidance to ensure the compatibility between the job and the employee, and to protect employees from stress factors in the work environment?				
07	Are occupational diseases that are likely to be encountered in the sector identified, and workplace observations conducted accordingly?				
08	Are measures identified to ensure controlled entry and exit at the workplace, and is the employer informed?				
09	Are near-miss records being evaluated?				
10	Are records of occupational accidents and diseases being evaluated?				
11	Is regular participation in the OHS Committee ensured, and are the committee's decisions monitored?				
12	Are OHS instructions prepared, submitted for the employer's approval, and their implementation monitored?				
13	Are work permit procedures prepared, submitted for the employer's approval, and their implementation monitored?				
14	Are hygiene and safety conditions of living areas (dining hall, dormitory, showers, toilets, etc.) assessed in compliance with legal requirements?				
15	Are environmental physical, chemical, and biological factors taken into consideration?				
16	Is the employer informed regarding the identification of first aid, firefighting, search & rescue, and evacuation teams, and the necessary trainings?				
17	Has the emergency plan been prepared in accordance with the site?				
18	Have escape routes and assembly points for emergencies been identified and marked?				
19	Have measures for fire prevention been studied?				
20	Are emergency drills being conducted, monitored, and evaluated?				
21	Is the risk assessment prepared in accordance with the site-specific conditions?				
22	Is the risk assessment carried out by the team defined in the legislation?				
23	Are post-risk assessment control steps being followed?				
24	Is the risk assessment renewed in cases specified in the legislation?				
25	Are special studies conducted for vulnerable groups requiring specific policies?				

NO	CHECK SUBJECT	SCORE	DEADLINE	RESPONSIBLE	ACTION
26	Is appropriate PPE selected for the employees and is training on its use provided on site?				
27	Are required environmental measurements identified and the employer informed accordingly?				
28	Is the employer informed about the compliance of equipment used in the workplace with standards?				
29	If pedestrian and vehicle traffic exists within the workplace, are vehicle routes properly designated?				
30	Are suitable stacking areas for stored materials or parking areas for work machinery designated?				
31	Are periodic inspections of work equipment being tracked?				
32	Are operator competencies of workers using equipment being checked?				
33	Are certified logbook copies regularly kept during each workplace visit by the OHS specialist and workplace physician?				
34	Has a realistic annual work plan for the workplace been prepared?				
35	Is the work schedule in the annual plan being followed?				
36	Does a realistic annual evaluation report for the workplace exist?				

The inspections carried out using OHS Checklists similar to or improved versions of those in Table 38by the Consultant and the Contractor shall be reported to the Project Implementation Unit at the intervals specified in Table 39. The Contractor shall submit the reports to the Consultant in the specified format, and the Consultant shall submit the final versions of the reports to the Directorate of Earthquake Strengthening with International Financial Resources under the Ministry of Environment, Urbanization and Climate Change. Monitoring shall be conducted in accordance with the schedule provided in Table 39.

Table 39 - OHS Monitoring Plan

What parameter will be monitored?	**Where** will the parameter be monitored?	**How** will the parameter be monitored?	**When** will the parameter be monitored (frequency)?	**Why** will the parameter be monitored?	**Reporting**	**Responsibility**
Yenileme ve Güçlendirme İşleri Saha Hazırlık FSite Preparation Activities for Renovation and Strengthening Worksaaliyetleri						
Community health and safety management and protective measures applied	Around the project site	Visual inspections, site supervision, availability and implementation of the Active Community Safety and Traffic Management Plan	At the beginning of renovation/strengthening works (first day) and daily throughout project activities	To minimize health and safety risks and mechanical injuries to local residents	• Weekly	• Consultant • Contractor
OHS protection measures for workers on construction sites	Project site and nearby buildings	Visual inspections, implementation of the OHS Plan	Daily throughout project activities	To minimize OHS risks for workers, especially those removing asbestos-containing roof covers, including the use of PPE and protective clothing	• Weekly	• Consultant • Contractor
Avoiding and minimizing health and safety risks for affected persons	In the building and on the project site	Visual inspections	At the beginning and continuously every workday	To prevent injuries due to inhalation of asbestos fibers or other construction dust (Post Activation Potential)	• Weekly	• Consultant • Contractor

What parameter will be monitored?	**Where** will the parameter be monitored?	**How** will the parameter be monitored?	**When** will the parameter be monitored (frequency)?	**Why** will the parameter be monitored?	**Reporting**	**Responsibility**
Community health and safety management and protective measures applied	Around the project site	Visual inspections, site supervision, availability and implementation of the Active Community Safety and Traffic Management Plan	At the beginning of renovation/strengthening works (first day) and daily throughout project activities	To minimize health and safety risks and mechanical injuries to local residents	• Weekly	• Consultant • Contractor
Operational Process of Renovation/Strengthening Works						
OHS protection measures for workers (working at height, with hazardous materials, rotating machinery, electrical devices, etc.)	Project site and nearby buildings	Checking relevant OHS certificates and documents of trained workers, visual control of PPE usage, application of OHS Plan and site-specific H&S instructions	Before demolition works and daily throughout project activities	To minimize OHS risks for workers and comply with applicable law, regulation, directive, and circular	• Monthly	• Consultant • Contractor

What parameter will be monitored?	**Where** will the parameter be monitored?	**How** will the parameter be monitored?	**When** will the parameter be monitored (frequency)?	**Why** will the parameter be monitored?	**Reporting**	**Responsibility**
Working conditions	Project site	Final OHS Plan review, site supervision, feedback mechanism (complaints)	Daily throughout project activities	Compliance with Occupational Health and Safety Law and related regulations	• Monthly	• Consultant • Contractor
Manufacturing, operation, and delivery (pipeline manufacturing and construction)	Manufacturing and construction zones	Visual inspections, site supervision records, necessary tests, personnel qualification checks by relevant authorities	When related manufacturing/process is completed	To confirm completion before pipeline handover, and prevent disasters after delivery to end user	• As needed	• Beneficiary Institutions, • Service Provider OHS Department, • Consultant, • Contractor
Health and safety records	Project site	Control of health and safety site documentation	Monthly	To ensure proper OHS recordkeeping on site	• Monthly	• Consultant Contractor

What parameter will be monitored?	**Where** will the parameter be monitored?	**How** will the parameter be monitored?	**When** will the parameter be monitored (frequency)?	**Why** will the parameter be monitored?	**Reporting**	**Responsibility**
Identification, proper packaging, and hazardous waste labeling of asbestos-containing waste	Project construction sites	Prior to start of removal/dismantling works, field supervision, document review	Throughout project lifecycle / Daily if identified	Compliance with the Regulation on Health and Safety Measures for Working with Asbestos	• Immediate (if identified), • Monthly	• Consultant • Contractor
Vehicle and pedestrian safety	Project site and access roads	Visual inspection, use of proper signage and signals, site supervision, implementation of Community Safety and Traffic Management Plan	Daily	To protect workers, beneficiaries' staff, and local communities from traffic-related injuries and fatalities	• Weekly	• Consultant • Contractor

What parameter will be monitored?	**Where** will the parameter be monitored?	**How** will the parameter be monitored?	**When** will the parameter be monitored (frequency)?	**Why** will the parameter be monitored?	**Reporting**	**Responsibility**
Operational Phase of Renovation/Strengthening Works						
Health and safety	Renovated/strengthened buildings	Roof, windows, doors, leakage checks, regular inspections and maintenance	Regularly (throughout project life)	To ensure health and safety of building occupants/users	• Within 1 week of detection	• Beneficiary Institutions
Site Preparation Activities for Renovation and Strengthening Works						
Community health and safety management and protective measures applied	Around the project site	Visual inspections, site supervision	At the beginning of renovation /strengthening works (first day) and daily during project activities	To minimize health and safety risks and mechanical injuries to local residents	• Monthly	• Consultant • Contractor
OHS protection measures for workers	Project site and nearby buildings	Visual inspections	Daily throughout project activities	To minimize OHS risks for workers, especially those removing asbestos-containing roof coverings, including use of PPE and protective clothing	• Weekly	• Consultant • Contractor
Avoiding and minimizing health and safety risks for affected persons	In the building and on the project site	Site supervision	At the beginning and continuously every workday	Compliance with Occupational Health and Safety Law and related legislation, circulars, communiqués	• Weekly	• Consultant • Contractor

14. Employee Trainings

- It is mandatory that all employees have received training in accordance with the minimum requirements specified in the REGULATION ON THE PROCEDURES AND PRINCIPLES OF OCCUPATIONAL HEALTH AND SAFETY TRAININGS OF EMPLOYEES (Official Gazette Date: 15.05.2013, Official Gazette No: 28648) and the HYGIENE TRAINING REGULATION (Official Gazette Date: 05.07.2013, Official Gazette No: 28698).

  In this context, training records and certificates of the Subcontractor personnel shall be requested and checked.

  OHS trainings shall be listed in a format including the employee's name, duty, employment start date, training names, and dates, and shall be submitted to the Consultant OHS Specialist.
- Within the scope of this project, all employees shall be subjected to a minimum of 2 man-days of training under this document and the risk assessments.
- These trainings shall be provided by the OHS Specialists of the Contractor and Subcontractors, and the training records shall be submitted to the Consultant.
- Before starting work, all employees must have received Rope Access Training for Working at Height. These trainings shall be provided by experts holding at least IRATA (Industrial Rope Access Trade Association) International Level 2 Certificate.

14.1. Monitoring of Personnel Health Conditions

- Periodic health reports of employees shall be checked, and their fitness for duty shall be verified based on these reports.
- Health reports shall be listed in a format including the employee's name, duty, employment start date, occupational health training names and dates, and shall be submitted to the Consultant Workplace Physician.

14.2. Personnel Vocational Qualifications

- The vocational qualification requirements foreseen in this document are specified herein. The Contractor shall list all employees in a format including the employee's name, duty, employment start date, vocational qualification certificate, certificate date, and certificate validity date, and shall submit it to the Consultant OHS Specialist.

15. Emergency Preparedness

The emergency action plan shall be prepared by the Contractor as a report containing necessary parameters and directions specific to the planned work, mapped and diagrammed in accordance with Article 11 of the Occupational Health and Safety Law No. 6331.

The prepared emergency action plan may vary or be applicable depending on the foreseen emergency situations.

Emergency situations that are anticipated to potentially occur during structural strengthening and renovation works, and the preventive measures related to such emergencies, are presented below in tabular form.

EMERGENCY	PREVENTIVE AND CONTAINMENT MEASURES
Fire and explosion	• Periodic maintenance and inspections of the electrical and grounding installations, lightning protection system, generator, fire extinguishing and fire detection and warning systems, portable fire extinguishers, and ventilation installation; and immediate repair of any malfunctions by authorized personnel • Limiting areas where smoking is permitted and marking these areas with signs • Removal of flammable dry grass and tree branches • Availability and continuous operation of fire detection and warning systems (alarms, gas and smoke detectors, etc.) • Periodic inspection of the heating system, and prevention of unauthorized access to the boiler room • Proper labeling and storage of chemicals used • Proper storage of chemical waste • Keeping flammable, combustible, and explosive materials away from heat sources • In cases where power must be cut off, assigning authorized personnel to intervene, with identification of the locations of gas valves, electrical panels, and other relevant systems • Conducting environmental measurements
Release caused by hazardous chemical substances	• Storage of chemicals in accordance with their properties and hazards, prevention of leakage risks, and provision of adequate ventilation • Prevention of unauthorized persons from entering chemical storage areas • Provision of standard-compliant personal protective equipment for employees handling chemicals, and ensuring their proper use • Posting of Chemical Safety Data Sheets in a proper and visible manner in the work areas where chemicals are present • Availability of a hazardous substance intervention card • Conducting environmental measurements
Poisning	• Control of expiration dates of food products • Preparation of meals under hygienic conditions • Keeping serving materials such as plates, forks, trays, etc. clean • Collecting sample portions from meals (retained samples) • Providing training to personnel serving food • Providing general hygiene training to all personnel • Ensuring that food service personnel use appropriate gloves, hairnets, work clothes, etc.
Epidemic disease	• Vaccination • Preventive medication • Pest control and disinfection • Ensuring hygiene • Establishment of a First Aid Team and provision of necessary training • Regular inspection of drinking water and water dispensers • Collecting sample portions from meals (retained samples)

Sabotage	• Establishment of a security unit. • Installation of security cameras in necessary places for continuous monitoring. • Controlled entry and exit. • Keeping records of people coming from outside, checking IDs at the entrance and issuing visitor cards. • Controlled opening of incoming shipments. • Control of transportation vehicles. • Restriction of unauthorized access to high-security areas. • Adequate interior and exterior lighting.
Naural Disasters	• Reinforcement of the ground. • Securing cabinets and shelves, placing large tools and equipment in safe positions. • Checking the earthquake resistance of buildings. • Providing training to all employees on what to do during an earthquake. • Keeping an earthquake emergency kit ready with first aid materials, flashlight, batteries, radio, etc. • Inspection and maintenance of rainwater drainage channels. • Giving priority to afforestation. • Portable barriers for windows and doors in enclosed workplaces. • Using emergency valves for quick and safe shutdown of electricity (electricity, gas, etc.) and assigning competent personnel. • Ensuring equipment is ready for use during and after a disaster.
Occupational Accidents	• Providing occupational health and safety trainings. • Conducting health surveillance (periodic examinations and tests, etc.). • Providing additional training for tasks requiring special skills such as working at height, working in INDOOR AREAs, etc., and keeping reports indicating fitness for such tasks. • Keeping the risk Assessment up to date and continuously monitoring the implemented measures. • Investigating near miss incidents and taking necessary precautions to prevent recurrence. • Conducting accident investigation and root cause analysis. • Not assigning personnel to tasks for which they are not adequately qualified. • Implementing an occupational health and safety incentive/warning system and carrying out efforts to develop workplace safety culture. • Implementing an effective inspection mechanism. • Monitoring the correct and effective use of Personal Protective Equipment. • Avoiding working alone. • Ensuring that personnel employed through service procurement are employed in accordance with occupational health and safety legislation. • Establishing a First Aid Team and providing the necessary trainings.
Cyber Attacks	• Providing training to employees on cyber risks and security. • Installing and keeping antivirus and anti-spyware software up to date. • Using a firewall for internet connections. • Updating operating systems and applications. • Regularly backing up data and information. • Controlling physical access to computers and servers. • Ensuring the security and privacy of Wi-Fi and LAN networks. • Assigning each employee an individual username and password. • Establishing authorization levels for access to information within the network.

General	• Evacuation plans shall be posted at a height visible to employees, showing entrances, exits, floors, and evacuation routes of the workplace buildings and annexes. • The evacuation plan shall indicate the locations of fire extinguishing equipment, first aid materials, and evacuation routes. • The assembly point after evacuation shall be designated and shown on the plan. • Emergency exit doors shall have proper emergency escape routes and appropriate signs. • Signs showing escape routes shall be placed in visible areas. • Emergency response teams shall be established and necessary training shall be provided. • Emergency contact numbers shall be posted in visible places. • Vehicles shall be parked in a manner that allows forward movement. • Employees shall be informed about potential emergencies and emergency plans. • Regular emergency drills shall be conducted, ensuring participation of all employees. • Clients, visitors, and other persons present in the workplace shall be informed about emergencies and emergency plans. • Emergency plans shall be kept up to date. • The equipment to be used by emergency teams shall be kept ready for use at all times. • An audible and/or visual alarm system shall be used to alert employees in case of emergencies. • The location of the First Aid Kit shall be marked, it shall be accessible to all employees, contain sufficient and qualified materials, and expiration dates shall be constantly checked. • Assistance shall be provided for the evacuation of elderly, disabled, or pregnant individuals.

The Contractor shall prepare emergency action plans in detail regarding the issues specified above at a minimum and submit them to the Consultant OHS Specialist and the Workplace Physician.

15.1. Emergency Assemby Areas

- Emergency assembly areas have been designated for each building and marked on solid model plans. The emergency assembly areas have been determined by taking into account earthquake risk and the dimensions of the buildings. The said locations are indicated under the heading “Pre-Construction Information & Site Layout Plans” using the visual signage for EMERGENCY ASSEMBLY AREA.

15.2. ERT and First Aid Teams

The Contractor and Subcontractors shall prepare a list of ERT (Emergency Response Teams) and first aiders designated in accordance with legal requirements in the work areas, including their names, duties, employment start dates, emergency preparedness training dates, first aider certificate dates and validity dates, and submit it to the Consultant OHS Specialist.

- All members of the mentioned teams shall participate in at least one emergency drill, and participation reports shall be submitted to the Consultant OHS Specialist and the Workplace Physician.

16. Accident and Invident Investigations

In the event of a work accident during the activities carried out within the scope of the project, legal regulations shall be followed.

On the day the accident occurs, notification shall be made to the Consultant and the Employer via the form in Annex-3.

Within one month from the date of the accident, a root cause analysis of the accident shall be conducted and submitted to the Employer.

Notification to the Social Security Institution shall be made within the following legally defined timeframes:

- The report form to be used for the investigation and reporting of accidents, incidents, and near misses that may occur on site is provided in Annex-3.
- Major environmental accidents and occupational accidents (such as injuries, fatal accidents, environmental spills, etc.) that may occur during construction activities shall be shared with the Consultant and MoEUCC (Ministry of Environment, Urbanization and Climate Change) on the same day; and shall be reported to the Ministry of Labor and Social Security within 3 working days.

  MoEUCC shall inform the World Bank about the accident within 48 hours.

  The Contractor shall submit the accident report with root cause analysis to MoEUCC within 30 working days.
  MoEUCC shall simultaneously share this information with the World Bank.

The accident report shall be completed in accordance with the rules specified below.

- All sections of the accident report must be filled out completely and meticulously.
- The injured areas of the accident victim and the information related to the injury must be described in accordance with the procedure specified in the report.
- While stating the accident description and the root causes that led to the accident in the Accident Report, extreme care must be taken; the accident must be thoroughly investigated, and expressions that may be misunderstood must be avoided.
- If the number of personnel who witnessed the accident is more than 2, efforts should be made to select impartial personnel who can describe the accident accurately.
- Photographs of the scene, photographs of the injured, photographs of the device or equipment that caused the accident, and other objective evidence must be included in the report as attachments.
- The PPE delivery receipts for the PPE used by the personnel at the time of the accident must be attached to the Accident Report.
- If possible, the accident report shall be filled in personally by the employee who had the accident. If this is not possible, one of the witnesses specified in the report shall be selected to complete the report; if no witness is available, the employer or employer representatives shall be asked to fill in this section in their own handwriting.
- The prepared report must be signed by the OHS Specialist, Workplace Physician, and Employer/Employer Representative.
- The following documents must be included as annexes to the prepared Accident Report:
    - PPE delivery receipt,
    - Attendance forms and certificates related to trainings provided up to the date of the accident,
    - Orientation training form,
    - Certificates and diplomas related to vocational qualification,
    - Health report indicating fitness for work,

- Overtime approval form (in case the accident occurred outside working hours),
- Warning letters issued prior to the accident, if any (if related to the cause of the accident),
- Minutes prepared regarding occupational health and safety,
- SGK occupational accident notification form,
- Health report obtained after the accident,
- Incapacity report issued by the physician,
- Social security employment declaration of the insured person,

It should be remembered that occupational accidents may occur no matter how many precautions are taken.

Remaining calm during and after the accident is important both for the injured person and for the organization.

For this reason, it is recommended that WORK ACCIDENTS/INJURED PERSON RESCUE drills be carried out seriously before field activities begin.

Post-accident measures should be evaluated under two separate categories: corrective actions that must be taken immediately, and corrective actions aimed at eliminating the ROOT cause of the accident.

It is essential that the elements causing the occupational accident are eliminated in a way that prevents recurrence.

Points to be considered after the accident:

- During the inspection phase, necessary arrangements will be made on site to facilitate the presence of inspectors arriving at the scene, and all information and documents related to the injured person will be kept ready. It must be remembered that the response time to access the information and documents requested by the inspector is of critical importance.
- The SGK (Social Security Institution) accident notification shall be made within a maximum of 3 days from the date of the accident. (Together with the medical visit paper)
- If available, control reports and regular maintenance cards of the machinery and equipment that caused the accident shall also be kept as annexes to the accident report for inspection.
- All documents attached to the accident report shall be copies. However, preparations shall be made to ensure rapid access to the original documents in case they are requested by the inspectors.

17.OHS Budget

The OHS Budget presented below has been prepared for general information purposes.

It is assumed that the tender offer to be submitted by the Contractor is prepared in a manner that also includes the budget required for the implementation of occupational health and safety measures.

Table 40 - Estimated OHS Budget

	Quantity	Unit	Unit Price	Amount
CATEGORY II SAFETY HELMET (TS EN 397+A1)	150	AD.	₺200,00	₺30.000,00
CATEGORY I EARPLUGS (TS EN 352-2)	3050	AD.	₺25,00	₺76.250,00
CATEGORY I SAFETY GOGGLES (TS EN ISO 16321-3)	150	AD.	₺60,00	₺9.000,00
GENERAL-PURPOSE WORK GLOVES (TS EN ISO 21420)	150	AD.	₺30,00	₺4.5000,00
ELECTRICAL WORK GLOVES (LOW VOLTAGE) (TS EN ISO 21420)	50	AD.	₺750,00	₺37.500,00
WORK SHOES (TS EN ISO 20347)	150	AD.	₺450,00	₺67.500,00
INSULATED WORK SHOES (LOW VOLTAGE) (TS EN ISO 20347)	50	AD.	₺1.100,00	₺55.000,00
DUST MASK	3050	AD.	₺10,00	₺30.500,00
HALF-FACE RESPIRATOR (TS EN 140)	35	AD.	₺500,00	₺17.500,00
CATEGORY II FULL-BODY HARNESS (TS EN 361)	150	AD.	₺450,00	₺67.500,00
FALL ARREST EQUIPMENT (EN 355)	100	AD.	₺250,00	₺25.000,00
LIFELINES (EN 355)	100	m.	₺450,00	₺45.000,00
SAFETY BELT	750	m.	₺5,00	₺3.750,00
SAFETY NET (EN 355)	750	m^2	₺350,00	₺262.500,00
			TOTAL:	**₺731.500,00**
			KDV:	**₺58.520,00**
			YEKÜN:	**₺790.020,00**

18. Annexes

Annex-1 Traffic Plan, Emergency Assembly Area, risky Areas

Annex- 2 Work to Permit Form

Annex- 3 Accident Notification Form

Annex-1 Traffic Plan, Emergency Assembly Area, risky Areas

With respect to the structures within the scope of the Elazığ Fırat University project, the site traffic plan is provided below. Traffic warning signs shall be installed at vehicle entry points and security checkpoints, and access shall be controlled for both pedestrians and vehicles. Gates shall remain closed when no entry or exit is taking place, and a designated staff member shall be present. Perimeter fencing shall be installed around buildings to prevent unauthorized access.

Figure 25 - Construction Site Traffic Management Plan for Atatürk Cultural Center and Student Affairs (Former Library)

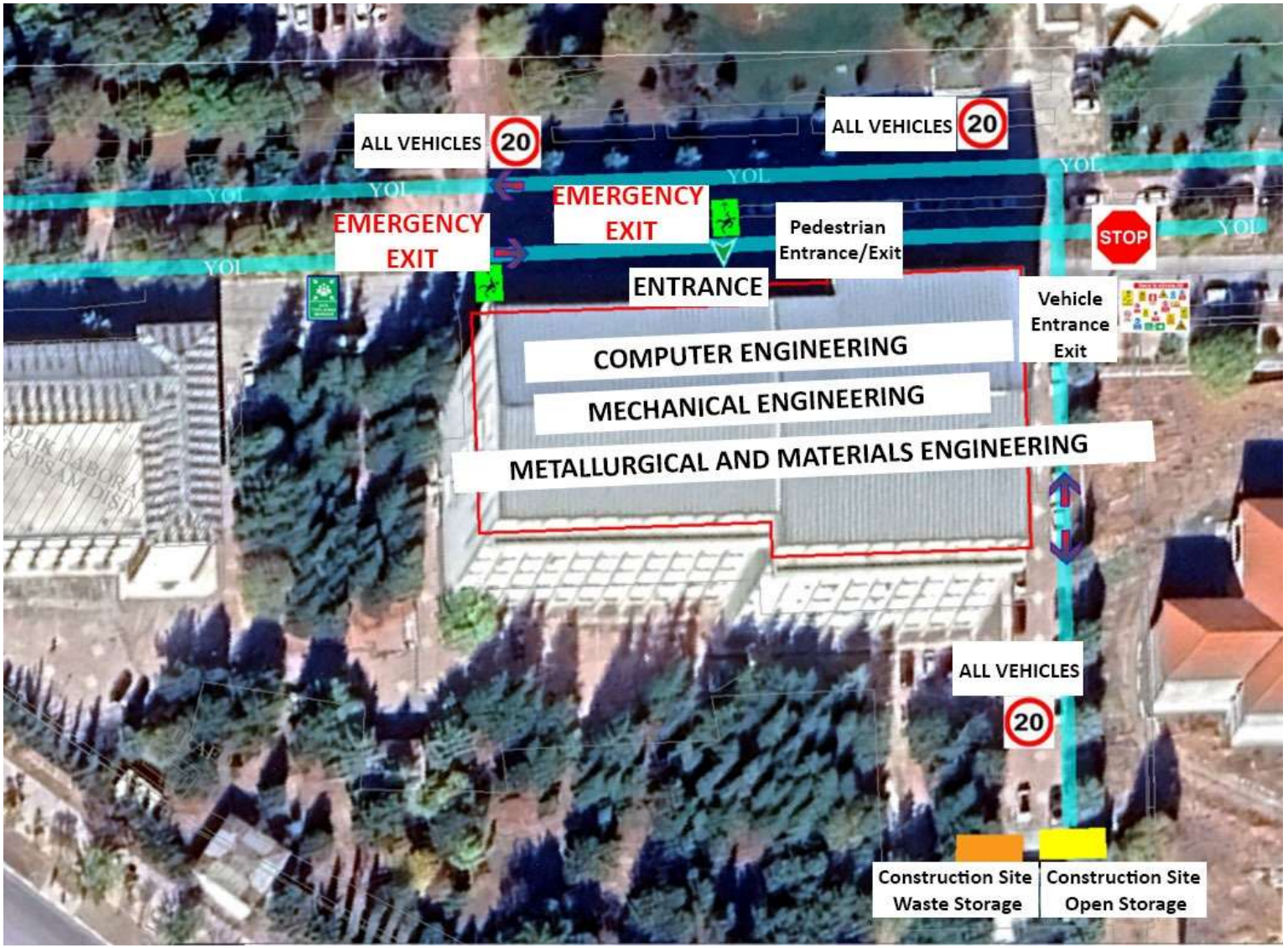


Figure 26 - Site Traffic Plan for the Computer Engineering and Metallurgical and Materials Engineering Buildings

Figure 27 - Construction Site Traffic Management Plan for the Civil Engineering Faculty and Geological Engineering Faculty

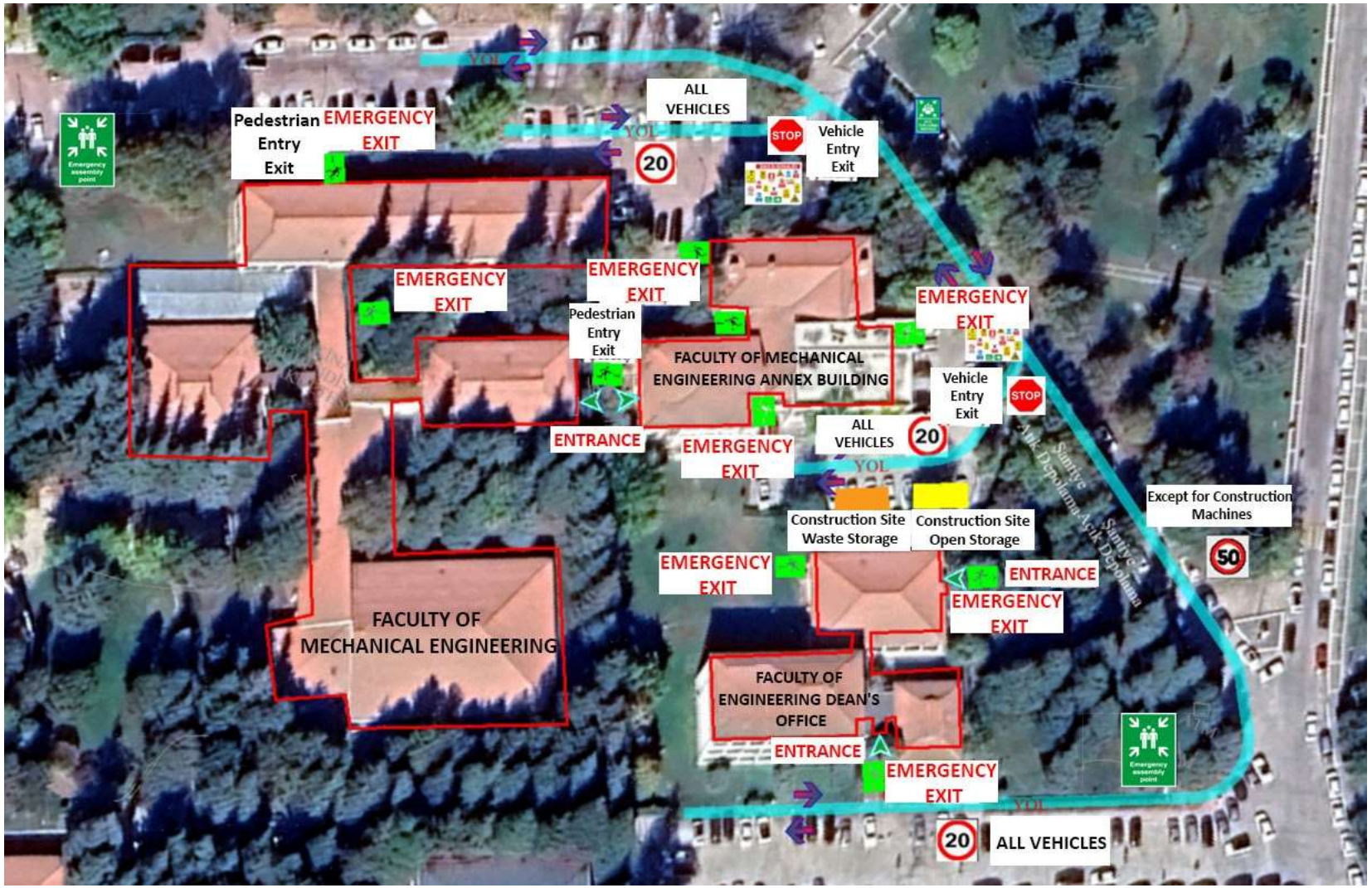


Figure 28 - Site Traffic Plan for the Mechanical Engineering Faculty, Mechanical Engineering Faculty Annex Building, and Engineering Faculty Dean's Office

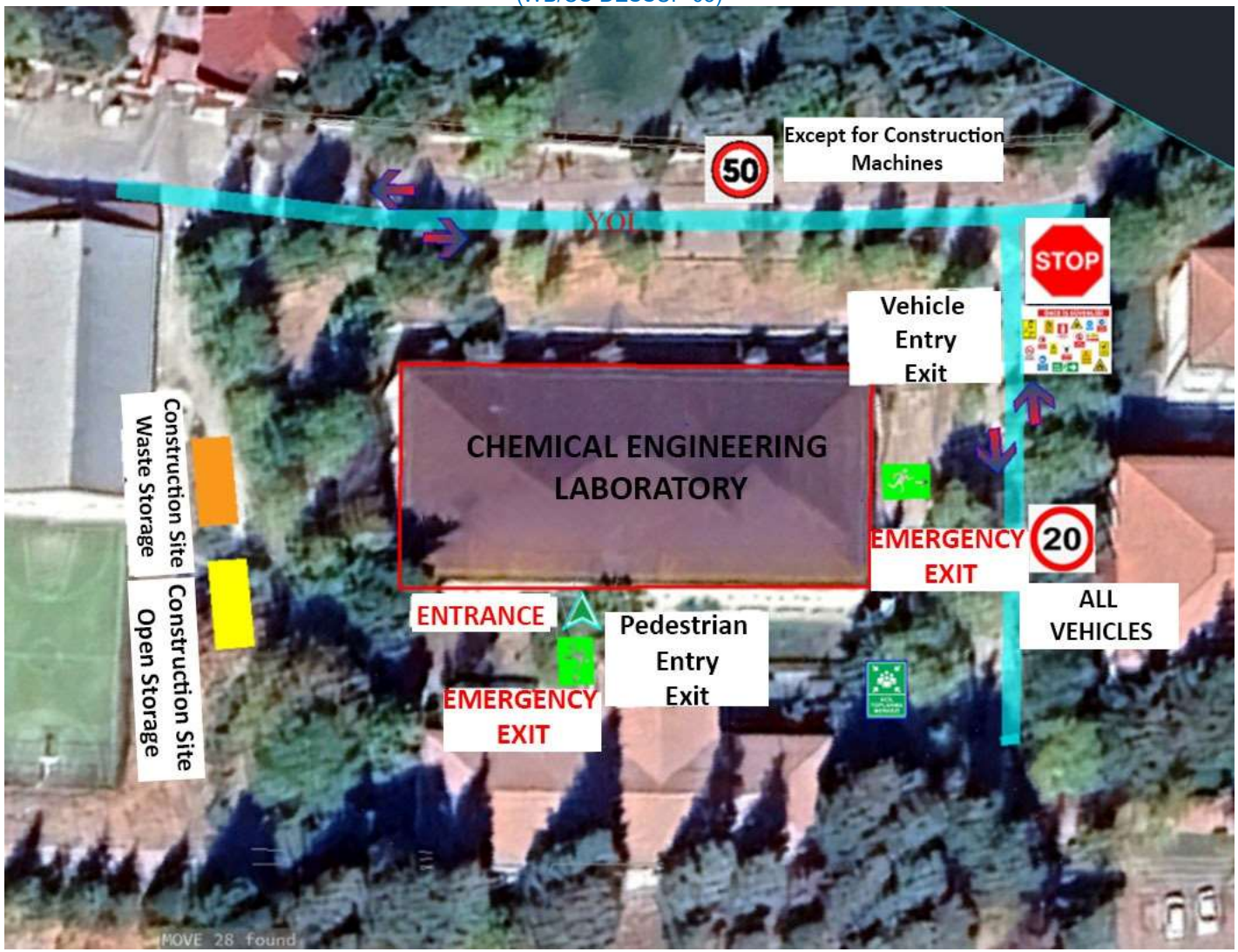


Figure 29 - Site Traffic Plan for the Chemical Engineering Laboratory Building

Figure 30 - Site Traffic Plan for the Guesthouse

Figure 31 - Site Traffic Plan for the Electrical Engineering Faculty

Figure 32 - Site Traffic Plan for the Rectorate Building

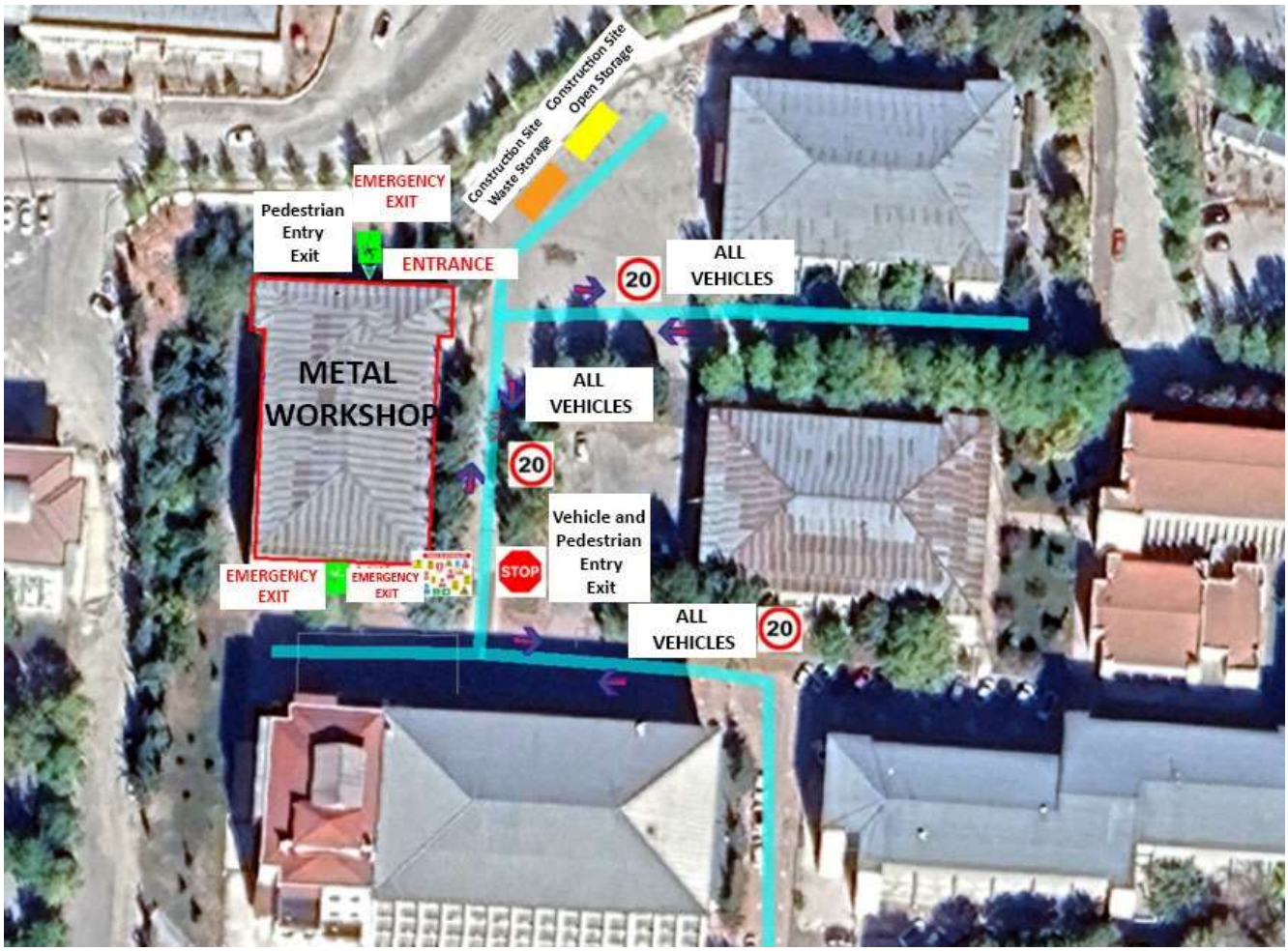


Figure 33 - Site Traffic Plan for the Metal Workshop

Figure 34 - Site Traffic Plan for the New Prefabricated Laboratory Building

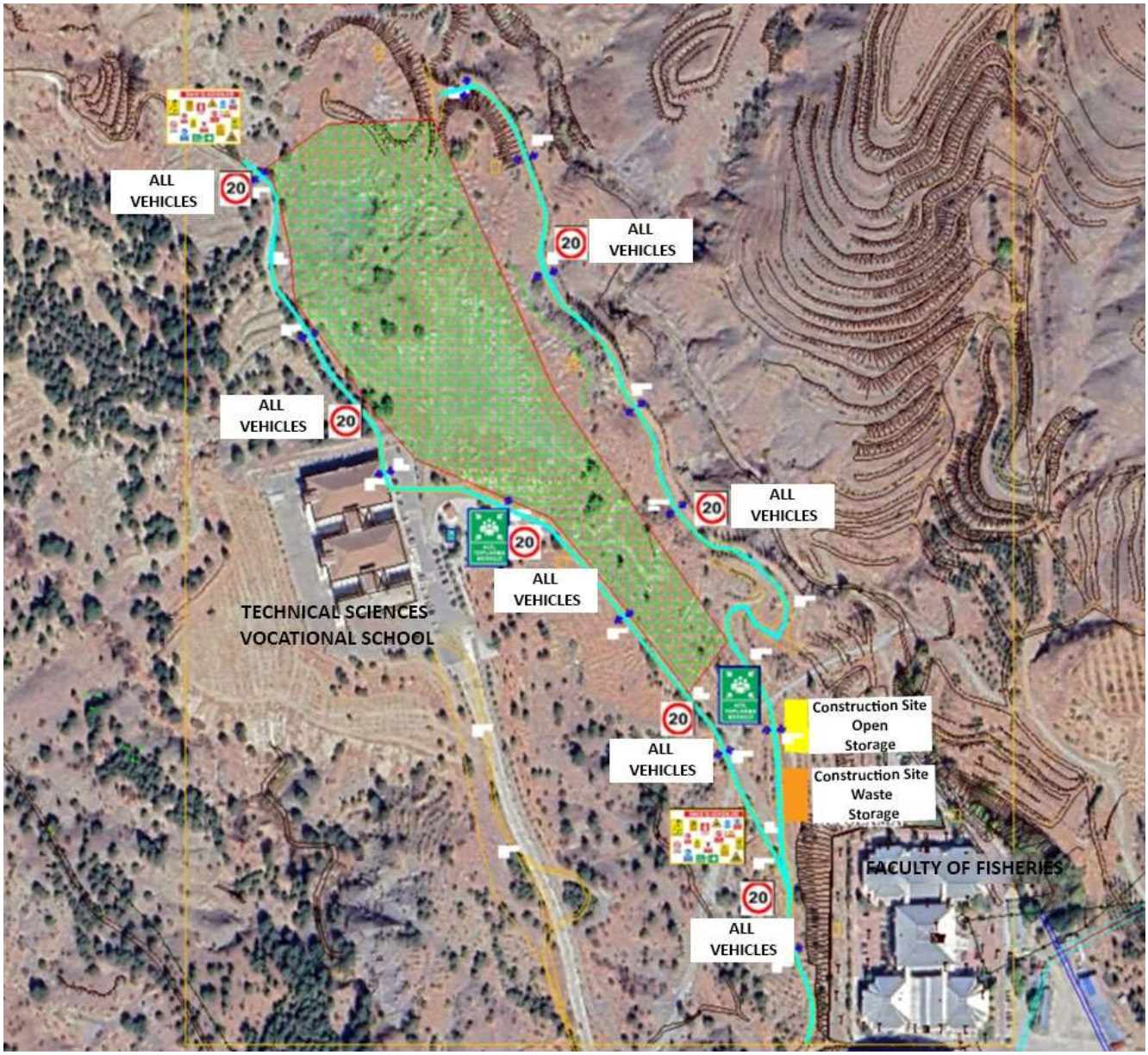


Figure 35 - Site Traffic Plan for the Ground-Mounted Solar Power Plant

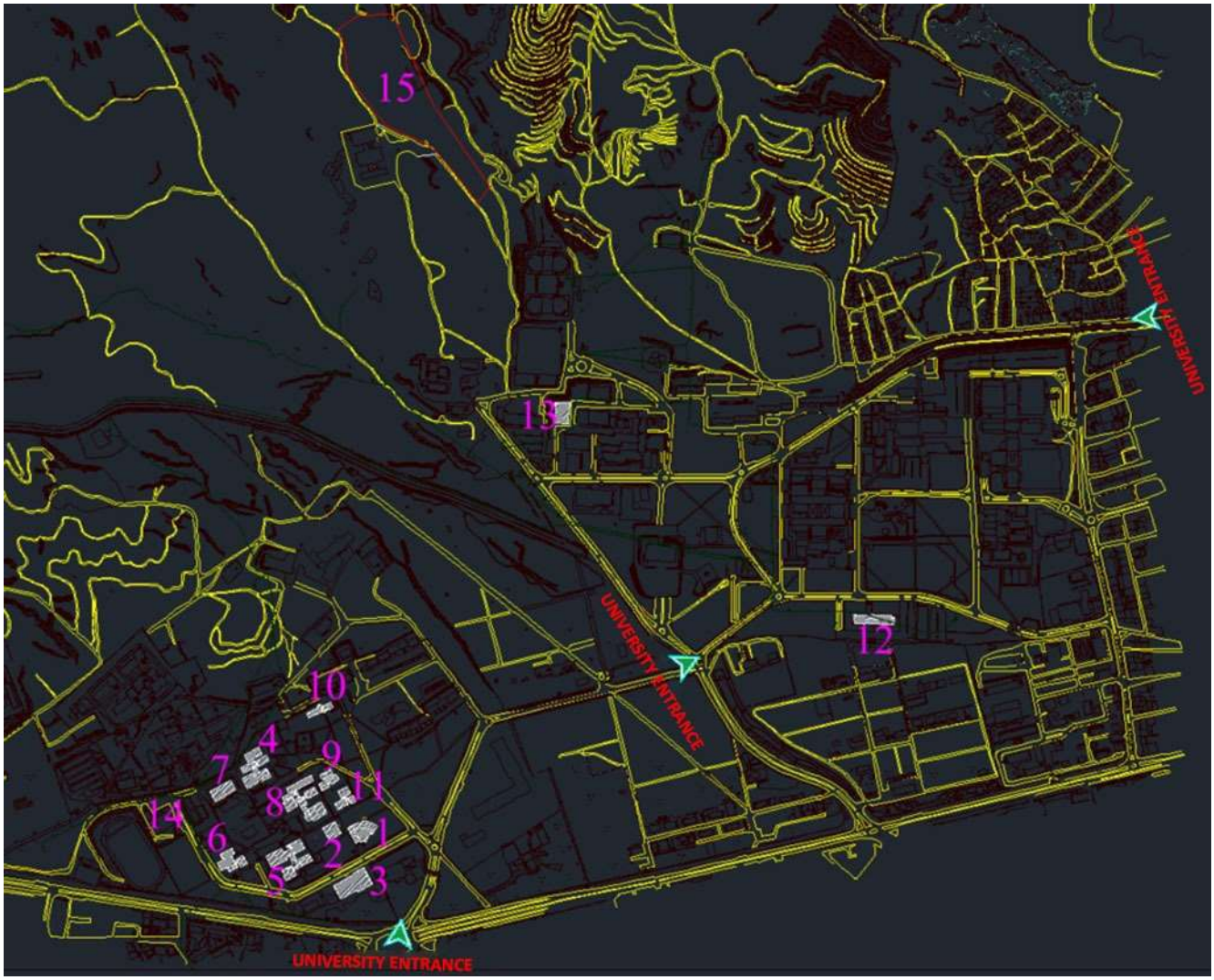


Figure 36 - Site Layout Plan

Annex - 2 Permit to WorkForm

	Permit No.	Request Date	Starting Date Hour	Finishing Date Hour

Location to Work	**Type of Activity Subject to Work Permit**
	☐ Night Work ☐ Working at Height ☐ Hot Works ☐ Commissioning/Test/Acceptance works

ACTIVITY DESCRIPTION

LIST of EMPLOYEES		
Name Surname	T.C. Identification Number	Occupation

Personnel Protective Equipment to be Used		**Constr. Machinery, Equipment, Tools**
☐ Safety Shoes	☐ Shock Absorber Lanyard	1.
☐ Safety Shoes (Electrician)	☐ Half Face Mask	2.
☐ Helmet	☐ Half Face Respirator	3.
☐ Safety Gloves	☐ Earplug	4.
☐ Werder Gloves	☐ Ear Protector	5.
☐ Gloves (low voltage)	☐ Raincoat	6.
☐ Gloves (high voltage)	☐ Boot	7.
☐ Face Shield	☐ Welder Head Mask	8.
☐ Safety Goggles	☐ Welder Hand Mask	9.
☐ Safety Harness		

DECLARATION *I declare that I understand and accept responsibility for the safe conduct of the activity described above.*		
A comprehensive inspection of the work area was conducted, and potential hazards were identified.	☐ Y	☐ N
All necessary measures to mitigate the risks associated with the activity have been ensured.	☐ Y	☐ N
All personnel have received appropriate training and possess the necessary skills related to the activity.	☐ Y	☐ N
The personnel's Professional Qualification Certificates are available in their personnel files.	☐ Y	☐ N
The work area has been properly isolated from unauthorized personnel.	☐ Y	☐ N
Emergency procedures (rescue, first aid, etc.) related to this activity are known.	☐ Y	☐ N

***Attachments**: If there are documents and records that need to be submitted to the Consultant along with the work permit request (Professional Qualification certificate, Risk Assessment, Site Inspection Forms, etc.), they will be included in this form.*

Person Requesting Work Permit			**Work Permit Approval**		
Name Surname	Date	Signature	Name Surname	Date	Signature

Notes:

CLOSING WORK PERMIT	
Request Maker	**Approver**
☐ Activity Completed ☐ Not Completed	☐ work permit closed ☐ work permit cancelled
Date, Hour:	Date, Hour:
Signature:	Signature:

Annex - 3 Accident Notification Form

	ACCIDENT REPORT FORM	Notification Date:	
		Notification No:	

INJURED PERSON DATA			
Name Surname of Injured:		Date of Accident/Incident:	
National ID No:		Time of Accident/Incident:	
Company Name:		Activity During Accident:	
Department/Project:		Tools/Equipment Used:	
Occupation:		Witness (1) Name-Surname:	
Duration of Employment:		Witness (2) Name-Surname:	

TIME OF ACCIDENT OCCURRENCE			
☐ Regular Working Hours	☐ Overtime	☐ Break Time	☐ Temporary Dıty/Visit

RESULTS OF THE ACCIDENT		
☐ Fatality	☐ İşgünü Kayıplı (İşgünü	☐ Revirde Müdahale Gerektiren
☐ Amputation	☐ İşgünü Kayıpsız	☐ Tıbbi Müdahale Gerektiren
☐ Property Damage	☐ Çevre Kazası	☐ Meslek Hastalığı (İşgünü kaybı: _____)
☐ Other (Specify)		

MANNER OF OCCURRENCE			
☐ Slipping	☐ Tripping, Falling	☐ Falling from Height	☐ Being Trapped/Crushed
☐ Cutting/Piercing	☐ Striking, Splashing	☐ Foreign Object in Eye	☐ Overexertion
☐ Falling of Material/Tool	☐ Electric Shock	☐ Fire	☐ Exposure to Cold/Heat
☐ Animal Bite	☐ Insect Sting, etc.	☐ Explosion	☐ Exposure to Radiation
☐ Chemical Contact	☐ Collapse	☐ Traffic Accident	☐ Natural Disaster (Earthquake)
☐ Infectious Disease	☐ Poisoning	☐ Drowning	☐ Other:

TYPE OF INJURY			
☐ Scratch	☐ Bleeding Injury	☐ Deep and Open Wound	☐ Injury with Limb Loss
☐ Sprain, Strain	☐ Dislocation	☐ Crack	☐ Fracture
☐ Loss of Consciousness	☐ Electrical Burn	☐ Thermal Burns	☐ Chemical Burns
☐ Fainting, Shock	☐ Internal Bleeding	☐ Sunstroke	☐ Frostbite on Body
☐ Muscle Injury	☐ Shortness of Breath	☐ Acute Infection	☐ Acute Poisoning
☐ Diğer:			

AFFECTED BODY PART			
☐ Skull	☐ Face	☐ Ears	☐ Eyes
☐ Mouth	☐ Neck	☐ Arms	☐ Hands
☐ Legs	☐ Knees	☐ Feet	☐ Ankles
☐ Finers	☐ Chest	☐ Abdominal Cavity	☐ Back
☐ Diğer:			

HOW DID THE ACCIDENT OCCUR? *(Describe in detail and clearly below)*

Reported By	Supervisor	Employer Representative / Project Manager
Name-Surname - Signature	Name-Surname - Signature	Name-Surname - Signature

Annex - 4 Structural Strengthening Elements Table

NO	BUILDING NAME	SHEAR WALL STRENGTHENING (RC)	SHEAR WALL STRENGTHENING (FRP)	NEW SHEAR WALL	COLUMN STRENGTHENING	BEAM STRENGTHENING (RC)	BEAM STRENGTHENING (FRP)	NEW BEAM
1	FÜ Atatürk Cultural Center	4	0	43	135	0	3	0
2	Library Building	24	0	12	75	0	8	0
3	FÜ Computer, Metallurgy and Materials Engineering	0	84	14	28	0	246	0
4	FÜ Electrical Engineering Department	6	0	109	302	0	71	0
5	FÜ Civil Engineering Department	11	0	57	304	0	24	0
6	FÜ Geological Engineering Department	3	0	73	401	0	182	0
7	FÜ Chemistry Engineering Laboratory	0	1	15	45	0	0	0
8	FÜ Mechanical Engineering Department	16	0	47	307	0	23	0
9	FÜ Mechanical Engineering Annex Building	6	14	29	138	0	29	1
10	FÜ Guesthouse	ALL MASONRY STRUCTURE	0	0	9	10	0	5

NO	BUILDING NAME	SHEAR WALL STRENGTHENING (RC)	SHEAR WALL STRENGTHENING (FRP)	NEW SHEAR WALL	COLUMN STRENGTHENING	BEAM STRENGTHENING (RC)	BEAM STRENGTHENING (FRP)	NEW BEAM
11	FÜ Faculty of Engineering Dean's Office	2	0	35	168	0	44	0
12	FÜ Rectorate Building	2	20	64	138	0	72	0
13	FÜ Faculty of Technology Metal Workshop	0	12	16	20	0	76	0