PUBLIC BUILDINGS
EARTHQUAKE RESISTANCE & ENERGY EFFICIENCY PROJECT
(SREEPB PROJECT)

BOĞAZİÇİ UNIVERSITY NORTH CAMPUS
(SQUARE BLOCK)

OCCUPATIONAL HEALTH AND SAFETY PLAN

APRIL
2024

PERSONAL DATA PROCESSING RULES

With respect to the personal data in this document, with**"Law on Protection of Personal Data"** (Official Gazette Date: 07.04.2016 Official Gazette Number: 29677);

The individuals in question have been informed about the following matters.

- Data Controllers,
- For what purpose personal data will be processed,
- Relevant sections of this document where personal data are processed,
- To whom and for what purpose the processed personal data can be transferred,

The real and legal persons reviewing this document must strictly adhere to the rules set out below;

- To prevent unlawful processing of personal data,
- To prevent unlawful access to personal data,
- To take all necessary technical and administrative measures to ensure the appropriate level of security to ensure the preservation of personal data,

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1. Terms & Abbreviation

Contractor	As a result of the tender held by the Ministry of Environment, Urbanization and Climate Change, the company is responsible for implementing all renovation activities focused on structural strengthening and energy efficiency.
Subcontractor	The company assigned by the contractor company to carry out a part of the project.
Corrective Action	A set of activities aimed at eliminating the root causes of identified non-conformities and unwanted conditions. *(It is mandatory to record corrective actions, including the date of identification, the identifier, responsible unit/persons, description of non-conformity and **root cause**, corrective action recommendations, deadlines, date of resolution of the non-conformity, and the method used.)*
Root Cause Analysis	When defining or assessing an incident, problem, or undesired outcome, it involves going beyond immediate causes and, upon addressing, identifying the main reasons or elements to prevent the recurrence of similar incidents or problems in the future. (Corrective actions should focus on eliminating or correcting these main causes or elements.)
Molucca	Ministry of Environment, Urbanization, and Climate Change
Major	Big, Very Important
PPE	Personal Protective Equipment
LOTO	Lock Out-Tag Out
PAT	Portable Appliance Test
MSDS	Material Safety Data Sheet
ERT	Emergency Response Team

2. Objective

Occupational Health and Safety Plan; Structural Feasibility, Energy Audit, Structural Energy Enhancement, Project Design, and Construction Supervision Consulting Services Project STRUCTURAL STRENGTHENING and RENOVATION process

- Statement of completion of services covering Highly Hazardous Works that must be obtained from External Agencies before the project-oriented Construction process begins.
- Determining the hazards and risks related to construction activities, as well as identifying safety measures to be taken,
- Establishing the minimum requirements for personnel involved in the construction process and preventing those who do not meet these minimum requirements from participating in the work, are the objectives.

In accordance with this objective, the following have been defined within this document;

- Construction method and risk analysis for the structural reinforcement and renovation process,
- Personnel qualification profiles,
- Control/inspection methods for before, during, and after fieldwork,
- Record forms and methods,
- Additional safety measures to be taken by beneficiary institutions
- Completion of the required operations within the External Supplier Organizations (Natural Gas Local Distribution Company, Electricity Local Distribution Company, Local Government Infrastructure and Technical Works Directorates) before the field delivery of the services in accordance with the Project and Rules in accordance with the Legislation.

It is defined within this document.

This Occupational Health and Safety Report prepared by the consultant will be notified through official channels that the Contractor company should prepare its own OHS plan, Risk Assessments and Method declarations regarding the project-based operations to be carried out by taking the Occupational Health and Safety (OHS) Plan prepared by the Consultant as reference.

3. Scope

BOĞAZİÇI UNIVERSITY NORTH CAMPUS (SQUARE BLOCK) 1 building, 21.175,00 m^2 construction area, the building list and satellite images are given under the title "Buildings within the Scope of the Project".

The works to be carried out within this project are described below. This document is limited to the studies listed below

- Strengthening the structural elements,
- Facade and façade components, mechanical and electrical system renovations within the framework of energy efficiency,
- Sustainable clean energy production (Rooftop solar power plants),
- Building infrastructure revisions

4. legal Regulations

This OHSP has been primarily prepared in accordance with the laws and regulations related to Occupational Health and Safety in Turkey. In addition to these, it also complies with the Environmental and Social Standards of the World Bank, particularly focusing on 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 (Law)

	NO	**KABUL TARİHİ**	**RESMİ GAZETE SAYISI & TARİHİ**
Labor Law (Current Version)	1475	25.08.1971	RG: 01.09.1971/13943
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 Training Law	3308	05.06.1986	RG: 19.06.1986/19139
Law on Some Regulations Concerning the Vocational Qualifications Authority (Vocational Qualifications Authority Law)	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
Social Insurance Law (Current Version)	506	17.07.1964	RG: 29.07.1964/11766
Law on the Preparation and Implementation of Technical Regulations for 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

	OFFICAL GAZETTE NUMBER & DATE
Subcontracting Regulation	RG: 27.09.2008/27010 Değ. 25.08.2017/30165
Regulation on the Protection of Employees from Noise-Related Risks	RG: 28.07.2013/28721
Regulation on the Principles and Procedures of Occupational Health and Safety Training for Employees	RG: 15.05.2013/28648 Değ. 24.05.2018/30430
Regulation on the Principles and Procedures for Health Surveillance of Employees	RG: 20.01.2022/31725
Manual Handling Operations Regulation	RG: 24.07.2013/28717
Hygiene Training Regulation	RG: 05.07.2013/28698
First Aid Regulation	RG: 29.07.2015/29429

Regulation on Health and Safety Conditions for the Use of Work Equipment	RG: 25.04.2013/28628 Değ. 18.02.2022/31754
Regulation on the Duties, Authorities, Responsibilities, and Training of Occupational Health and Safety Specialists	RG: 29.12.2012/28512 Değ. 16.04.2020/31101
Regulation on Working Hours Related to the Labor Law	RG: 06.04.2004/25425 Değ. 25.08.2017/30165
Regulation on Overtime Work and Work with Extra Hours Related to the Labor Law	RG: 06.04.2004/25425 Değ. 25.08.2017/30165
Regulation on Occupational Health and Safety Risk Assessment	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. 16.04.2020/31101
Regulation on Emergency Situations in Workplaces	RG: 18.06.2013/28681 Değ. 01.10.2021/31615
Regulation on Work Stoppages in Workplaces	RG: 30.03.2013/28603 Değ. 11.02.2016/29621
Personal Protective Equipment Regulation	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 Examination, Measurement, Evaluation, and Certification by the Vocational Qualifications Institution	RG: 15.10.2015/29503
Regulation on Health and Safety Signs	RG: 11.09.2013/28762
Regulation on Vocational Training for Workers Employed in Hazardous and Very Hazardous Jobs	RG: 13.07.2013/28706 Değ. 11.05.2017/30063
Dust Control Regulation	RG: 05.11.2013/28812

5. Management Commitment & OHS Objectives

5.1. Management Commitment

ÇEVTAŞ ARAŞ. TEK. MAD. MÜH. MÜŞ. PEY. EĞİT. DAN. TAAH. TİC. LTD. ŞTİ. Partnership, I commit that throughout the duration of the seismic reinforcement and energy efficiency project in public buildings, covering the preparation and implementation phases until the completion of the project: The health and safety of employees and other stakeholders will be prioritized. All relevant legislation and defined requirements will be strictly adhered to. All necessary measures related to occupational health and safety will be taken promptly. Colletive protection measures will be prioritized when determining and implementing precautions. Employee training and information regarding occupational health and safety will be emphasized. Adequate resources will be provided for occupational health and safety, and necessary expenses will not be spared. Employee suggestions and ideas will be taken into consideration in occupational health and safety practices. Necessary participation, idea exchange, and collaboration in the field of occupational health and safety will be ensured between management and employees. This plan has been prepared for the conditions of this construction site, its employees, and other stakeholders. It will be implemented throughout the project and updated when necessary. Adequate information about their responsibilities under this plan will be provided to all levels of employees, including the highest-level manager involved in the project, as well as visitors. I hereby commit to these principles and responsibilities.

Date : 29.04.2024
Name & Surname : Selami HORZUN
Signature :

5.2. Policy

We will comply with national and international regulations, ensuring a healthy and safe working environment by;

- Promoting and fostering a culture of occupational health and safety among all stakeholders, encouraging continuous improvement.
- Taking all necessary measures within the framework of occupational health and safety regulations for all relevant parties.
- Working to prevent workplace accidents through effective risk assessment before they occur.
- Providing training for our employees in occupational health and safety that goes beyond regulatory requirements.
- Respecting the rights of our employees, including their rights related to collective bargaining and negotiations, and supporting such initiatives.
- Adopting references such as the Universal Declaration of Human Rights, International Labor Organization (ILO) conventions, United Nations Global Compact, United Nations Sustainable Development Goals, and the Organization for Economic Cooperation and Development (OECD) guidelines for multinational enterprises.
- Ensuring that visitors at all levels, our suppliers, and employees of the companies from which we purchase services comply with occupational health and safety rules.
- Creating a healthy environment where employees feel comfortable, safe, and happy to work and taking mental health issues seriously, providing support to all personnel facing such problems.

Date : 29.04.2023
Name & Surname : Selami HORZUN
Sigmate :

5.2 Key Strategies Related to OHSP

- Leadership from management teams,
- Involving all employees by seeking their opinions and suggestions to contribute to OHS requirements and problem-solving,
- Identifying hazards and planning and implementing adequate control measures before workplace accidents occur,
- Ensuring that all employees have sufficient awareness and motivation regarding occupational health and safety.

5.3. Targets

To regularly measure the Occupational Health and Safety (OHS) performance of the project, "performance criteria" consistent with the project contract have been established, along with measurable "targets" corresponding to each performance criterion, which will be tracked on a monthly basis. During the first week of each month, the OHS Monthly Activity Report, approved by the consultant in the appropriate format for the previous month, will be prepared and submitted to the administration.

TARGET DEFINITION	QUANTITATIVE DATA
Number of Lost-Time Occupational Accidents (maximum)	0
Number of Lost-Time Occupational Injuries (maximum)	0
Number of Near-Miss Incidents (maximum)	2
Accident Frequency Rate (AFR[1]) (maximum)	60
Accident Severity Rate (ASR[2]) (maximum)	0
Occupational Health and Safety (OHS) Training for this Project	20 person.hour
Fire Drill for this Project	1 pcs.
Earthquake Drill for this Project	1 pcs.
Injured Worker Rescue Drill for this Project	1 pcs

Performance criteria are continuously monitored cumulatively throughout the project duration. The values achieved in comparison to the planned targets are analyzed on a monthly basis to identify deviations and initiate necessary corrective actions. Data and results related to the targets will be communicated to the consultant during the first week of each month, along with the Occupational Health and Safety (OHS) Monthly Activity Report.

The questions that will be addressed as part of the performance measurement are as follows:

- Are we achieving our Occupational Health and Safety (OHS) targets?

[1] $\text{AFR} = \frac{\text{Total Number of Accidents}}{\text{Total Working Time (hours)}} \times 1.000.000$

[2] $\text{ASR} = \frac{\text{Total Number of Lost Days}}{(\text{Total Working Days} - \text{Non} - \text{Working Days})} \times 1.000$

- Are we working in compliance with OHS regulations?
- Are the planned control activities resulting from risk assessments effective in reducing risks?
- Are accidents and near-miss incidents being recorded? Is accident investigation and root cause analysis conducted to prevent their recurrence?
- Are Corrective Actions planned and implemented for discrepancies/violations identified in the field (by the Contractor or Consultant)?
- Are the implemented Corrective Actions effective?
- Are necessary changes (revisions) made to the OHSP when needed?
- Do the provided training sessions effectively build OHS awareness and motivation among employees?

To enable the consultant to monitor the Contractor's OHS performance, the following records will be shared by the Contractor on a monthly basis:

- Accident and near-miss incident reports
- Records related to mandatory training (training records, certificates, etc.)
- Periodic inspection reports for machinery/equipment (reports prepared by an A-type inspection organization accredited by TÜRKAK)
- Status of ISG-related discrepancies recorded by the Contractor or Consultant (open/closed, description of corrective actions, etc.).

6. Project Information

6.1. General Information

Information on the Project Consultant company is given in the table below. However, it will be the company that will implement the Occupational Health and Safety Plan. An update will be made after the Supervision Company is determined.

Table 3: Consultant Information Table

CONSULTANT	ÇEVTAŞ ARAŞ. TEK.MAD.MÜH.MÜŞ.PEY.EĞİT.DAN.TAAH.TİC.LTD.ŞTİ.
SSI REGISTRY NUMBER	27112020211736800607930
ADDRESS	EMEK, KIRIM CD. NO:36/5 06500 ÇANKAYA/ANKARA
PHONE / E-MAIL	+90 530 289 35 65 / info@cevtas.net
OHS EXPERT	Emrah BUDAK
WORKPLACE PHYSİCİAN	Hakan FİDAN

6.1.1 Buildings within the Scope of the Project

Table 4: Boğaziçi Unversıty North Campus Square Block Campus Building Listi

	BUILDING NAME	REGION	CONSTRUCTION YEAR	BUILDING CONSTRUCTION AREA m2
01	BOĞAZİÇI UNIVERSITY NORTH CAMPUS SQUARE BLOCK	İSTANBUL (Avrupa)	1990	18.821,00
				18.821,00

Figure1: BOĞAZİÇİ UNVERSITY NORTH CAMPUS SQUARE BLOCK

General information about the buildings in question is presented to your attention on the next page.

Table 5: Boğaziçi Unversıty North Campus Square Block Campus General Infermation Table

<table>
<tr><td>BUILDING NAME</td><td colspan="4">BOĞAZİÇI UNIVERSITY NORTH CAMPUS SQUARE BLOCK</td></tr>
<tr><td>BUILDING OWNER</td><td colspan="4">BOĞAZİÇİ UNIVERSITY</td></tr>
<tr><td>ADDRESS</td><td colspan="4">RUMELİ HİSARI, HİSAR ÜSTÜ NİSPETİYE CD NO:7, SARIYER/İSTANBUL</td></tr>
<tr><td>CITY</td><td colspan="2">İSTANBUL</td><td>POSTAL CODE</td><td>34450</td></tr>
<tr><td>CONSTRUCTION YEAR</td><td colspan="2">1990</td><td>CONSTRUCTION AREA</td><td>~21.175,00 m^2</td></tr>
<tr><td>PURPOSE OF USAGE</td><td colspan="2">EĞİTİM ÖĞRETİM</td><td>NUMBER OF BLOCKS IN THE BUILDING GROUP</td><td>1</td></tr>
<tr><td>USABLE INDOOR SPACE</td><td colspan="2">~18.821,00 m^2</td><td>TOTAL CLOSED VOLUME</td><td>~21.175,00 m^3</td></tr>
<tr><td rowspan="3">NUMBER OF USERS</td><td>Student</td><td colspan="3">2000 Person/Year</td></tr>
<tr><td>Academician</td><td colspan="3">192 Person/Year</td></tr>
<tr><td>Staff</td><td colspan="3">61 Person/Year</td></tr>
<tr><td rowspan="3">TECHNICAL RESPONSIBLE</td><td colspan="2">NAME SURNAME</td><td colspan="2">Ebru AKKOL – Etüt Proje Şube Müdürü</td></tr>
<tr><td rowspan="2">CONTACT INFORMATION</td><td>PHONE</td><td colspan="2">0 (212) 359 45 32</td></tr>
<tr><td>E-MAİL</td><td colspan="2">ebru.akkol@boun.edu.tr</td></tr>
<tr><td colspan="5">THE PLANNED WORKS TO BE CARRIED OUT IN THE BUILDING</td></tr>
<tr><td colspan="5">All of the manufacturing planned to be done in the building are listed in Table 4.</td></tr>
<tr><td colspan="5">DURATION AND SEASON OF THE WORKS</td></tr>
<tr><td colspan="5">Following the preparation of the tender documents and site delivery date, all works will be carried out between the last quarter of 2024 and the second quarter of 2025. The Contractor is obliged to complete the works in the buildings within the planned period as stated in the Terms of Reference.</td></tr>
<tr><td colspan="5">NUMBER OF WORKERS EXPECTED TO WORK DURING THE RENOVATION WORKS</td></tr>
<tr><td colspan="5">In order to complete the planned construction activities within the targeted timeframe, it is estimated that 80 workers per day will be employed.</td></tr>
</table>

Building Height : ~19 m (Vertical distance from ground level to the highest point of the building)
Number of Floors : 4+1 (Entrance floor)
Coordinates : 41° 08'5.83"K x 29°04'51.20"D

3D Model : CLICK TO ACCESS THE MODEL[3]

- On the next page, the planned construction activities, the estimated number of personnel, and completion durations are presented in a table format. This table is provided for general information purposes, and it is expected that the contracting company will revise this table according to its own work program/plans.

3 Modeling was performed by ATLAS®.

Table 6: Works Planned To Be Made In Boğaziçi University North Campus (Square Block)

	GENERAL DESCRIPTION OF THE WORK TO BE DONE	PROJECTED NUMBER OF PERSONNEL	PROJECTED DURATION (WEEKS)
STRUCTURAL REINFORCEMENT	RAFT FOUNDATION WORKS	4	1
	EXCAVATION WORKS	4	2
	WALL DEMOLITION & DISMANTLING WORKS	4	4
	DOOR AND WINDOW DISMANTLING WORKS	4	3
	COLUMN MOUNTING WORKS	10	1
	COLUMN CUTTING AND INSULATOR ASSEMBLY	4	18
	ELECTRICAL AND MECHANICAL SYSTEM	8	4
	SUBBASE CONCRETE AND FOUNDATION BACKFILL	10	2
	EPOXY ANCHORS AND TESTS	6	3
	NEW EQUIPMENTS FACILITY	10	4
	KALIPLAMA VE BETON DÖKÜMÜ	10	3
FINISHING WORKS	WALL CONSTRUCTION	8	3
	PLASTERING	8	5
	PAINTING	4	4
	FLOORING	3	5
	ELECTRICAL & MECHANICAL INSTALLATION	10	4
	AUTOMATION	3	3
OTHER WORKS	SOLAR PANEL INSTALLATION	6	1
	MOULDING AND CONCRETE CASTING	2	1

The works related to electrical & mechanical installations mentioned in Table 6, as well as the automation, and solar panel installation sections, include energy efficiency measures. These measures are listed below.

Table 7: Works Planned To Be Made In Boğaziçi University North Campus (Square Block)

GENERAL DESCRIPTION OF THE WORK TO BE DONE	PROJECTED NUMBER OF PERSONNEL:	PROJECTED DURATION (WEEKS)
Production of Electricity with Photovoltaic System on the Roof:	6	1
Replacement with high efficiency condensing KASKAT sliced premix burner replacement.	5	2
Replacement of motor & pump system with integrated frequency controlled high efficiency motor & pump systems.	2	0,3
Completion of LED conversion of the lighting element.	5	1
Thermal insulation jacket installation to uninsulated installation element. Thermal insulation jacket installation on domestic hot water line heat exchangers (MIT M514-515)	1	0,2
Installation of thermostatic valves on all existing radiator combs and their use within the framework of ISO EN 50001 standard requirements.	2	1

GENERAL DESCRIPTION OF THE WORK TO BE DONE	PROJECTED NUMBER OF PERSONNEL:	PROJECTED DURATION (WEEKS)
Installation of 100mm rockwool facade insulation instead of the existing 40mm PS facade insulation	3	3
Replacement of single-glazed non-insulated framed doors with thermally insulated substitutes, Application of thermal insulation chemicals to non-insulated metal doors ($2m^2$)	2	0,2
Renewal of 40mm thermal insulation on the roof with 150 XPS, prevention of water leaks with polymer bitumen waterproofing.	3	2

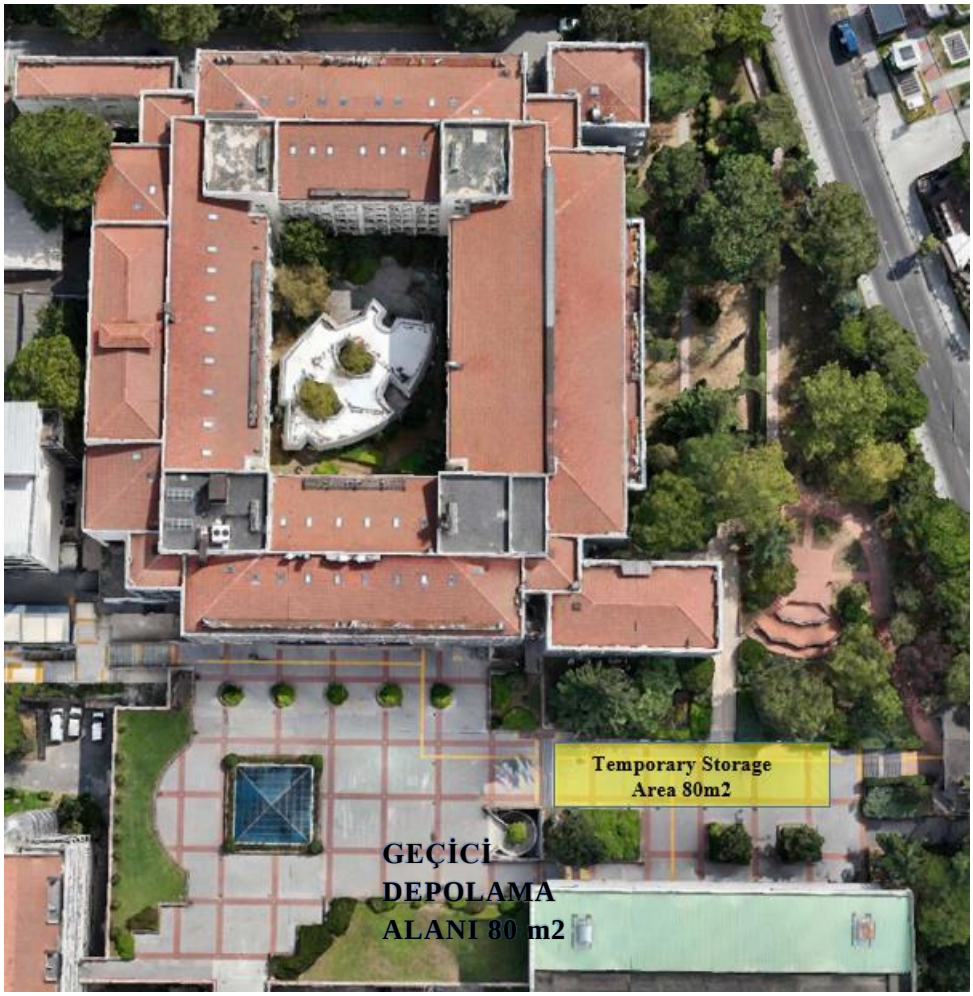
6.2 Pre-construction Information & Site Plans

Regarding the campuses where the study will be carried out; site data, building approach areas, traffic action plans, temporary storage areas, work vehicles and machinery parking areas, and risky areas such as elevation differences are stated in ANNEX 1.

6.3 General Construction Site Rules

- The entry and exit of vehicles (including construction equipment) to the work areas and parking areas are specified in the Figure-18 section. (See also Annex 1).
- The buildings within the scope of the project are out of use during the activities. Therefore:
  - It is not possible to install a structure such as a container etc. within the scope of the construction site in the work areas.
  - Specific areas for dining and resting of workers are not allocated. The areas within the buildings where workers can use for general and humane needs (such as toilets, break/rest areas, dining rooms, etc.) will be determined by the beneficiary institution's technical and administrative units and communicated to the contractor.
- Workers will not be accommodated within the campus area. The contractor and subcontractors will arrange suitable places (hotels, motels, etc.) for the accommodation of workers.
- Temporary storage areas *(outside of the buildings*) are specified on a building basis. Temporary storage is not allowed in areas other than those specified.

Figure 2: TEMPORARY STORAGE AREAS SATELLITE LOCATIONS



- During temporary storage, the necessary precautions must be taken by the contracting company to stack materials and equipment in a way that does not create risks, protects them from environmental conditions, and prevents the leakage of hazardous chemicals into the ground. The contracting company must describe how these issues will be addressed before the use of these storage areas. Otherwise, the use of temporary storage areas will not be allowed.
- Emergency assembly areas for each building are specified below. Warning signs will be provided in these areas, and all employees will be informed about the assembly areas by the Occupational Health and Safety specialist.

Figure 3: EMERGENCY SITUATION REGROUP AREA

- The specified emergency assembly areas will be used in all Occupational Health and Safety (OSH) drills. The responsible OSH Specialists will determine the emergency assembly times for each drill.
- The emergency assembly areas will be included in the Occupational Health and Safety (OSH) training materials.
- Indoor toilets will be used for restroom needs.
- Employees' shower needs will be provided in the accommodations arranged by the contractor and subcontractors (hotels, etc.). Indoor sinks will be used for washing hands.
- Drinking water will be supplied to all employees in plastic bottles. It is not allowed to drink water from the toilets. Warning signs, as specified below, will be installed in all toilets.

- Smoking is prohibited inside the buildings and temporary storage areas. Warning signs, as specified below, will be installed at building entrances and temporary storage areas. (An open flame prohibition sign will be installed in temporary storage areas.).

- Outdoor smoking areas, located at least 5 meters away from building entrance doors, can be designated. These areas should be clearly marked with the warning sign specified below, and all employees should be informed about the designated smoking areas.

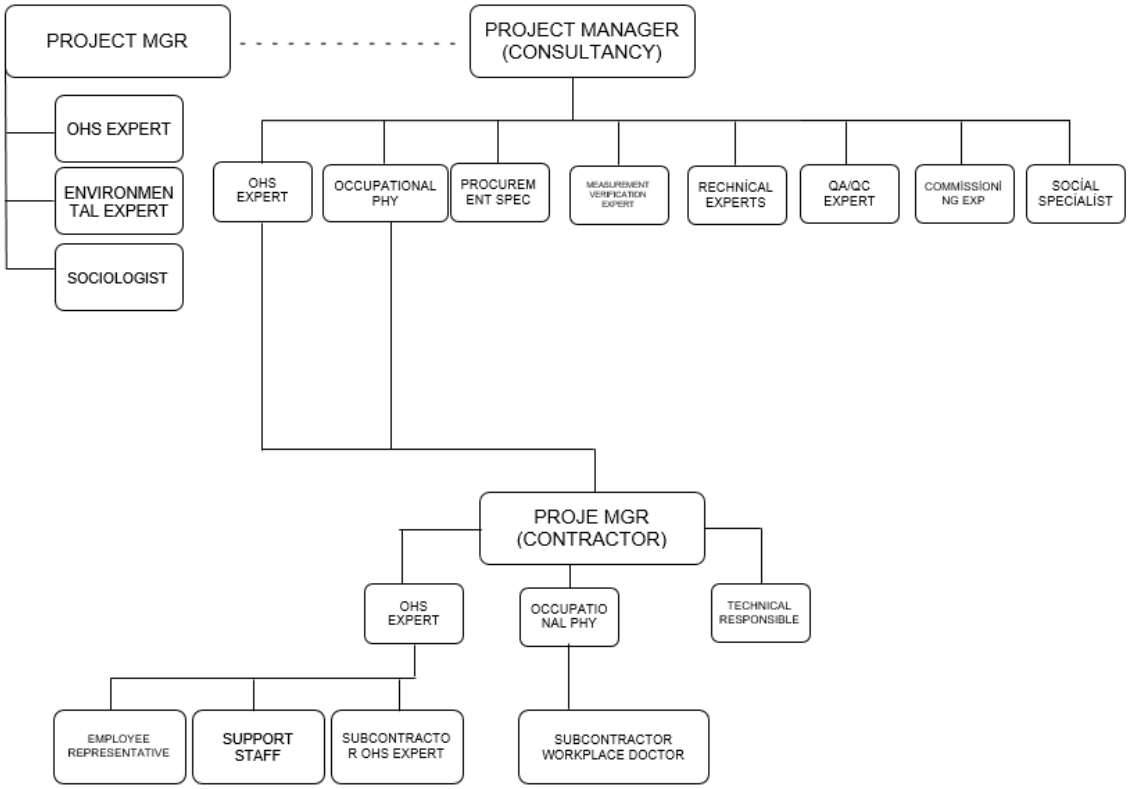
- All machinery and electrical equipment used during construction activities must bear the CE marking and comply with the relevant regulations. Products falling under the scope of the "CE" MARKING REGULATION and not meeting the requirements associated with this symbol are not permitted for use. [4]

The building can be accessed through 13 exterior doors. The locations, types and general visuals of these doors are given below.

[4] Related Directives;
- MACHINERY SAFETY DIRECTIVE (2006/42/AT)
- DIRECTIVE ON ELECTRICAL EQUIPMENT DESIGNED FOR SPECIFIC VOLTAGE LIMITS (2014/35/AB)
- PRESSURE EQUIPMENT REGULATION (2014/68/AB)
- REGULATION ON GAS APPLIANCES (2016/426/AB)
  Relevant standards (must be reviewed separately for each device)
- TS EN ISO 12100 Safety in machinery - General principles for design - Risk assessment and risk reduction
- TS EN 60204-1 Safety in machinery - Electrical equipment of machinery - part 1: General rules
- TS EN 60335-1 Safety regulations - For household and similar electrical appliances - Part 1: General rules
- TS 1203 EN 286-1 Tanks - Simple - Non-flammable - Pressurised
- TS 10116 Cranes (Cranes) - Test and inspection methods
- TS ISO 9927-1 Cranes-Inspections-Part 1: General

Figure 4: Building Exterior Doors

7.Health & Safety Organization



- The duties and responsibilities of the units specified in the organization chart are described under separate headings on the next page.

7.1. Consultant

7.1.1. Duties of the Project Manager

The Project Manager has been appointed as the employer's representative, limited to this project. In this context, the employer has undertaken[5] its duties.

In this framework;

1. Ensure the implementation of the Occupational Health and Safety Plan and compliance with legal regulations and best practices within the scope of the project.
2. Review and assess the construction methods and risk analyses prepared by the contractor, focusing on technical, administrative, and occupational safety aspects. If found inadequate[6], provide reasons and monitor the revision process.
    a) The construction methods and risk analyses prepared by the contractor should cover the entire project, including subcontractor activities.
    b) Ensure that the contractor and subcontractors' control and oversee the following aspects regarding risks and precautions.
        i. Properly informing all employees.
        ii. Providing the necessary resources (equipment, materials, workforce).
        iii. Ensuring compliance with all rules by all managers and employees.
3. Ensure the suitability and sufficiency of risk assessments through field inspections.
    a) Any non-compliance identified during these inspections will be recorded as corrective actions. Ensure that identified non-compliances are rectified adequately and within the specified timeframe.
    b) Identified non-compliances or corrective actions may necessitate a revision of risk analyses. In such cases, ensure that risk analyses are reissued with the revision number, date, and justifications, following the necessary approval processes.
4. Ensure that employees obtain periodic health reports and are monitored based on the tasks they perform. Do not allow those who cannot provide reports indicating the suitability of their health for their assigned tasks to work.
5. Ensure that the educational status of employees is verified, and that they have received training in compliance with legal requirements. Do not allow those who cannot prove they have received appropriate training to work.
6. Ensure that employees' vocational qualifications are checked and do not allow those who cannot prove appropriate vocational competence within the scope of their duties to work.
7. Ensure the identification, procurement, and proper delivery of necessary Personal Protective Equipment (PPE) to employees.

[5] 6331 THE LAW ON OCCUPATIONAL HEALTH AND SAFETY (Official Gazette Date: 30.06.2012 Official Gazette Number: 28339) Article 3 Paragraph 2: Employer representatives acting on behalf of the employer and taking part in the management of the work and the workplace shall be deemed to be employers in terms of the application of this Law.

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

8. Determine, procure, and properly install safety equipment (protective nets, guardrails, lifelines, etc.) required to be present at the work sites.
9. Ensure that work accidents are reported in accordance with Article 14 of the Occupational Health and Safety Law No. 6331.

7.1.2. Duties of the OHS Specialist

The duties of OHS Experts specified in Article 9 of the REGULATION ON DUTIES, AUTHORITIES, RESPONSIBILITIES AND TRAINING OF OCCUPATIONAL SAFETY EXPERTS *(Official Gazette Date: 29.12.2012 Official Gazette Number: 28512)* are given below. He/she will manage occupational health and safety activities in accordance with the duties given below.

1. Guidance;
    a) To ensure that work is planned, organized, and implemented in accordance with occupational health and safety legislation and general occupational safety rules, including the condition, maintenance, selection of design, machinery, and other equipment used in the workplace, as well as the selection, procurement, use, maintenance, storage, and testing of personal protective equipment, and to make recommendations to the employer regarding work carried out and changes to be made in the workplace.
    b) To inform the employer in writing about the precautions that need to be taken in terms of occupational health and safety.
    c) To inform the employer in writing about the precautions that need to be taken in terms of occupational health and safety.
    d) To conduct investigations into the causes of workplace accidents and occupational diseases and make recommendations to the employer on measures to prevent their recurrence.
2. Risk Assessment;

    Participating in the work related to occupational health and safety risk assessment and its implementation, making recommendations to the employer regarding the health and safety measures to be taken as a result of the risk assessment, and monitoring its implementation.
3. Workplace Surveillance;
    a) Supervising the workplace, planning and monitoring the periodic maintenance, inspections, and measurements required by occupational health and safety legislation, and ensuring their implementation.
    b) Participating in efforts to prevent accidents, fires, or explosions in the workplace, making recommendations to the employer in this regard, monitoring the implementation of practices; participating in the preparation of emergency plans for natural disasters, accidents, fires, or explosions, ensuring that periodic training and drills related to this issue are conducted, and monitoring and controlling compliance with the emergency plan.
4. Training, Information, and Records;
    a) Planning the occupational health and safety training of employees in accordance with the relevant legislation, presenting it to the employer for approval, and implementing or supervising the implementation.
    b) Recording the results of occupational health and safety activities related to the workplace and workplace surveillance.

c) Organizing informative activities for employees, presenting them to the employer for approval, and controlling their implementation.

d) Preparing occupational health and safety instructions and work permit procedures for use in necessary locations, presenting them to the employer for approval, and controlling their implementation.

5. Collaboration with Relevant Departments;

a) Conduct assessments, along with the occupational physician, related to workplace accidents and occupational diseases, prepare necessary preventive action plans to prevent the recurrence of accidents, and monitor the implementation.

b) Prepare the annual work plan for occupational health and safety activities to be carried out in the following year in collaboration with the occupational physician.

c) Collaborate with the occupational health and safety committee of which they are a member if available,

d) Provide support to employee representatives and support staff and collaborate with these individuals.

Within this framework;

1. Examine construction methods and risk analyses, prepare a report regarding their suitability. Transmit the prepared report to the Project Manager and the Contractor's Project Manager.
2. During the project preparation phase, prepare weekly monitoring reports and present them to the Project Implementation Unit.
3. During the project implementation phase, ensure the preparation of monthly Occupational Health and Safety (İSG) reports by the Contractor and submit the reports to the administration in the specified format.
4. Obtaining and checking the periodic inspection reports of work machinery. (Maximum inspection frequency in the regulation is 1 year.).
5. Ensuring the delivery of personal protective equipment specified in the risk analysis to all employees. (Checking the PPE delivery records, questioning the adequacy and proper use of the equipment during field inspections.)
6. Verifying the authorization and appointments of the Contractor's and Subcontractor's Occupational Health and Safety Specialist and Workplace Doctor.
7. Improving this document and updating it based on on-site findings.
8. Checking employee personnel files.
9. Checking records and certificates related to employees' past OHS training (maximum period of 1 year).
10. Attending weekly and monthly OHS meetings and reporting them to the management.
11. Verifying the professional competence certificates of the employees.
12. Reviewing work reports from the perspective of occupational health and safety, assessing any work or equipment that may violate occupational health and safety rules.
13. Conducting daily field inspections, assessing any work or equipment that may violate occupational health and safety rules. Evaluating the adequacy of risk analyses and established measures on-site.
14. Reviewing reports of on-site inspections conducted by the Contractor and Subcontractor OHS specialists. Monitoring and controlling identified non-compliances.

15. Reviewing records of current training provided by the Contractor and Subcontractor OHS Specialists (Risk Analysis, Toolbox, etc.). Examining their adequacy (duration, content).
16. Communicating with Employee Representatives, requesting feedback. Reporting issues raised by Employee Representatives to the Project Coordinator, determining necessary actions, and implementing them.
17. Obtain accident reports prepared by Contractor and Subcontractor OHS Specialists, review them at the content and incident sequence levels, and check if notifications were made in compliance with legal requirements.
18. Checking suggestion and complaint boxes. Evaluating feedback received through printed or digital means within the framework of OHS (Occupational Health and Safety), ensuring the information of those providing feedback, assessing requests, and determining necessary actions. (Collaboration with the Social Specialist will be involved in this process).
19. Providing timely information to the Project Manager regarding field observations, feedback, information obtained from the Contractor and Subcontractor OHS specialists, and workplace accidents without delay.

7.1.3. İşyeri Hekimlerinin Görevleri

The duties of occupational physicians are outlined below, as specified in THE REGULATION ON THE DUTIES, POWERS, RESPONSIBILITIES, AND TRAINING OF OCCUPATIONAL PHYSICIANS AND OTHER HEALTH PERSONNEL *(Official Gazette Date: 20.07.2013 Official Gazette Number: 28713)* Article 9;

1. Guidance;
    a) Provide guidance to the employer regarding the health monitoring of employees and the surveillance of the work environment within the scope of occupational health and safety services.
    b) Offer recommendations to the employer for ensuring that the design and organization of the workplace, including the use of substances, comply with occupational health and safety legislation and general workplace safety rules, particularly in relation to the planning, organization, and implementation of work and the selection of personal protective equipment.
    c) Advise the employer on activities aimed at improving the health of employees in the workplace.
    d) Participate in investigations related to occupational health and safety, as well as conduct research to ensure the harmony between work and the capabilities of employees, considering ergonomic and psychosocial risks in the workplace, and protect employees from stress factors in the work environment. Take into account the results of these investigations in guidance activities.
    e) Continuously monitor and inspect the general hygiene conditions of workplace buildings and facilities, including cafeterias, dining halls, dormitories, changing rooms, showers, and toilets, and provide recommendations for ensuring that employees receive the necessary nutrition and access to suitable drinking water based on the requirements of the work being performed.
    f) Investigate the causes of workplace accidents and occupational diseases and make recommendations to the employer on measures to prevent their recurrence.
    g) Conduct investigations on the incidents in the workplace that, while not resulting in death or injury, have the potential to cause harm to employees, equipment, or the workplace, and provide recommendations to the employer.

h) Communicate in writing to the employer the precautions and measures that need to be taken in the field of occupational health and safety.

2. Risk Assessment;

   Participate in activities related to occupational health and safety risk assessment and its implementation. Provide recommendations to the employer regarding health and safety measures that need to be taken based on the results of the risk assessment and ensure their follow-up.

3. Health Surveillance;

   a) Inform and obtain the consent of employees regarding pre-employment and periodic medical examinations and tests conducted as part of health surveillance.

   b) Conduct health surveillance for employees, including those working night shifts.

   c) Repeat periodic medical examinations annually (unless otherwise recommended by the occupational health physician).

   d) Determine if there is a correlation between health-related work absences and potential health hazards in the workplace. Plan for environmental measurements, if necessary, seek the employer's approval, and evaluate the results in terms of employee health.

   e) Conduct return-to-work medical examinations for employees who have been absent from work due to health reasons. Recommend suitable tasks for those whose previous roles may pose health risks based on their current health status and seek the employer's approval.

   f) Take measures to control infectious diseases, prevent their spread, and conduct immunization campaigns. Provide necessary hygiene training, ensure medical examinations and tests are performed, and promote a healthy work environment.

   g) Maintain records of health surveillance activities in the workplace. Collaborate with the occupational health and safety specialist to assess workplace accidents and occupational diseases. Prepare preventive action plans to prevent the recurrence of accidents and submit an annual work plan, including these topics, to the employer for approval. Monitor the implementation of these plans and prepare an annual evaluation report.

   h) Check whether health reports demonstrating the fitness of employees sent temporarily to the workplace by another employer or subcontracted workers are still valid.

4. Training, Information, and Records;

   a) Plan and conduct employee occupational health and safety training in accordance with relevant regulations. Present these plans to the employer for approval and ensure their implementation or oversee the training programs.

   b) Organize and provide training for first aid and emergency response services at the workplace, following the requirements of the relevant regulations.

   c) Provide training to managers, occupational health and safety committee members (if applicable), and employees on general health, occupational health and safety, hygiene, the hazards of substance abuse, personal protective equipment, and collective protection methods. Ensure the continuity of these training programs.

   d) Inform employees about workplace risks, health surveillance, and pre-employment and periodic medical examinations.

   e) Collaborate with the occupational health and safety specialist to prepare an annual evaluation report documenting the results of occupational health and safety efforts and health surveillance.

f) Report information related to occupational health and safety topics determined by the Ministry to the General Directorate through the Occupational Health and Safety Automation System (ISG CLERK).

5. Collaboration with Relevant Departments;

a) Recommend, based on the results of health surveillance, the conduct of necessary measurements within the scope of workplace monitoring in collaboration with the occupational health and safety specialist, and evaluate the measurement results.

b) Collaborate with the occupational health and safety committee (if applicable) to work on providing information and training on occupational health and safety topics in the workplace.

c) Collaborate with relevant parties to provide information and education on workplace health and safety.

d) Participate in the development of programs aimed at improving existing practices, analyzing occupational accidents and occupational diseases, evaluating new technologies and equipment from a health perspective, and making recommendations for the prevention of accidents.

e) Collaborate with authorized hospitals for the preparation of health board reports related to occupational diseases according to the Regulation on the Rate of Incapacity to Work and Occupational Accidents and cooperate with relevant units for the rehabilitation of employees who have suffered workplace accidents or contracted occupational diseases.

f) Contribute to the preparation of occupational health and safety instructions and work permit procedures for use in necessary areas.

g) Provide support to employee representatives and support personnel in their activities and collaborate with these individuals.

Within this framework;

1. Verify the authorization and appointments of occupational health physicians for contractors and subcontractors.
2. Develop and update this document in line with field findings,
3. Support the risk analysis control process by examining construction methods and data related to work areas provided by subcontractors and other specialists.
4. Verify employee personnel files.
5. Review employees' periodic health reports.
6. Review weekly work reports from an occupational health perspective and evaluate any inappropriate work or equipment presence.
7. Review reports of field inspections conducted by occupational health physicians from contractors and subcontractors. Track and control identified non-conformities.
8. Review records of current training provided by occupational health physicians from contractors and subcontractors. Verify their appropriateness in terms of duration and content.
9. Communicate with employee representatives, request feedback, report issues to the Social Specialist and Project Manager, determine necessary actions for occupational health, and implement them.
10. Obtain and review occupational disease reports prepared by occupational health physicians from contractors and subcontractors. Ensure compliance with legal requirements for reporting.

11. Evaluate feedback obtained through the suggestion and complaint system in terms of occupational health, based on requests from the Social Specialist, and determine necessary actions.
12. Inform the Project Manager without delay about field observations, feedback, information obtained from contractors and subcontractor occupational health physicians, and workplace accidents.

7.1.4. OHS Duties of Technical Experts

The Technical Expertise Unit, composed of disciplines in Civil Engineering, Mechanical Engineering, and Electrical Engineering, will perform the following tasks in OHS processes:

1. Inform OHS experts about the technical details and processes of the work.
2. Ensure that the work they oversee is conducted in a way that protects the health and safety of employees.
3. Examine the construction methods prepared by the contractor and evaluate their adequacy.
4. Technically evaluate the aspects mentioned in risk analyses (hazards, risks, and measures) and make evaluate their suitability.
5. If deemed necessary by the OHS expert, participate in the work permit system, respond to inquiries from the OHS expert, and assess and query documents transmitted by the OHS expert within this framework.
6. Evaluate, from a technical perspective, OHS training content provided by the contractor. Make evaluate its adequacy (e.g., LOTO systems, scaffold installation and usage, etc.)

7.1.5. OHS Duties of the Social Specialist

1. Receive and compile printed suggestion and complaint forms submitted to the OHS expert.
2. Review feedback obtained within the framework of the suggestion and complaint system. If necessary, involve the OHS expert and workplace physician in the feedback evaluation process.
3. Maintain contact with Employee Representatives and support the establishment of a healthy and strong communication between the OHS expert, workplace physician, and Employee Representatives.

7.1.6. Duties of Support Staff

Carry out the tasks requested by the Occupational Health and Safety (OHS) Specialist and Workplace[7] Physician.

7.2 Contractor Company

7.2.1. İşveren & İşveren Vekili Görevleri

The Project Manager has been designated as the employer representative for this project, and as such, they are responsible for the following tasks.

1. As the employer, ensure the fulfillment of all duties specified within the Occupational Health and Safety Law No. 6331.

[7] 6331 THE LAW ON OCCUPATIONAL HEALTH AND SAFETY (Official Gazette Date: 30.06.2012 Official Gazette Number: 28339) Article 3 Paragraph 2: Employer representatives acting on behalf of the employer and taking part in the management of the work and the workplace shall be deemed to be employers in terms of the application of this Law.

2. Ensure monitoring requirements, frequencies, responsibilities for the Contractor mentioned on the Table 36 OHS Monitoring Plan
3. Ensure that this document, as provided by the Consultant OHS Specialist, is communicated to all relevant units and understood.
4. Ensure that the OHSP, construction methods and risk analysis are prepared and presented to the Consultant before field work begins.
5. Promptly provide the Consultant OHS Specialist and Workplace Physician with the requested information and documents.
6. Promptly provide the requested information and documents to the Consultant Social Worker.
7. Establish and ensure the effectiveness of the recommendation and complaint system provided by the Consultant Social Worker.
8. Attend meetings and discussions requested by the Consultant Project Manager.
9. Monitor and control the performance of the appointed OHS Specialist and Workplace Physician.
10. Review and fulfill requests made by the Consultant OHS Specialist regarding the performance of the OHS Specialist and Workplace Physician (e.g., changes, warnings, etc.)

7.2.2. Duties of the OHS Specialist

1. Fulfill all responsibilities as specified in the REGULATION ON THE DUTIES, AUTHORITIES, RESPONSIBILITIES, AND TRAINING OF OHS SPECIALISTS in full compliance with the regulation.
2. Ensure the preparation of the contractor OHSP for project works in line with this OHSP, creation of a risk analysis within the framework of the construction method and submit it to the Consultant OHS Specialist before fieldwork begins.
3. Provide records and certificates of past OHS training for employees to the Consultant OHS Specialist.
4. Provide current training to employees based on this document and risk analysis within the scope of the project. Keep training records and submit them to the Consultant OHS Specialist.
5. Plan and implement additional training requested by the Consultant OHS Specialist. Keep records of training and provide them to the Consultant OHS Specialist.
6. Submit employees' Occupational Competency Certificates to the Consultant OHS Specialist.
7. Inform all employees about the recommendation and complaint system implemented specifically for this project.
8. Submit machine periodic inspection reports to the Consultant OHS Specialist.
9. Provide the lists of Personal Protective Equipment (PPE) (standard, quantity, etc.) and delivery receipts to the Consultant OHS Specialist.
10. Participate in field inspections conducted by the Consultant OHS Specialist and have the requested information and documents readily available.
11. Submit records of work accidents to the Consultant OHS Specialist.
12. Implement corrective actions communicated by the Consultant and inform the Consultant OHS Specialist and/or Workplace Physician regarding the process.
13. Plan, attend, and report on weekly and monthly OHS meetings.

7.2.3. Duties of Subcontractor Workplace Physicians

1. Fulfill all responsibilities as specified in the REGULATION ON THE DUTIES, AUTHORITIES, RESPONSIBILITIES, AND TRAINING OF WORKPLACE PHYSICIANS in full compliance with the regulation.
2. Ensure the creation of a risk analysis within the framework of the construction method.
3. Submit employees' periodic occupational health reports to the Consultant Workplace Physician.
4. Provide records and certificates of past occupational health training for employees to the Consultant Workplace Physician.
5. Plan and implement additional training requested by the Consultant Workplace Physician. Keep records of training and provide them to the Consultant Workplace Physician.
6. Submit records of occupational diseases to the Consultant Workplace Physician.

7.2.4. Technical Experts' OHS Duties

The Technical Expertise Unit consisting of Civil Engineering, Mechanical Engineering, and Electrical Engineering disciplines will perform the following tasks within OHS Processes:

1. Inform OHS Specialists about the technical details and processes of the work.
2. Ensure that the work being carried out is done in a way that protects the health and safety of employees.
3. Develop construction methods and communicate them to the OHS Specialist.
4. Technically evaluate the aspects specified in risk analyses (hazards, risks, and measures) and make judgments regarding their appropriateness.
5. Participate in the work permit system if deemed necessary by the OHS Specialist, answer questions posed by the OHS Specialist, and assess and query documents provided by the OHS Specialist.
6. Ensure the technical improvement of OHS training content (e.g., LOTO system, scaffold installation and usage, etc.)

7.2.5. Employee Representative Duties

1. Fulfill all responsibilities and duties as specified in the 6331 Occupational Health And Safety Law (Official Gazette Date: 30.06.2012 Official Gazette Number: 28339).
2. Participate in risk analysis studies within the framework of the construction method.
3. Support the OHS Specialist in implementing the feedback from other employees through the project-specific Suggestions & Complaints system, and provide information to employees about this.
4. Establish strong communication with the Consultant OHS Specialist, Workplace Physician, and Social Specialist, and provide information about the general requests and conditions of employees.
5. Report situations related to avoiding work to the Consultant OHS Specialist without delay.
6. Inform the Consultant Social Specialist of any situations that may negatively affect the effectiveness of the suggestion and grievance system.

7.2.6. Support Personnel Duties:

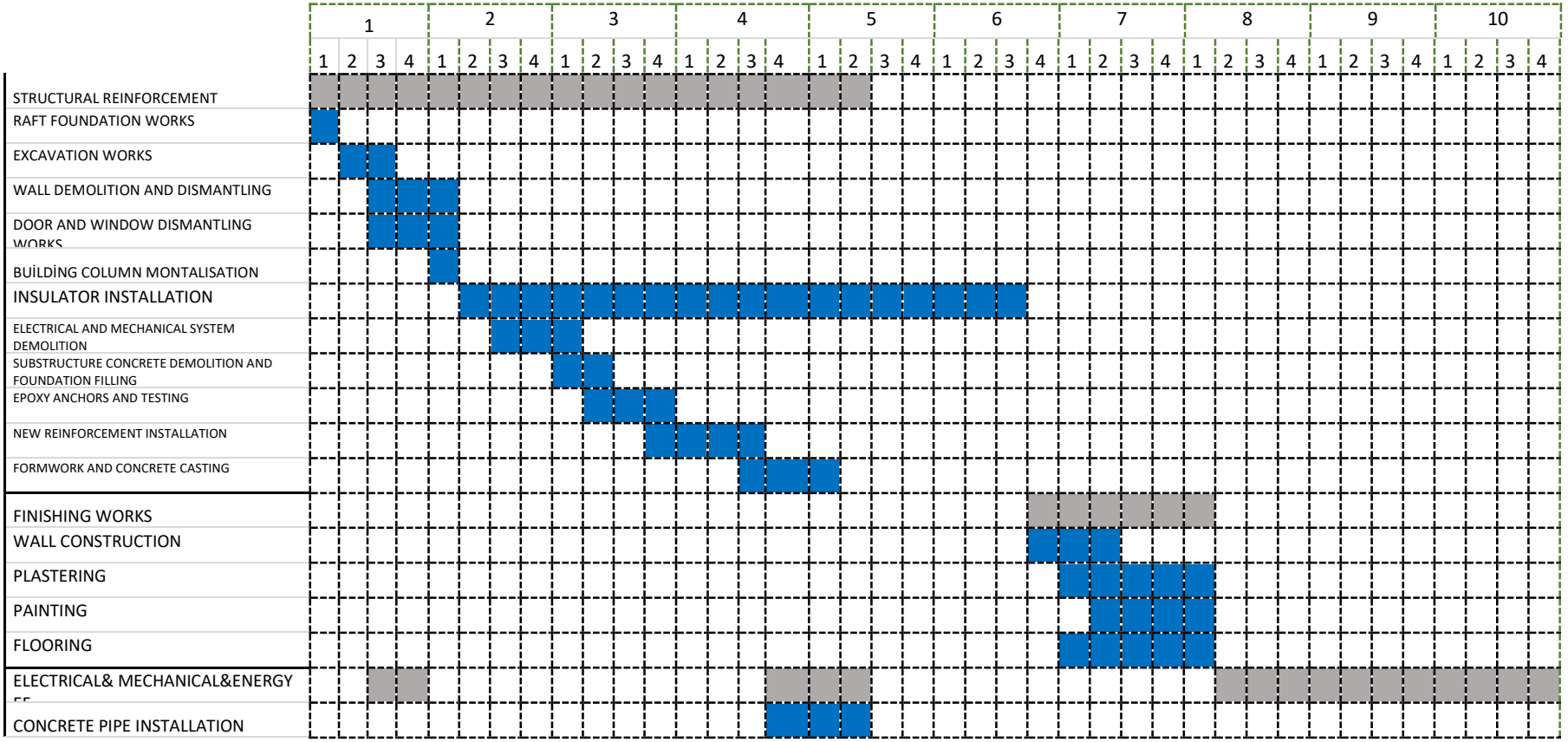
Complete tasks requested by the OHS Specialist and Workplace Physician. Two occupational health and safety workers will perform regular duties in the field.

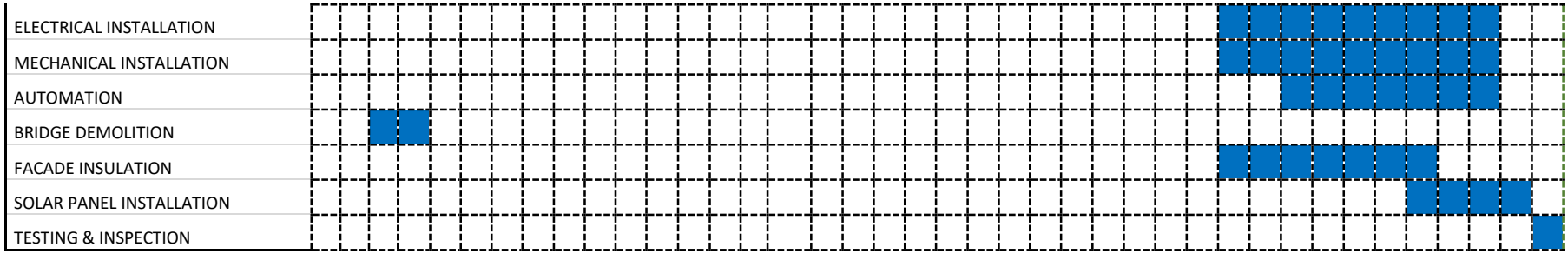
8.Management of Works

General Work Program and Cross Interaction

The general work program is presented below for your attention. This program is not final but has been created for the purpose of identifying cross-interaction risks during the work. A detailed work program/plan should be created by the contractor and submitted to the consultant

Table 8: General Work Program




ELECTRICAL INSTALLATION
MECHANICAL INSTALLATION
AUTOMATION
BRIDGE DEMOLITION
FACADE INSULATION
SOLAR PANEL INSTALLATION
TESTING & INSPECTION

8.1 Working Methods

The following general descriptions of the construction process are provided to guide the contractor in preparing detailed construction methods and risk analysis studies. The contractor must prepare the construction method and risk analysis for each new project and submit it for approval by the consultant. Work may commence only after obtaining approval.

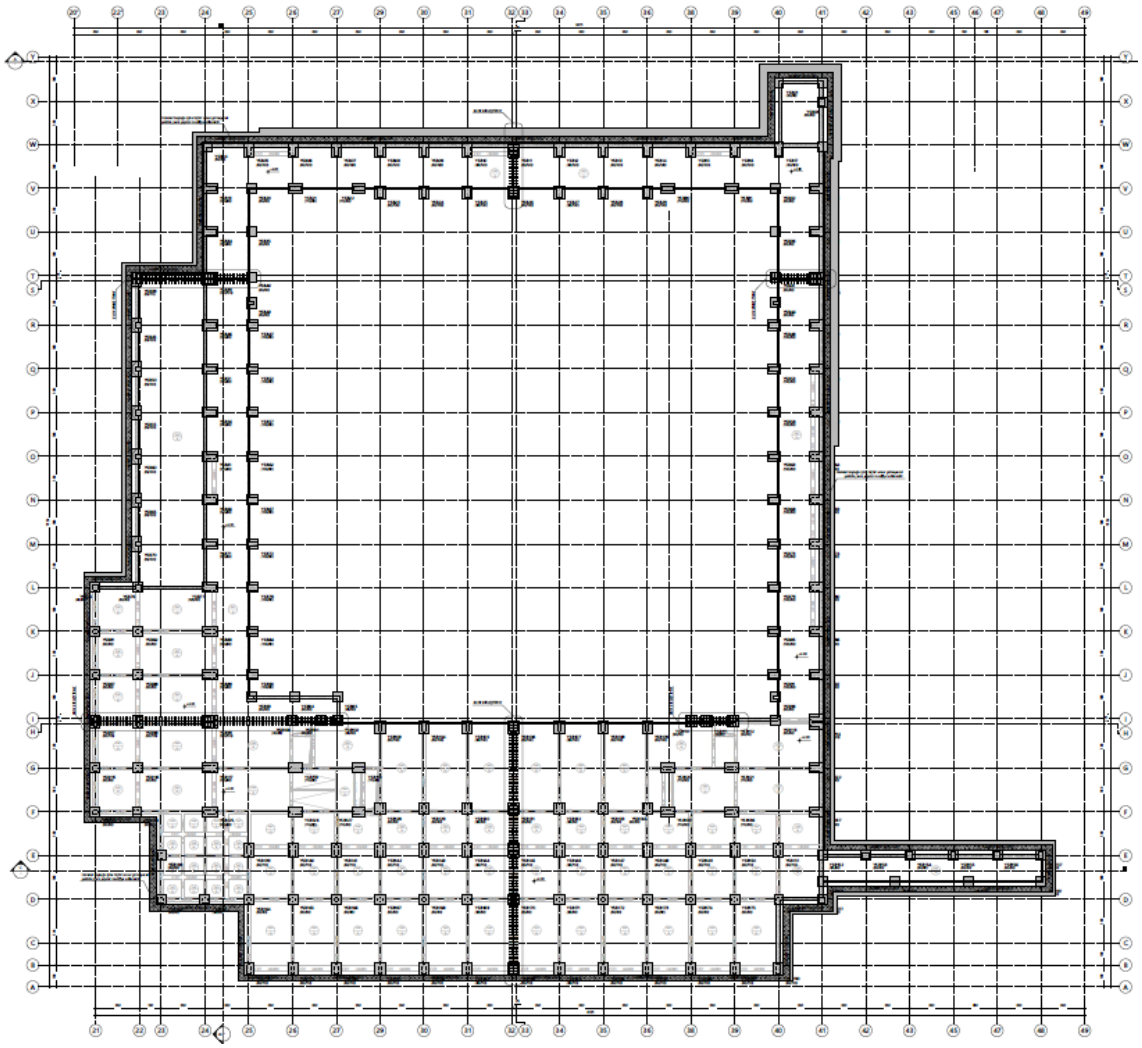
8.1.1 Structural Reinforcement

Within the scope of structural strengthening, it will be carried out in the SQUARE BLOCK building in the "BOĞAZİÇİ UNIVERSITY NORTH CAMPUS BUILDING LIST". The following points have been prepared as an example and basis for the preparation of the contractor company OHS reports. The contractor company must determine the detailed construction methods and risk analysis for the works undertaken and submit them to the Consultant before the work. Work may commence only after obtaining approval.

8.1.2 Foundation Reinforcements and Raft Foundation Operations

- The location of the raft foundation area is determined within the scope of the project.
- The top layer in the area where the foundation will be built is excavated.
- The excavation process is carried out to create the necessary space for the foundation plate and the waterproofing and filling material to be placed under this plate.
- After the excavation process is completed, the filling material under the base plate is placed properly.
- After the filling material is placed, 3-5 cm thick grocrete is poured so that waterproofing is provided in the lower layer.
- After the filling material process is completed, foundation plate moulds are placed.
- After the mould is placed, a two-layer membrane is applied for waterproofing. In order to prevent the reinforcements at the bottom from damaging the membrane, 3-5 cm thick grobeton is poured.
- At the last stage, the reinforcement network of the foundation plate is placed properly on the last poured grobeton.
- After the reinforcements are placed, concrete placement is made to fill the entire reinforcement network.
- Reinforcement shall be done by authorised personnel.
- Suitable passages will be constructed and used for descent and ascent to the areas where the foundation and/or mould area is located.
- Dangerous areas will be identified and necessary precautions will be taken. Safety will be ensured by placing warning and warning signs.
- When the mould / rebar of all concrete and reinforced concrete elements is completed, its soundness will be checked by technical personnel before concrete pouring.
- Personnel performing rebar binding work shall use protective equipment.
- Small metal parts that will be formed during the rebar binding process should be collected and inspected in appropriate areas.

Figure 5: GROUND FLOOR RAFT FOUNDATION FORMWORK PLAN



Major points to be considered are listed below.

- When the mould of all concrete and reinforced concrete elements is completed, its soundness will be checked by the technical staff before the concrete casting process.
- All electrical hand tools (mobile concrete mixer, vibrator, concrete pump, etc.) must be PAT tested. PAT test reports will be requested and checked before the work. During field inspections, the presence of PAT control and approval labels on electrical devices will be checked. The use of devices and equipment without a conformity label is not permitted. (Extension cables are also included in this scope.
- Ordinary maintenance and periodic checks of the construction machinery should be carried out on time before the concrete pouring on the site.
- The connection elements of the pump should be checked again before the start of the work.
- The boom hose will be checked safely when working with the concrete pump.
- The impact area of the vehicle will be checked and an observer will be assigned to prevent personnel and vehicles from approaching the impact area.
- According to the site plan, it will be arranged in advance where the concrete pump will be installed.

- The vibrator will be used by authorised personnel. When using the vibrator, it will be ensured that it is used alternately and exposure will be reduced.

Table 9 FOUNDATION REINFORCEMENT AND RADIAL FOUNDATION WORKS CHECKLIST

<table>
<tr><td>WORK TO DO:</td><td>RADIAL FOUNDATION WORKS</td></tr>
<tr><td colspan="2">WORKING METHOD</td></tr>
<tr><td colspan="2"><u>Technical Description and Requirements</u>
Construction Technique and Technology
– It is explained under the subheading "Foundation Reinforcements and Radial Foundation Operations".
Use of Work Equipment
– CONCRETE MIXER
– VIBRATOR
– MOBILE CONCRETE MIXER
– IRON BENDING MACHINE
– IRON CUTTING MACHINE
– RECHARGEABLE / FIXED DRILL
– RECHARGEABLE SCREW/NUT DRIVER
– MORTAR MIXER
Use of Chemical Substances
– Cement, Adhesive, Epoxy
Access to the Work Area:
– The maximum speed within the campus is limited to 20 km/h for trucks.
– The maximum speed within the campus is limited to 20 km/h for mobile cranes.</td></tr>
<tr><td>PPE- GENERAL</td><td>Need for Trained Personnel</td></tr>
<tr><td>1. HELMET TS EN 397+A1
2. EARPLUG TS EN 352-2
3. PROTECTIVE GLASSES TS EN ISO 16321-3
4. GENERAL PURPOSE WORK GLOVES TS EN ISO 21420
5. WORK SHOES TS EN ISO 20347</td><td>1. CONSTRUCTION ENGINEER
2. Truck driver with a CLASS C driver's license
3. Reinforcement Steelworker (Level 3) 11UY0012-3
4. Pointer (Auth. Cat.15UY0218-2 | Level 2)
5. Electrical Panel Installer (12UY0075-3 | Seviye 3)
6. Concrete Worker (Level 3) 12UY0049-3</td></tr>
</table>

Table 10: RISK ANALYSIS

WORK TO DO	SOURCE OF DANGER	RISKS	PRECAUTION
Concrete Casting	▪ Use of electrical equipment. ▪ Chemical substance use.	▪ Electric shock ▪ Disorders due to chemical contact	▪ Personnel who will take part in moulding works must have Wood Moulder Level 3 (11UY0011-3) certificate.Personnel who will take part in moulding works must have Wood Moulder Level 3 (11UY0011-3) certificate. ▪ Personnel who will take part in concrete casting works must have Concrete Worker Level 3 (12UY0049-3) certificate. ▪ Regardless of the size of the scaffolds to be installed, it is essential that they meet the requirements of TS EN 12811-1 standard. All personnel who will work on these scaffolds must be trained to work at height and must use full body safety belts and fall arrest equipment. ▪ Vibrators etc. It is essential that all electrical equipment is PAT tested and verified to be electrically safe. ▪ Physical protection of extension cables and device supply cables must be ensured. Cables should not be left lying on the ground in an ordinary way, nor should wheelbarrows and employees be allowed to pass over them at that time. Cables should not be allowed to remain in puddles of water. ▪ MSDS of materials such as repair mortars etc. should be checked by workplace physicians and employees should be informed (inhalation, eye contact etc.). ▪ It is mandatory for the personnel to wear work shoes, safety glasses, hard hat, dust mask and earphones.

8.1.3 EXCAVATION WORK

After the seismic isolators are connected to the columns, excavation will be carried out around the building in order to implement the oscillation in a healthy way. The depth of the excavation process varies between 1 and 7 metres. Following the preparation of the excavation project by the contractor company, the relevant project and visuals will be submitted to the consultant.

- All works will be carried out under the supervision of an authorised Civil Engineer.
- for the use of small scrapers and loaders to be used during excavation works; it is essential to check the periodic control reports and user competence certificates (operator certificate) of these machines.
- If you come across electrical cables, gas pipes, water pipes or waterway, sewerage and similar installations during excavation, the excavation process must be stopped immediately and the responsible and relevant persons must be notified. The excavation process must be continued after the necessary precautions are taken by the responsible and relevant persons.
- If there is any possibility of slipping or collapse from the upper side during the excavation, leave the work site immediately. The responsible and relevant persons

should be informed immediately. Excavation should be continued after necessary precautions are taken.

- Excavations deeper than 1,5 m should be made sloped and staggered.
- During the excavation process, the upper side should not be collapsed by giving reverse slope.
- Excavators, bulldozers and similar work machines should not enter into the movement area and should not be approached
- Work machines should never work without a signaller.
- Signallers should never work without establishing safe communication with operators.
- The gaps formed as a result of excavation work must be covered and surrounded. The gaps must not be approached.
- Responsible operators should be informed before the work in order to prevent damage to the walls and reinforced components that need to be protected during manoeuvres to be carried out with construction equipment in narrow spaces. Construction methods for the use of the construction equipment inside the building should be communicated to the consultant in advance. (The risk of permanent damage during the transport of the construction equipment to the work site, the walls to be demolished to be taken inside the building, manoeuvring inside the building and whether there is a risk of permanent damage in the work should be specified in this document).
- Warning bands must be installed around the excavated areas. In case of night work, these bands must be reflective.

Table 11 EXCAVATION WORKS CONTROL TABLE

<table>
<tr><td>WORK TO DO:</td><td>Excavation Works Construction</td></tr>
<tr><td colspan="2">WORKING METHOD</td></tr>
<tr><td colspan="2"><u>TechnIcal Description and Requirements</u>
Construction Technique and Technology
– It is explained under the subheading "Excavation Operations".
Use of Work Equipment
– BACKHOE LOADER
– MINI EXCAVATOR
– COMPAT LADERS
Use of Chemical Substances:
–
Access to the Work Area:
– The maximum speed within the campus is limited to 20 km/h for trucks.
– The maximum speed within the campus is limited to 20 km/h for mobile cranes.</td></tr>
<tr><td>PPE- GENERAL</td><td>Need for Trained Personnel</td></tr>
<tr><td>1. HELMET TS EN 397+A1
2. EARPLUG TS EN 352-2
3. PROTECTIVE GLASSES TS EN ISO 16321-3
4. GENERAL PURPOSE WORK GLOVES TS EN ISO 21420
5. WORK SHOES TS EN ISO 20347</td><td>1. CONSTRUCTION ENGINEER
2. Truck driver with a CLASS C driver's license
3. CONSTRUCTION WORKER LEVEL 2 (16UY0253-2)</td></tr>
</table>

Table 12: RISK ANALISY

WORK TO DO	SOURCE OF DANGER	RISKS	PRECAUTION
EXCAVATION WORKS	▪ Pit	▪ Injury from falling into a pit.	▪ Warning tapes and signs should be installed around the excavated areas. If night work is carried out, these bands and signs must be reflective.
EXCAVATION WORKS	▪ Electric Shock ▪ Burst water pipe or natural gas pipe	▪ Injury, ▪ Multiple Death, ▪ Property Damage	▪ Underground installations must be identified in the area where excavation works will be carried out.
EXCAVATION WORKS	▪ Inappropriate excavation work carried out without taking safety precautions	▪ Injury and mass death by being trapped under the soil as a result of collapse on workers	▪ Excavation must be stored away from the working area and without slope.
EXCAVATION WORKS	▪ Adverse weather conditions	▪ Injury, death due to landslide	▪ Excavation work will never be carried out in rainy weather.
▪ EXCAVATION WORKS	▪ Construction machinery	▪ Injury due to impact during work machine maneuvering. ▪ Trapping and amputation of limbs during adjustment and part replacement of construction equipment.	▪ The suitability of the work machine must be verified with the periodic inspection report. ▪ Before the work machine is started, it must be visually checked by the operator and the presence of a physical defect must be evaluated. ▪ Work machines must be checked functionally by the operator before each operation (reverse maneuver warning siren, warning/warning lights, etc.). ▪ The work machine can only be used by the authorized operator. Operator professional suitability documents must be checked and verified. ▪ No one other than authorized personnel and experts (Operator, Mechanical Engineer, etc.) can be allowed to intervene in the work machine. ▪ The working area of the work machine will be separated by safety strips and it must be reported that it is forbidden to approach the work machine with safety signs. ▪ It is mandatory for the personnel to wear work shoes, safety glasses, hard hat, dust mask and earphones.
EXCAVATION WORKS	▪ Soil ground	▪ Injury, death as a result of sliding soil falling on people and construction equipment	▪ Excavation must be carried out by giving appropriate slope and warning and signboards must be used.
EXCAVATION WORKS	▪ Inappropriate excavation work carried out without taking safety precautions	▪ Injury, death due to landslide	▪ It should be ensured that the bottoms of soil piles higher than 1.5 meters are not excavated.
EXCAVATION WORKS	▪ Inappropriate excavation work carried out without taking safety precautions	▪ Injury, loss of limb, death as a result of construction equipment hitting people	▪ Warning signs should be hung to separate the work machine working area and to prevent human entry.
EXCAVATION WORKS	▪ Inappropriate excavation work carried out without taking safety precautions	▪ Injury, death due to landslide	▪ Warning signs should be made to prevent weight loading on the edges of the excavation, and the dangerous area should be determined by making railings.

WORK TO DO	SOURCE OF DANGER	RISKS	PRECAUTION
EXCAVATION WORKS	▪ Inappropriate excavation work carried out without taking safety precautions	▪ Electric shock	▪ An expert authorized electrician will be assigned to intervene in electrical lines.
EXCAVATION WORKS	▪ Inappropriate excavation work carried out without taking safety precautions	▪ Injuries and loss of limbs as a result of occupational accidents caused by machine malfunctions	▪ Periodic maintenance of the construction machinery used during excavation work will be carried out.
EXCAVATION WORKS	▪ Soil ground	▪ Injury, death as a result of sliding soil hitting people and construction equipment	▪ Excavation should be done by giving appropriate slope, warning and signboards should be used.
EXCAVATION WORKS	▪ Inappropriate excavation work carried out without taking safety precautions	▪ Injury, death due to landslide	▪ It should be ensured that the bottoms of soil piles higher than 1.5 meters are not excavated.
EXCAVATION WORKS	▪ Inappropriate excavation work carried out without taking safety precautions	▪ Injury, loss of limb, death as a result of construction equipment hitting people	▪ Warning signs must be hung to separate the work machine working area and to prevent human entry.
EXCAVATION WORKS	▪ Inappropriate excavation work carried out without taking safety precautions	▪ Injury, death due to landslide	▪ Warning signs should be made to prevent weight loading on the edges of the excavation, and the dangerous area should be determined by making railings.
EXCAVATION WORKS	▪ Inappropriate excavation work carried out without taking safety precautions	▪ Electric shock	▪ An expert authorized electrician must be assigned to intervene in electrical lines.
EXCAVATION WORKS	▪ Inappropriate excavation work carried out without taking safety precautions	▪ Injuries and loss of limbs as a result of occupational accidents caused by machine malfunctions	▪ Periodic maintenance of the work machines used during excavation work should be done.

8.1.4 WALL DOOR AND WINDOW REMOVAL

- Walls, windows and doors for the application areas of the seismic isolators to be used in the foundation will be marked and demolished with a sledgehammer and breaker, starting from the top floor.
- Before demolition, doors, windows, workbenches, electrical and mechanical installation equipment that will be damaged, if any, should be removed and protected.
- Reinforced areas should be marked before wall demolition. It is essential that the reinforced elements (carrier) in question are not damaged. The demolition team will be warned about this on a daily basis.
- In order to prevent damage to the slab, the walls must be broken into pieces and dropped in a controlled manner. The techniques to be applied in order not to demolish the walls in their entirety must be communicated to the employees. Protective covers of appropriate thickness should be used for surfaces that need to be protected.
- Employees who will be involved in the transportation of rubble should be informed about the rules of manual handling. It is forbidden to throw rubble outside from a height in an uncontrolled manner. The method for the removal of rubble will be determined and notified by the contractor company.

- Dust masks and protective goggles must be worn to protect workers from dust during the demolition process.
- It is mandatory to use ear plugs or headphones to protect the employees from noise during the demolition process.
- It is mandatory to use protective goggles to protect workers from flying parts during the demolition process.
- For wall demolitions affecting the exterior of the building, impact zones should be determined and access to these areas should be prohibited.
- Care must be taken to ensure that electrical extension cables are not damaged and that they do not come into contact with water. Extension cords and other electrical appliance power cables will be checked daily. The use of damaged cables is not permitted.

Table 13 WALL, DOOR AND WINDOW DISMANTLING WORKS CONTROL TABLE

WORK TO DO:	Duvar, Kapı ve Pencere Söküm İşi
WORKING METHOD	
Technical Description and Requirements **Construction Technique and Technology** – It is explained under the subheading "Wall, Door and Window Dismantling Works".. **Use of Work Equipment** – - Truck – - Cordless drill – - Screwdriver set – - Sledgehammer – - Hand Tools - Brush **Use of Chemical Substances** - **Çalışma Alanına Erişim** – The maximum speed within the campus is limited to 20 km/h for trucks. – The maximum speed within the campus is limited to 20 km/h for mobile cranes.	
PPE- GENERAL	**Need for Trained Personnel**
1. HELMET TS EN 397+A1 2. EARPLUG TS EN 352-2 3. PROTECTIVE GLASSES TS EN ISO 16321-3 4. GENERAL PURPOSE WORK GLOVES TS EN ISO 21420 5. WORK SHOES TS EN ISO 20347 6. HALF FACE MASK TS EN 140	1. Truck driver with a CLASS C driver's license 2. CONSTRUCTION WORKER LEVEL 2 (16UY0253-2)

Table 14: RISK ANALYSIS

WORK TO DO	SOURCE OF DANGER	RISKS	PRECAUTION
▪ Wall, Door and Window Removal	▪ Heavy loads	▪ Crush ▪ Trauma	▪ The other sides of the walls to be demolished should be separated by a safety barrier and warning signs should be installed. ▪ Walls should not be demolished as a whole, but in pieces in a controlled manner. ▪ It is mandatory for the personnel involved to wear work shoes, safety glasses, hard hats, dust masks and earmuffs.

WORK TO DO	SOURCE OF DANGER	RISKS	PRECAUTION
▪ Wall, Door and Window Removal	▪ Electric shock	▪ Electric shock	▪ Care must be taken to ensure that electrical extension cables are not damaged and that these cables do not come into contact with water. Extension cords and other electrical appliance power cords will be checked daily. The use of damaged cables is not permitted. ▪ All jackhammer equipment to be used in demolition must be PAT tested and verified to be electrically suitable. ▪ Before demolition, it must be verified that there is no energy by using a phase voltage detector on sockets, junction boxes and switches. ▪ In case of power failure, EKED rules must be activated. ▪ The presence of equipment such as sockets, switches, commutators, junction boxes, etc. on the wall must be checked before the work and equipment and cable dismantling must be carried out in accordance with the instructions of the electrical engineer before demolition. ▪ The danger that the building elements to be demolished may contain electrical lines should be taken into consideration. De-energizing the area in question; the electricity needs of devices such as crushers, drills, etc. must be met from other lines.
▪ Wall, Door and Window Removal	▪ Heavy objects falling from a height. ▪ Workers falling from a height.	▪ Head and body trauma ▪ Death	▪ Building perimeter will be separated with safety barriers and warning signs. ▪ High risk areas where parts of the wall to be demolished will fall will be determined before the work and will be monitored by responsible personnel. ▪ Personnel involved in the demolition of the wall will use full body safety belts and fall arrest equipment. Such equipment will be connected to lifelines that will be fixed to sturdy structures. (Such personnel must receive training on working at height.) ▪ Demolished wall sections will be secured with temporary railings and warning tapes/sheets until the new wall is installed. In case of night work, these tapes and plates must be reflective. ▪ It is mandatory for the personnel to wear work shoes, safety glasses, hard hats, dust masks and earmuffs.

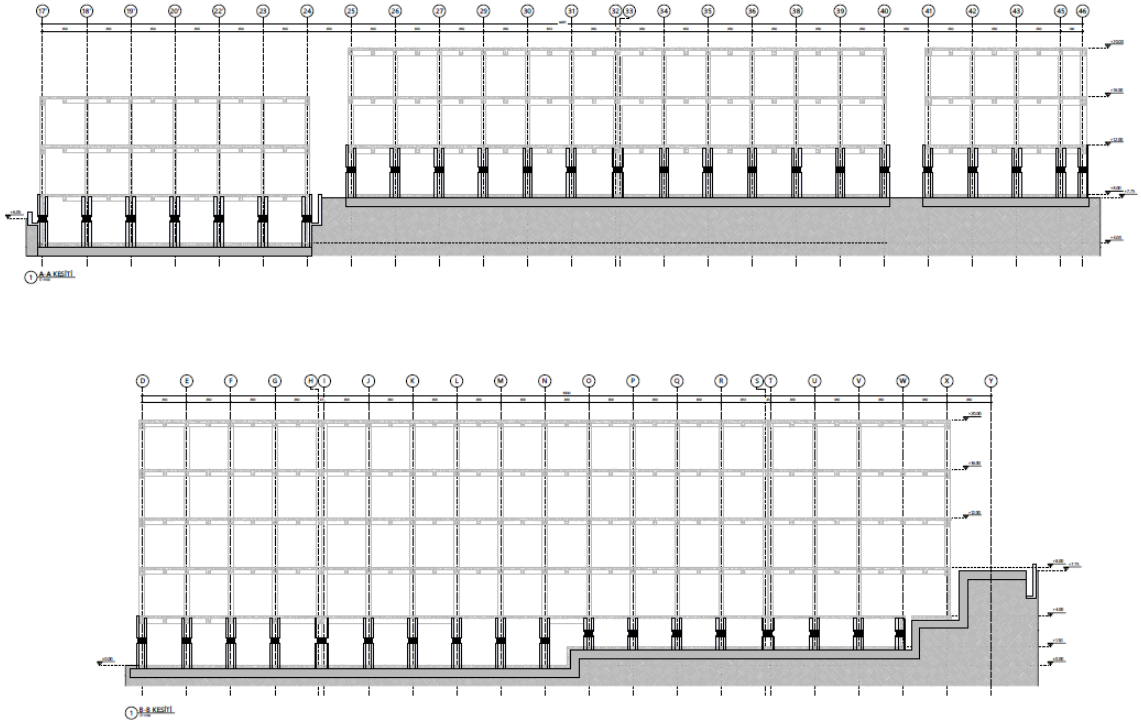
8.1.5 Seismic Isolator Installation

1. Before placing seismic isolators on the columns, the ground is turned into a raft. The issues related to raft foundation are explained under the title of "Foundation Reinforcements and Raft Foundation Procedures".
2. After the raft foundation process is completed, the perimeter of the project area must be excavated to protect from the effects of oscillations that may occur during seismic isolator installation. This process is explained under the heading "Excavation Operations".
3. Suspended ceilings, doors and windows must be removed in order to prevent accidents and incidents caused by suspended ceilings, windows and doors on the upper floors due to vibration that may occur during seismic isolator installation. This issue is explained under the heading "Door, Window and Wall Dismantling".
4. After the area where the columns are located is surrounded with raft foundation, all columns are sheathed.
5. After the jacketing process of the columns is completed, each column will be suspended with a jack and instantaneous measurements will be made with a configurator clock. The area where the isolator will be placed will be cut out from the isolator area with a wet concrete saw and/or a wet diamond rope saw.
6. After the insulators are placed between the columns, the jacks will be idle. Clamps are kept for at least 2 (two) days for the application of test procedures and intervention.

Figure 6: SAMPLE COLUMN JACKETING APPLICATION

Figure 7: SAMPLE SEISMIC TRACER PLACEMENT APPLICATION

Figure 8: SEISMIC INSULATOR ASSEMBLY PLAN



The major points to be considered are listed below.

- The saw to be used in the cutting process must have a periodic control inspection report and control system.
- Personnel who will use the saw must remove rings, watches and bracelets, wristbands, etc.

- Care must be taken to ensure that electrical extension cables are not damaged and that they do not come into contact with water. Extension cables and other electrical device power cables will be checked daily. The use of damaged cables is not permitted.
- Compressor clocks must be calibrated by an accredited organization before use.
- Employees who will take part in the transportation of rubble during the column cutting process must be informed about the manual handling rules. It is forbidden to throw rubble out of the building from a height in an uncontrolled manner. The method for the removal of rubble will be determined and notified by the contractor.
- It is essential that the mobile and fixed temporary scaffolds to be installed when necessary meet the requirements of TS EN 12811-1 standard. All personnel who will work on these scaffolds must be trained in working at height and must use full body safety belts and fall arrest equipment.
- The necessity of eye baths against dust and chemical use should be determined by the workplace physician.
- In the process of insulator assembly, it is essential that workers use protective goggles to protect them from flying parts.
- It is mandatory to use earplugs or earphones to protect employees from noise during the installation of the isolator.
- The personnel who will install the scaffolding must have Scaffolding Installer Level 3 (12UY0056-3) certificate.
- The personnel who will take part in concrete casting works must have Concrete Worker Level 3 (12UY0049-3) certificate.
- Personnel who will take part in mold works must have Wood Moulder Level 3 (11UY0011-3) certificate.
- MSDS of materials such as repair mortars etc. must be checked by workplace physicians and employees must be informed (inhalation, eye contact etc.).

Table 15 SEISMIC ISOLATOR INSTALLATION WORKS CHECKLIST

PPE- GENERAL	SEISMIC ISOLATOR INSTALLATION
WORKING METHOD	
Technical Description and Requirements **Construction Technique and Technology** – It is explained under the subheading "Seismic Isolator Installation" **İş Ekipmanı Kullanımı** – Jack – Konparator Watch – In-Building Scaffolding (Mobile/Fixed) – Saw – Screwdriver set – Hand Tools – Compressor – Extension Cable	

- Hammer & Hammer

Use of Chemical Substances:

- Cement, Epoxy Binder, Paint, Paint Solvent

Access to the Work Area

- The maximum speed within the campus is limited to 20 km/h for trucks.
- The maximum speed within the campus is limited to 20 km/h for mobile cranes.

KKD - GENEL	**Eğitimli Personel İhtiyacı**
1. HELMET TS EN 397+A1 2. EARPLUG TS EN 352-2 3. PROTECTIVE GLASSES TS EN ISO 16321-3 4. GENERAL PURPOSE WORK GLOVES TS EN ISO 21420 5. WORK SHOES TS EN ISO 20347 6. HALF FACE MASK TS EN 140	1. MECHANICAL ENGINEER 2. ELECTRICAL ENGINEER 3. CONSTRUCTION ENGINEER 4. ARCHITECT 5. SCAFFOLDING ELEMENT ELEMENT LEVEL 3 (12UY0056-3) 6. ELECTRICAL INSTALLER LEVEL 3 (15UY0241-3) Bricklayer LEVEL 3 (12UY0048-3)

Table 16: RISK ANALYSIS

WORK TO DO	DANGER	RISK	PRECAUTION
▪ SEISMIC ISOLATOR INSTALLATION	▪ Metal, cutting, bending ▪ Rusty metal ▪ Sharp, pointed parts ▪ Use of power tools	▪ Severe trauma due to cutting, stabbing ▪ Limb entrapment ▪ Tetanus ▪ Respiratory diseases ▪ Burrs/small parts in the eye. ▪ Electric shock	▪ The personnel who will process the reinforcement iron must have the Concrete Blacksmith Level 3 (11UY0012-3) certificate. ▪ During the cutting process, it is essential that all electrical equipment is subjected to PAT testing and verified to be electrically safe. ▪ The extension cords and device supply cords must be maintained from a physical angle. The cabling should be left completely stranded on the ground, while the carts and employees should not be allowed to pass over them. Cables should not be allowed to remain in a puddle. ▪ Before use, electrical equipment should be checked with the eye and devices containing physical defects should be excluded from use. ▪ When using an electric reinforcement bending device, protective gloves must be removed before work to be carried out close to the bending heads. ▪ Sharp, spikes should be chamfered with the appropriate type of cutter or spiral. Rubber bumper should be installed on sharp, pointed ends that cannot be corrected. ▪ it is essential that the personnel on duty wear work shoes, protective glasses, helmet, dust mask and earphones.

WORK TO DO	DANGER	RISK	PRECAUTION
▪ SEISMIC ISOLATOR INSTALLATION	▪ Cutting, ▪ Use of power tools	▪ Interruption, ▪ Injury ▪ Burrs/small parts in the eye. ▪ Electric shock	▪ The personnel using the device must wear headphones under PPE against loud noise. ▪ The machine should stand on the side, not in front of the saw, to protect from recoils and part ejections when working. ▪ the female should not be worked with broken and blunted saws. ▪ No more parts should be allowed to accumulate on the colon during the study. ▪ During the cutting process, it is essential that all electrical equipment is subjected to PAT testing and verified to be electrically safe. ▪ The extension cords and device supply cords must be maintained from a physical angle. The cabling should be left completely stranded on the ground, while the carts and employees should not be allowed to pass over them. Cables should not be allowed to remain in a puddle. ▪ it is essential that the personnel on duty wear work shoes, protective glasses, helmet, dust mask and earphones.
▪ SEISMIC ISOLATOR INSTALLATION	▪ Falling	▪ Injury, loss of limb, death	▪ Proper torque values should be taken into account when tightening the fasteners. ▪ It should be determined that it is suitable for installation by checking the damage before installation. ▪ Whether there is axial disorder should be checked. ▪ Whether the fasteners are damaged or not should be checked. ▪ It is essential to take precautions against falling equipment and/or parts by pulling the safety strip during assembly.
▪ SEISMIC ISOLATOR INSTALLATION	▪ Explosion	▪ Injury, ▪ Death, of, ▪ Substantial Damage	▪ The speed regulator of the compressors will be checked periodically. ▪ Compressors shall be provided to be stopped from a remote location at the time of danger. ▪ Periodic inspection will be carried out once a year. ▪ The extension cords and device supply cords must be maintained from a physical angle. The cabling should be left completely stranded on the ground, while the carts and employees should not be allowed to pass over them. Cables should not be allowed to remain in a puddle.
▪ SEISMIC ISOLATOR INSTALLATION	▪ Epoxy Usage	▪ Skin irritation ▪ Allergic skin reaction ▪ Eye irritation ▪ Headache ▪ Dizziness Nausea Blur of Consciousness	▪ The staff on duty is obligatory to wear protective glasses, gloves, masks, work shoes

WORK TO DO	DANGER	RISK	PRECAUTION
▪ SEISMIC ISOLATOR INSTALLATION	▪ Temporary work scaffolding.	▪ falling from a height ▪ traumas caused by the impact of falling objects from high	▪ No matter what size the scaffolds are to be installed, it is essential that they meet the standard requirements of TS EN 12811-1. It is imperative that all the personnel who will work at the job scaffolds in question are trained to work at height, use full body seat belts and fall-blocking equipment. ▪ it is essential that the personnel on duty wear work shoes, protective glasses, helmet, dust mask and earphones.

8.1.6 Building Repairs, Mechanical and Electrical Renovations

1. The Current Situation Performance Report, prepared in line with the structural surveys and findings, provides objective evidence that the structure needs strengthening. The infrastructure construction around the buildings will be carried out using traditional methods, including land measurement, route excavations, adjustment of route elevations, laying of scaffolds, and the creation of chimneys. The connection of the superstructure exiting the building to the new chimneys will be performed. The major points to be taken into consideration are listed below.

    - The use of heavy machinery is crucial. Excavation work involves the use of excavators, loaders, and trucks. It is essential to check the periodic inspection reports and user competency certificates (operator license, Class C driver's license) for these devices before starting work.

        - In areas where the underground natural gas pipeline facility is involved, the Provider Natural Gas Company is responsible for ensuring a feasible environment by performing necessary operations before the start of Phase II (Construction Phase) of the projects. The implementation of the project must be carried out under the supervision of Infrastructure Construction Control Personnel Level 4 (National Vocational Qualifications Institution (VQI) Law No. 5544 - 12UY0042-4).

            - (*The Natural Gas Pipeline process in question will be completely ready, all controls and tests will be carried out by the **Service Provider Local Distribution Company** before the Site Transfer takes place in order to create the necessary environment and will ensure delivery as specified in the projects. The Property Owner must apply for the construction of the facilities in question in accordance with the relevant legislation. For this reason, it is **ABSOLUTELY** impossible for neither the Consultant Company nor the Contractor to intervene in these natural gas pipelines.)

2. During the installation of the Seismic Isolator, doors, windows, sanitary ware, sanitary ware, countertops, electrical and mechanical installation equipment that will be damaged, if any, should be removed and protected. Major points to be considered are listed below.

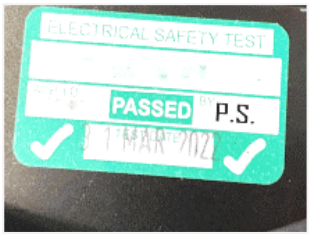
    - Consideration should be given to the potential danger of the elements to be demolished containing electrical wiring. Prioritizing the interruption of power in the area; the electrical needs of tools such as breakers, drills, etc., should be supplied from alternative sources. Components such as distribution boxes, outlets, lighting

element lines, switches, etc. should be inspected before demolition, and it should be verified that there is no power. During this process, the use of inspection items alone is not sufficient. Control devices such as a phase voltage detector should be used at a minimum. Functional checks of these testing devices should be performed daily (using working outlets).

Figure 9: PHASE DETECTOR SAMPLE IMAGE

- All electric hand tools must have undergone Portable Appliance Testing (PAT). PAT test reports will be requested and checked before work commences. During field inspections, the presence of PAT inspection and approval labels on electrical devices will be verified. Devices and equipment without compliance labels are not permitted for use. (Extension cables are also included in this scope.)

Figure 10: PHASE PAT TEST LABEL SAMPLE IMAGE



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

3. After the completion of the rough construction, repair works are started. Plastering, painting, insulation, etc. applications of the internal and external surfaces of the columns and walls, levelling concrete and coating material arrangements on the deteriorated floors, electrical installation and mechanical installation installations and door and window manufacturing, if necessary, are completed. Major points to be considered at this stage are listed below.

    - MSDS of materials such as repair mortars etc. should be checked by workplace physicians and employees should be informed (inhalation, eye contact, etc.).

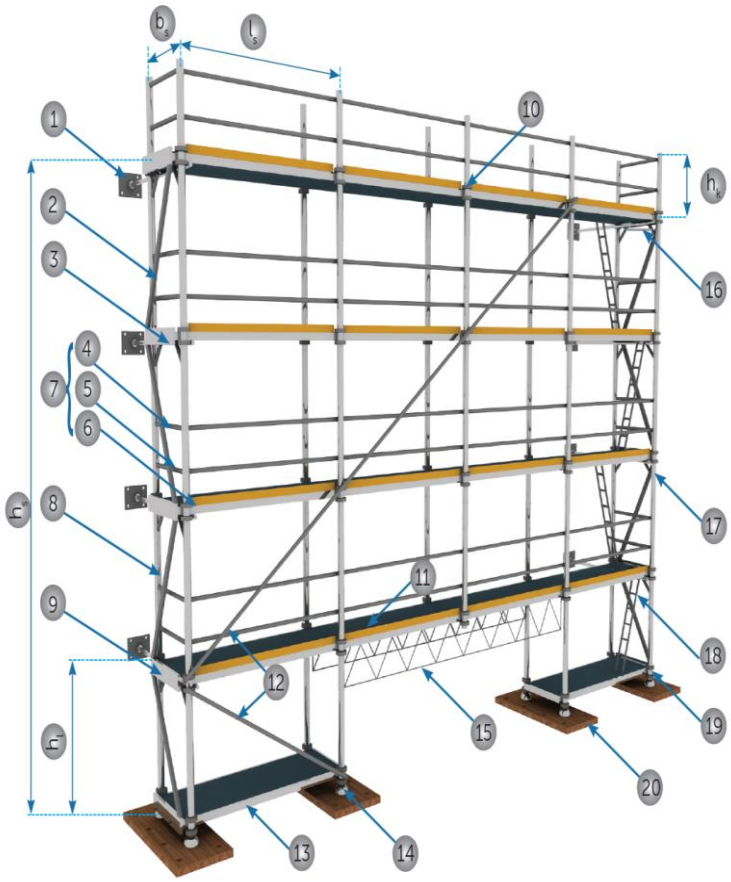
    - It is essential that mobile and fixed temporary work scaffolds that must be installed when necessary meet the requirements of TS EN 12811-1 standard. All personnel who will work on these scaffolds must be trained in working at height and must use full body safety belts and fall arrest equipment.

    - The personnel who will install the scaffolding must have the Scaffolding Installation Personnel Level 3 (12UY0056-3) certificate.

- Personnel who will work in electrical installation must have at least; Electrical Fitter Level 3 (15UY0241-3) certificate.

- Personnel who will assemble electrical panels and tables must have Electrical Panel Assembler Level 3 (12UY0075-3) certificate as a minimum.

Figure 11: EXTERIOR SCAFFOLDING SAMPLE IMAGE



hs: Scaffold Height
bs: Scaffold Outreach Width (From center to center of uprights)
ls: Scaffold Outreach Length (From center to center of uprights)
hl: Scaffold Storey Height
hk: Railing Height
1: Anchor
2: Vertical Plane Reinforcement (Transverse)
3: Node Point
4: Main Railing
5: Intermediate Railing
6: Toe Board
7: Side Protection
8: Upright
9: Transverse Intermediate Connection
10: Joint Element
11: Platform
12: Vertical Plane Reinforcement (Longitudinal)
13: Longitudinal Intermediate Connection
14: Base Plate
15: Cage Beam
16: Tie Element
17: Vertical Frame
18: Stair
19: Height-Adjustable Base Plate
20: Ground Fixing Base
Note: The figure is for the introduction of scaffold components and does not show the conditions that need to be met.

- Personnel responsible for scaffold installation must have Scaffold Installation Level 3 (12UY0056-3) certification.

- Personnel working on electrical installations must have a minimum of Electrical Installer Level 3 (15UY0241-3) certification.

- Personnel assembling electrical panels and boards must have a minimum of Electrical Panel Assembler Level 3 (12UY0075-3) certification.

- Torque-controlled screwdrivers and tightening equipment should be used during the assembly of electrical panels/boards. Appropriate tightening forces should be predetermined based on the type of switchgear or the dimensions of screws and nuts and communicated to responsible personnel.

- Personnel involved in the mechanical installation process must have a minimum of Heating and Natural Gas Interior Plumbing Construction Staff Level 3 (11UY0031-3) certification.

- Personnel conducting plastering work must have a Plasterer Level 3 (11UY0024-3) certification.
- Personnel conducting gypsum work must have a Gypsum Plaster Applicator Level 3 (12UY0055-3) certification.
- Personnel involved in ceramic tile work must have a Ceramic Tile Coverer Level 3 (12UY0051-3) certification.
- Personnel involved in painting work must have a Construction Painter Level 3 (11UY0023-3) certification.
- All personnel working in the field must have a minimum of Construction Worker Level 2 (16UY0253-2) certification.
- Material Safety Data Sheets (MSDS) for repair mortars, paints, etc., should be reviewed by occupational health physicians, and employees should be informed (inhalation, eye contact, etc.).
- All personnel carrying heavy loads must receive training in manual lifting and carrying.

Table 17 BUILDING STRENGTHENING & SUPERSTRUCTURE WORKS CONTROL TABLE

WORK TO DO:	Building Reinforcement & Superstructure Works
WORKING METHOD	
Technical Description and Requirements **Construction Technique and Technology** – It is explained in article 7 and its sub-articles under the sub-heading of Building Repair and Superstructure Works. **Use of Work Equipment** – SPIRAL – MORTAR MIXER – AIR 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 FASTENING
- 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:

- Access road information is provided in the form of plans under the heading "Pre-construction Information & Site Plans.".
    - The maximum speed within the campus is limited to 20 km/h for trucks.
    - The maximum speed within the campus is limited to 20 km/h for mobile cranes.

Handling & Supply of Materials

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

PPE- GENERAL	**Need for Trained Personnel**
• HELMET TS EN 397+A1 • EARPLUG TS EN 352-2 • PROTECTIVE GLASSES 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 SEAT BELT EN 361 • ROPE BRAKING SYSTEM EN 353 • SAFETY HOOK EN 362 • FALL PREVENTION SAFETY ROPES EN 355	• MECHANICAL ENGINEER • ELECTRICAL ENGINEER • CONSTRUCTION ENGINEER • ARCHITECT • SCAFFOLDING ELEMENT ELEMENT LEVEL 3 (12UY0056-3) • ELECTRICAL INSTALLER LEVEL 3 (15UY0241-3) • HEATING AND NATURAL INTERNAL SYSTEM. DO IT. THU. SLOPE. 3 (11UY0031-3) • Bricklayer LEVEL 3 (12UY0048-3) • PLASTER LEVEL 3 (11UY0024-3) • GYPSUM PLASTER APPLICANT LEVEL 3 (12UY0055-3) • CERAMIC TILE SEATER LEVEL 3 (12UY0051-3) • CONSTRUCTION PAINTER LEVEL 3 (11UY0023-3) • CONSTRUCTION WORKER LEVEL 2 (16UY0253-2)

Table 18 RISK ANALYSIS

WORK TO DO	SOURCE OF DANGER	RISKS	PRECAUTION
Natural Gas Line Interventions	Gas leak and explosion	▪ Trauma ▪ Severe burn ▪ Loss of limb ▪ Death	▪ Prior to excavation works, it should be verified through İGDAŞ (Istanbul Gas Distribution Company) whether there is a natural gas pipeline in the relevant area. ▪ Natural gas pipelines must be shut down before any intervention and protected using the EKED system. ▪ Interventions in existing pipeline systems or the establishment of new pipelines will be conducted under the supervision of a Natural Gas Infrastructure Construction Control Personnel Level 4 (12UY0042-4).

WORK TO DO	SOURCE OF DANGER	RISKS	PRECAUTION
			▪ Personnel assigned to the task are required to wear work boots, protective goggles, a hard hat, a dust mask, and ear protection. ▪ The working areas will be delineated with safety tapes, and safety signs will be displayed to communicate potential risks.
Electrical Installation.	Temporary Work Scaffolding Electric	▪ Falling from height ▪ Traumas due to the impact of objects falling from a height. ▪ Electric shock	▪ At minimum, personnel who will work in electrical installations; Must have an Electrical Plumber Level 3 (15UY0241-3) certificate. ▪ Personnel who will assemble electrical panels and panels must have, at a minimum, the Electrical Panel Installer Level 3 (12UY0075-3) certificate. Electrical or Electrical and Electronics Eng. is responsible for all electrical work. will be carried out under the supervision of ▪ Torque controlled screwdrivers and tightening equipment should be used during electrical panel/table assembly. Appropriate tightening forces must be determined in advance according to the type of switchgear or screw and nut dimensions and reported to the responsible personnel. ▪ All personnel must use appropriate types of insulated electrical gloves and work shoes according to low voltage safety limits. The suitability of the PPE in question must be specifically determined by the OHS Specialist through standards and CE markings. ▪ It is essential that the scaffoldings to be installed meet the TS EN 12811-1 standard conditions, regardless of their size. It is mandatory for all personnel working on these scaffolds to have received training on working at height and to use full-body safety belts and fall arrest equipment.

WORK TO DO	SOURCE OF DANGER	RISKS	PRECAUTION
Lighting Element Installation	Temporary Work Scaffolding. Electric.	▪ Falling from height. ▪ Traumas due to the impact of objects. falling from a height. ▪ Electric shock.	▪ The minimum number of personnel to be employed is; Must have an Electrical Plumber Level 3 (15UY0241-3) certificate. ▪ Before the installation of the lighting element, the electrical energy of the line in question must be cut off via the switchgear equipment and secured with the EKED system. ▪ Switches, commutators, etc. where electrical energy is cut off before disassembly. It should be checked with control devices such as phase voltage detectors over equipment connections. ▪ It is essential that the scaffoldings to be installed meet the TS EN 12811-1 standard conditions, regardless of their size. It is mandatory for all personnel who will work on the scaffolds in question to be trained to work at height and to use full-body safety belts and fall arrest equipment. ▪ All personnel must use appropriate types of insulated electrical gloves and work shoes according to low voltage safety limits. The suitability of the PPE in question must be specifically verified by the OHS Specialist through standards and CE markings.
Gypsum plaster application	Temporary Work Scaffolding. Chemical Matter. Electric	▪ Falling from height. ▪ Traumas due to the impact of objects falling from a height. ▪ Electric shock. ▪ Disorders due to chemical contact.	▪ Personnel who will perform plaster/plaster operations must have a Gypsum Plaster Applicator Level 3 (12UY0055-3) certificate. ▪ It is essential that the scaffoldings to be installed meet the TS EN 12811-1 standard conditions, regardless of their size. It is mandatory for all personnel who will work on the scaffolds in question to be trained to work at height and to use full-body safety belts and fall arrest equipment. ▪ Control lighting, mixer etc. It is essential that all electrical equipment be subjected to PAT testing and verified to be electrically safe. ▪ Extension cables and device supply cables must be physically protected. Cables should not be left lying on the ground, and wheelbarrows and workers should not be allowed to pass over them. Cables should not be allowed to remain in puddles of water. ▪ Repair mortars, plaster, plaster etc. MSDS of the materials should be checked by workplace physicians and employees should be informed (breathing, eye contact, etc.). ▪ It is mandatory for the personnel on duty to wear work shoes, protective glasses, hard hat, dust mask and headphones.

WORK TO DO	SOURCE OF DANGER	RISKS	PRECAUTION
Paint	Temporary Work Scaffolding. Chemical Matter Electric	▪ Falling from height ▪ Traumas due to the impact of objects falling from a height. ▪ Electric shock. ▪ Disorders due to chemical contact	▪ Personnel who will work in painting works must have a Construction Painter Level 3 (11UY0023-3) certificate. ▪ It is essential that the scaffoldings to be installed meet the TS EN 12811-1 standard conditions, regardless of their size. It is mandatory for all personnel who will work on the scaffolds in question to be trained to work at height and to use full-body safety belts and fall arrest equipment. ▪ Control lighting, mixer etc. It is essential that all electrical equipment be subjected to PAT testing and verified to be electrically safe. ▪ Extension cables and device supply cables must be physically protected. Cables should not be left lying on the ground, and wheelbarrows and workers should not be allowed to pass over them. Cables should not be allowed to remain in puddles of water. ▪ Repair mortars, paint, solvents, etc. MSDS of the materials should be checked by workplace physicians and employees should be informed (breathing, eye contact, etc.). ▪ It is mandatory for the personnel on duty to wear work shoes, protective glasses, hard hat, dust mask and headphones.
Ceramic tile etc. flooring works.	Chemical matter Electric	▪ Electric shock. ▪ Disorders due to chemical contact	▪ Personnel who will work in ceramic tile works must have the Ceramic Tile Coater Level 3 (12UY0051-3) certificate. ▪ Mixer, crusher/driller etc. It is essential that all electrical equipment be subjected to PAT testing and verified to be electrically safe. ▪ Extension cables and device supply cables must be physically protected. Cables should not be left lying on the ground, and wheelbarrows and workers should not be allowed to pass over them. Cables should not be allowed to remain in puddles of water. ▪ Adhesive mortars etc. MSDS of the materials should be checked by workplace physicians and employees should be informed (breathing, eye contact, etc.). ▪ It is mandatory for the personnel on duty to wear work shoes, protective glasses, hard hat, dust mask and headphones.

WORK TO DO	SOURCE OF DANGER	RISKS	PRECAUTION
Mechanical Installation	Electric	▪ Electric shock.	▪ At a minimum, the personnel who will take part in the mechanical installation process; Heating and Natural Gas Internal Installation Construction Personnel must have a Level 3 (11UY0031-3) certificate. ▪ It is essential that all electrical equipment be subjected to PAT testing and verified to be electrically safe. ▪ Extension cables and device supply cables must be physically protected. Cables should not be left lying on the ground, and wheelbarrows and workers should not be allowed to pass over them. Cables should not be allowed to remain in puddles of water. ▪ It is mandatory for the personnel on duty to wear work shoes, protective glasses, hard hat, dust mask and headphones.

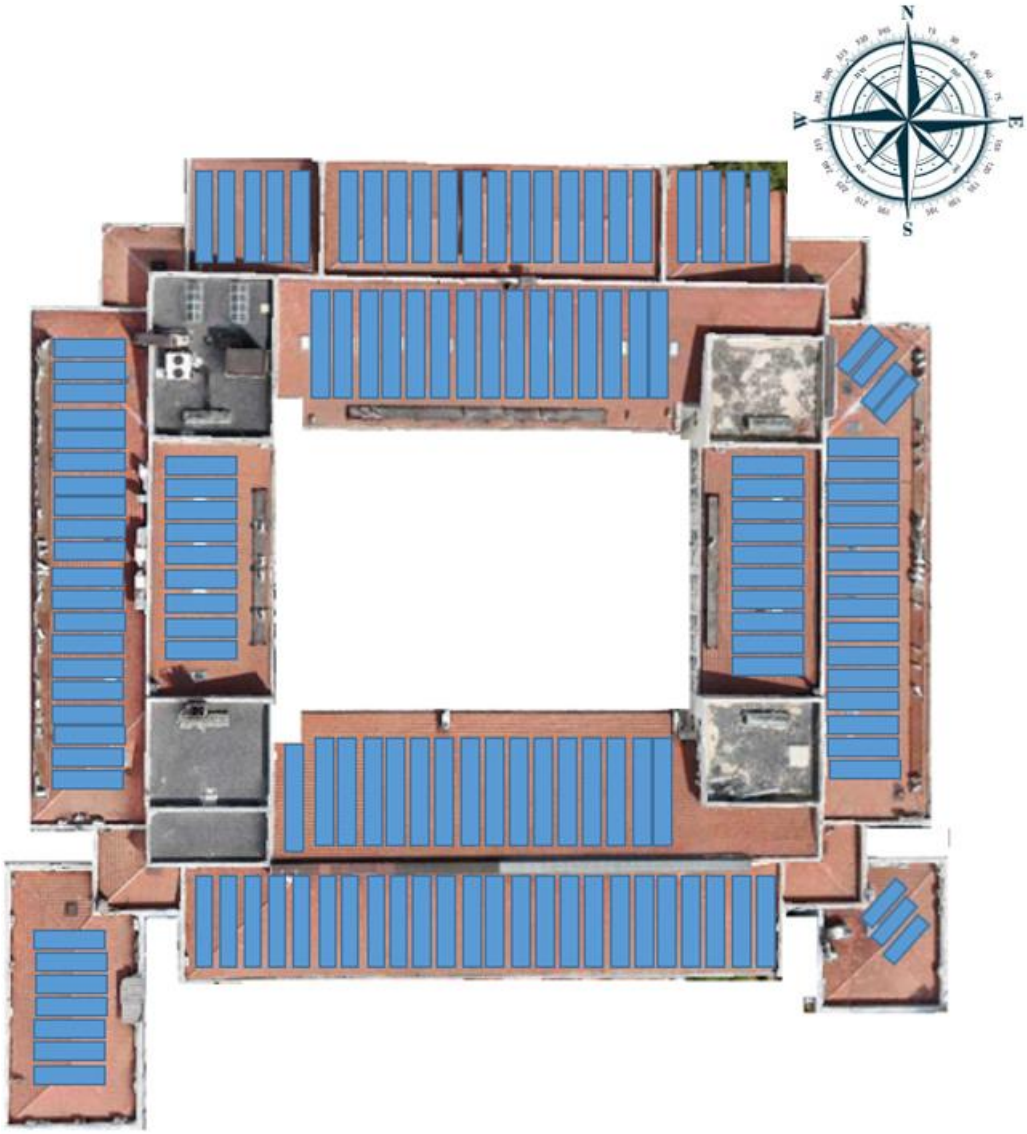
8.2 Energy Efficiency

Energy efficiency-focused renovation topics are listed below.

- Electricity generation with monocrystalline PV system on hipped roof.
- The roofs and layout plans where PV will be installed are presented to your attention below.

8.1.2 Electricity generation with monocrystalline PV system on hipped roof

Figure 12: LAYOUT PLAN



- All work must be carried out under the supervision of a qualified Electrical or Electrical Electronics Engineer.

- All personnel involved in the work must have received training in working at heights.
- All personnel involved in the work must use full-body safety harnesses and fall prevention equipment.
- Horizontal safety lines must be installed on roofs for the connection of fall prevention equipment.

Figure 13: Representative Picture Of Movement Restrictor

- It is mandatory for the truck and mobile crane to act in accordance with the traffic action plan when moving and lifting all panels and bringing them to the roof.
- Securing the transport line in lifting and transportation operations of the mobile crane (preventing entry into areas with a risk of falling).
- Inspection reports of the mobile crane, hoist, and sling should be checked, and their compliance should be verified.
- The operator controlling the mobile crane must have an operator certificate, which should be checked and verified.
- Personnel installing guiding ropes and supporting slings must have a Signaler Level 2 (15UY0218-2) Slinger Training certificate.
- All electrical hand tools (mobile concrete mixer, vibrator, concrete pump, etc.) must undergo PAT tests. PAT test reports will be requested and checked before work. During field inspections, the presence of PAT control and approval labels on electrical devices will be verified. Devices without compliance labels are not allowed for use. (Extension cables are also included in this scope.)
- Personnel working on electrical installations must have a minimum of Level 3 Electrical Installer (15UY0241-3) certification.
- Personnel involved in the assembly of electrical panels and boards must have a minimum of Level 3 Electrical Panel Assembler (12UY0075-3) certification.
- Torque-controlled screwdrivers and tightening equipment must be used during the assembly of electrical panels/boards. Appropriate tightening forces should be predetermined based on the type of switchgear or the dimensions of screws and nuts and communicated to the responsible personnel.
- The grounding line of the electrical system must be reported by authorized Electrical or Electrical Electronics Engineers.
- Insulated work gloves (suitable for low voltage conditions) and insulated work shoes must be used to protect against electric shocks.
- Construction safety net or construction safety mesh is a net system used to prevent human or material falls in construction areas. This precaution against falls on construction sites should comply with TSE 1263-1 and TSE 1263-2 standards in terms of raw material, production method, and application. Safety nets are the most effective overall safety measure among passive fall arrest systems.

- Installation can be done horizontally, vertically, or at an angle depending on the area.
- The personnel performing the installation should have technical knowledge about angular values, anchor point selection, and the placement of the net.

Table 19 University Building Rooftop PV Works Control Table

Work to do:	Establishment of Photovoltaic Energy Facility
WORKING METHOD	
Technical Description and Requirements **Construction Technique and Technology** – Panel fixing lightweight construction will be secured to the roof with drilling and fastening sets using screw nuts. The panels transported to the roof by a mobile crane will be fixed to the mentioned construction in accordance with the project, and connection cables will be drawn. Energy and grounding cables, connected by connectors, will be linked to the inverter and solar power plant panel installed on the main panel.. **Use of Work Equipment** – Truck – mobile crane – Load carrying equipment (eyebolt, sling, hook, chain) – torque wrench – cordless drill – Screwdriver set – multimeter – Cable cutting stripping hand equipment (chisel, pliers, pliers nose etc.) – Silicone gun **Use of Chemical Substances** – Silicone **Access to Workspace** – The access road is given in plan form under the title of General Construction Technique. • The maximum speed for trucks within the campus is limited to 20 km. • The maximum speed for mobile cranes within the campus is limited to 20 km.	
PPE - GENERAL	**Need for Trained Personnel**
1. EN 397 HELMET 2. EN 420 INSULATED GLOVES 3. EN 345 INSULATED WORK SHOES 200J 4. EN 340 GENERAL WORK CLOTHES 5. FULL BODY SEAT BELT (EN 361) 6. ROPE BRAKING SYSTEM (EN 353) 7. SAFETY HOOK (EN 362) 8. FALL PREVENTOR (EN 355)	6. Electrical and Electronics Engineer 7. Truck driver with a CLASS C driver's license 8. Mobile Crane Operator (Auth. Cap.: 13UY0172-3 | Level 3) 9. Pointer (Auth. Cat.: 15UY0218-2 | Level 2) 10. Electrical Panel Installer (Auth. C.:12UY0075-3 | Level 3)

Table 20 RISK ANALYSIS

WORK TO DO	DANGER	RISK	PRECAUTION
▪ Transportation of materials	▪ Galleon	▪ Injury, death as a result of traffic accident	▪ The truck will be operated by employees holding a Class C driving license. ▪ The urban speed limit will not be exceeded (50 km/h). ▪ The speed limit within the building campus area is restricted to 20 km/h. Movements and maneuvers within the area will be observed by the Occupational Safety and Health (OSH) specialist.

WORK TO DO	DANGER	RISK	PRECAUTION
▪ Transportation of materials	▪ PV panels and mounting parts	▪	▪ All materials will be placed evenly in the truck bed, considering the center of gravity. ▪ The units will be secured with straps. ▪ Assembly parts will be transported packaged on a pallet. ▪ The truck side and rear doors will be closed and secured.
▪ Transport and unloading of materials	▪ Mobile Crane and lifting equipment	▪ Injury or death due to PV panels or parts falling over	▪ The Mobile Crane Operator (Cert. No: 13UY0172-3 | Level 3) is authorized to use the crane. ▪ Rigging and guidance will be performed by signalers with authorized signaling certificates. ▪ The crane's periodic inspection report will be checked and verified by the HSE specialist before work (it will be requested to be obtained within a maximum of 6 months). ▪ Periodic inspection reports for straps, chains, hooks, etc., will be checked and verified by the HSE specialist before work (it will be requested to be obtained within a maximum of 6 months). ▪ Straps, chains, hooks will be visually inspected before work. Their lifting capacity and physical condition will be confirmed. ▪ The mobile crane's hydraulic stabilizing legs will be secured to the ground. ▪ Before lifting operations, the main boom angle of the mobile crane and lifting capacities related to that angle will be checked. ▪ The signaler will guide the load through a control rope. ▪ Access to the work area will be restricted during lifting and transportation operations. Passing under the load is prohibited. ▪ Warning signs will be installed. ▪ The work will be subject to the WORK PERMIT SYSTEM.

WORK TO DO	DANGER	RISK	PRECAUTION
▪ Assembly work	▪ working at height	▪	▪ T-type safety netting or edge protection railing will be installed to prevent the fall of large parts and workers. ▪ According to TS EN 1263-2[8] standard, the width of the T-type safety net should be at least 2 m, and the vertical installation height should be a maximum of 1 m. ▪ Workers must have received Working at Heights with Rope Access Training before starting work. These training sessions will be provided at a minimum by experts holding the IRATA (Industrial Rope Access Trade Association) International Level 2 Certificate. ▪ During work on the roof, especially when working near the edge where the risk of falling is high (within 1 m from the edge), restraint systems (horizontal lifelines) will be used. ▪ Materials to be assembled will not be held at the edges, and during non-working hours, they will be secured to the ground with a free material restraint net. ▪ The perimeter of the building where assembly will take place will be marked with safety tapes, preventing the entry of workers and third parties.
▪ Cutting off line energy via electrical panel	▪ Power board, line cable	▪ Injury or death as a result of the load falling during lifting, carrying and lowering	▪ Panel intervention will be carried out under the supervision of an Electrical or Electrical Electronics Engineer, with a minimum Electrical Panel Assembler (Cert. No: 12UY0075-3 | Level 3). ▪ After the power is cut off, it will be verified with a multimeter that there is no energy in the neutral and ground lines. ▪ The panel in question will be locked and tagged. ▪ The LOTO (Lockout/Tagout) key for the lock system will be held by the technician who locks it. It is forbidden to give this key to anyone else before the work is completed. ▪ Before disconnecting device connections and making new connections, it will be verified again with a multimeter that there is no energy.

[8] Temporary work equipment - Safety nets - Part 2: Safety rules for positioning limits

WORK TO DO	DANGER	RISK	PRECAUTION
▪ Cutting off the line energy and re-energizing it via the electrical panel	▪ Power board, line cable	▪ Fall from height, material fall	▪ Panel intervention will be carried out under the supervision of an Electrical or Electrical Electronics Engineer, with a minimum Electrical Panel Assembler (Cert. No: 12UY0075-3 | Level 3). ▪ During electrical works, 1kV insulated gloves in accordance with EN 60903:2003 standard, insulated electrician shoes in accordance with EN 344 standard, and an insulated mat (EN 60243-1) or table (EN 60243-1) will be placed on the ground. ▪ The work will be carried out by a minimum of two technical workers. These individuals will not come into contact with each other during the work. ▪ Technical personnel who will perform the work will be provided with training on the effects of electric shock and initial intervention, and a practical exercise will be conducted.
▪ PV Panel and construction Installation	▪ Assembly works	▪ Injury or death due to electric shock due to unauthorized switching on of the energy by other people or technical problems	▪ PV panels and construction assembly will be carried out by a Machine Assembler (Cert. No: 12UY0105-3 | Level 3). ▪ Throughout the assembly, a helmet and general protection gloves will be used to prevent head and hand injuries.

8.2.2 KASKAD sectional condensing premix floor type boiler plant

The existing boilers will be dismantled, removed from the building, and transported. The process of transporting the new boilers, moving them into the building, and assembling them will be outlined in a work method prepared by the contractor and submitted for approval by the consultant. After approval of the method, work can commence. The main elements and considerations for the boiler installation process are listed below.

- All of the studies will be carried out under the supervision of competent Mechanical Engineer.
- The method of disassembly and removal of the existing boiler and its delivery to the university will be defined.
- Relevant checks will be carried out by an authorized Asbestos Removal Specialist before starting the installation work.
- Observation and/or sampling by Asbestos Removal Specialist. If there is no asbestos material, work will be done.
- In case of asbestos material as a result of the checks made by Asbestos Removal Specialist;
    - Asbestos risk analysis,
    - Asbestos removal worker training,
    - Asbestos action plans, and,
    - Asbestos awareness training,
    - Environment and Personal exposure measurements will be made.
- The truck to be used in the transport process of the new boiler must act in accordance with the traffic action plan.
- The route to be used in the removal of the dismantled boiler and the installation of the new boiler must be specified in the construction method. (If wall demolition and reconstruction are required, personnel involved should have a Bricklayer Level 3 (12UY0048-3) certificate.)
- Personnel involved in the mechanical installation process must have a minimum of Heating and Natural Gas Internal Installation Construction Personnel Level 3 (11UY0031-3) certificate.
- The suitability of the equipment to be used in lifting and transporting the boiler in the indoor environment must be verified through periodic inspection reports (issued by authorized Mechanical Engineers).
- The surroundings of the heat center during the renovation process must be enclosed with caution tape to prevent unauthorized personnel entry.
- Personnel performing electrical installation and panel assembly tasks must have a minimum of an Electrical Panel Assembler Level 3 (12UY0075-3) certificate.
- The grounding line of the electrical system must be reported by authorized Electrical or Electrical Electronics Engineers.
- For protection against electrical shocks, insulated gloves (suitable for low-voltage conditions) and insulated work shoes must be used.

- All personnel handling heavy loads must receive training in manual lifting and carrying.

Table 21 KASKAD Sectional Condensing Premix Floor Type Boiler Plant Control Table

Work to do:	Natural gas boiler plant.
ÇALIŞMA YÖNTEMİ	
Technical Description and Requirements **Construction Technique and Technology** – The existing boiler will be dismantled, and in its place, a smaller-sized boiler will be securely fixed to the floor. Subsequently, the burner, natural gas pipeline connections, as well as the supply and return hot water connections, will be established. **Use of Work Equipment** – Truck – Mobile crane – Load carrying equipment (eyebolt, sling, hook, chain) – Torque wrench – Cordless drill – Screwdriver set – Multimeter – Cable cutting and stripping hand equipment (chisel, pliers, needle nose, etc.) – Mechanical assembly equipment (pipe cutting, bending) **Use of Chemical Substances** – Cleaning chemicals – Mechanical system oils **Access to Workspace** – The access road is given in plan form under the title of General Construction Technique. • The maximum speed for trucks within the campus is limited to 20 km. • The maximum speed for mobile cranes within the campus is limited to 20 km.	
PPE - GENERAL	**Need for Trained Personnel**
1. EN 397 HELMET 2. EN 420 GENERAL PURPOSE GLOVES 3. EN 345 SAFETY SHOES 200J 4. EN 420 INSULATED GLOVES 5. EN 345 INSULATED WORK SHOES 200J 6. EN 340 GENERAL WORK CLOTHES	1. MECHANICAL ENGINEER 2. TRUCK DRIVER WITH CLASS C DRIVER'S LICENSE 3. MOBILE CRANE OPERATOR (AUT. C.: 13UY0172-3 | LEVEL 3) 4. MARKER (AUT. C.: 15UY0218-2 | LEVEL 2) 5. HEATING AND NATURAL GAS DOMESTIC CONTACT. THU. LEVEL 3 (11UY0031-3) 6. ELECTRICAL PANEL INSTALLER (AUTHORITY: 12UY0075-3 | LEVEL 3)

Table 22 RISK ANALYSIS

WORK TO DO	DANGER	RISK	PRECAUTION
Material Handling	Truck	Injury, death as a result of traffic accident	▪ The truck will be used by employees with a class C driver's license. ▪ City speed limit will not be exceeded. (50km/h) ▪ The speed limit of the building campus area is limited to 20 km/h. Movements and maneuvers on the field will be observed by an OHS specialist.

WORK TO DO	DANGER	RISK	PRECAUTION
Material Handling	PV panels and mounting parts		▪ All materials will be placed balancedly in the center of the truck bed, taking into account the center of gravity. ▪ The unit will be fixed with straps. ▪ Assembly parts will be transported packaged on pallets. ▪ Truck side and rear covers will be closed and fixed
Material Handling and Unloading	Mobile Crane and lifting equipment	Injury or death due to PV panels or parts falling over	▪ The crane can be used by a Mobile Crane Operator (Auth. ID: 13UY0172-3 | Level 3). ▪ Slinging and guidance will be carried out by signalmen with authorization certificates. ▪ The crane periodic inspection report will be checked and verified by an OHS expert before work. (It will be requested to be provided within a maximum period of 6 months.) ▪ Periodic inspection report of slings, chains, eye bolts and hooks will be checked and verified by the OHS expert before the work. (It will be requested to be provided within a maximum period of 6 months.) ▪ Slings, eye bolts and hooks will be visually checked before work. Carrying capacity and physical condition will be verified. ▪ Mobile crane hydraulic fixing legs will be fixed to the ground. ▪ Before the lifting operation, the mobile crane boom angle and the lifting capacities related to that angle will be checked. ▪ The load will be directed by the pointer over the control rope. ▪ Access to the work area will be restricted throughout the lifting and transport operation. Passing under load is prohibited. ▪ Warning signs will be installed. ▪ Work will be subject to the WORK PERMIT SYSTEM.
Cutting off the Natural Gas Line	Natural gas		▪ Before dismantling, the natural gas line must be cut and secured with LOTO. ▪ It should be checked with gas detection devices that there is no shortage of natural gas. ▪ After the new line connections are completed, gas must be re-introduced in accordance with LOTO rules. After opening the gas valves, it should be checked for leaks with gas detection devices.

WORK TO DO	DANGER	RISK	PRECAUTION
Cutting off the electrical power through the electrical panel, re-energizing	Power board, line cable	Injury or death as a result of the load falling during lifting, carrying and lowering	▪ Panel intervention will be carried out by the Electrical Panel Installer (Auth. C.: 12UY0075-3 | Level 3). ▪ During electrical work, 1kV insulated gloves in accordance with EN 60903:2003 standard, insulated electrician work shoes in accordance with EN 344 standard will be used, and an insulated mat (EN 60243-1) or stand (EN 60243-1) will be placed on the floor. ▪ Work will be carried out by at least two technical employees. These people will not come into contact with each other during work. ▪ Technical personnel who will carry out the work in question will be trained on the effects of electric shock and first response and a drill will be carried out.

8.2.3 Building Circulation Replacement Works

Along with the spare parts of the existing motor & pump elements in the circulation system; replacement with integrated frequency controlled high efficiency systems.

- Personnel responsible for motor line and panel switchgear connections must have a minimum certification of Electrical Panel Assembler Level 3 (12UY0075-3).
- Torque-controlled screwdrivers and tightening equipment should be used during electrical panel/board assembly. Appropriate tightening forces should be predetermined based on the type of switchgear or nut and bolt sizes and communicated to the responsible personnel.
- Insulated gloves (suitable for low voltage conditions) and insulated work boots should be worn to protect against electrical shocks.
- EKED system should be used for panel safety.
- All personnel involved in carrying heavy loads must undergo manual lifting and carrying training.

Table 23 BUILDING CIRCULATION REPLACEMENT WORK CONTROL TABLE

Work to do:	Engine & Pump Replacemento
WORKING METHOD	
<u>Technical Description and Requirements</u> **Construction Technique and Technology** – Motor energy will be cut through column and ligne line and controlled by multimeter. – Existing motor & pump elements terminal connections will be exposed. – The cable energy connection will be dismantled using the appropriate cap screw through the terminal blocks. The cable will be made available for the new engine connection to be visually controlled. – The new motor connection will be carried out via the terminal, the connection stability will be controlled by hand, and the motor will be fixed using the fasteners transmitted by the manufacturer.	

Use of Work Equipment

- Electrical tools (Pliers, control pen, screwdriver, etc.)
- Multimeter

Use of Chemical Substances

- It is not intended to use any chemicals.

Access to Workspace

- The heat center is inside the building.

Transportation of Materials

Materials will be carried manually. (Manual handling training should be given.)

PPE - GENERAL	**Need for Trained Personnel**
1. EN 397 HELMET 2. EN 420 INSULATED GLOVES 3. EN 345 INSULATED WORK SHOES 4. EN 340 GENERAL WORK CLOTHES	1. Electrical Panel Installer (Auth. C.:12UY0075-3 | Level 3)

Table 24 RISK ANALYSIS

WORK TO DO	DANGER	RISKS	PRECAUTION
Cutting off line energy via electrical panel	Power board, line cable	Injury or death due to electric shock due to unauthorized switching on of the energy by other people or technical problems	▪ Panel intervention will be carried out by a minimum Electrical Panel Assembler Level 3 (12UY0075-3) under the supervision of an Electrical or Electrical Electronics Engineer. ▪ After the power is cut off, it will be verified with a multimeter that there is no energy in the neutral and ground lines. ▪ The panel will be labeled and locked in accordance with LOTO rules. ▪ Before disconnecting device connections and making new connections, it will be verified again with a multimeter that there is no energy.

WORK TO DO	DANGER	RISKS	PRECAUTION
Assembly, re-energization	Power board, line cable	Electric shock during motor and panel connection.	▪ Motor connections will be carried out by a minimum Electrical Panel Assembler Level 3 (12UY0075-3) under the supervision of an Electrical or Electrical Electronics Engineer. ▪ Panel intervention will be carried out by a minimum Electrical Panel Assembler Level 3 (12UY0075-3) under the supervision of an Electrical or Electrical Electronics Engineer. ▪ During electrical work, 1kV insulated gloves compliant with EN 60903:2003 standard and insulated electrician work shoes compliant with EN 344 standard will be used. An insulated mat (EN 60243-1) or table will be placed on the ground. ▪ The work will be carried out by a minimum of two technical workers. These individuals will not come into contact with each other during the work. ▪ Technical personnel performing the work will be provided with training on the effects of electric shock and initial intervention, and practical exercises will be conducted.

8.2.4 Engine & Pump Replacement

Within the framework of energy efficiency measures, the circulation motor & pump system will be replaced with integrated frequency controlled high efficiency motor & pump systems.

- The personnel who will work in motor replacement must have at least; Electrical Fitter Level 3 (15UY0241-3) certificate.

- Insulated work gloves (suitable for low voltage conditions) and insulated work shoes must be used against electric shocks.

- Personnel who will make connections inside the panel must have the certificate of Electrical Panel Assembler (YET. K.:12UY0075-3 | level 3).

- EKED system must be used for panel safety.

- If the motor ligne protection fuse is not labelled, it shall be labelled.

Table 25 ENGINE & PUMP CONTROL TABLE

Work to do:	Engine & Pump Replacemento
WORKING METHOD	
<u>Technical Description and Requirements</u> **Construction Technique and Technology** – Motor energy will be disconnected from the column and lining line and checked with a multimeter. – Existing motor & pump elements terminal connections will be exposed.	

- The cable energy connection will be removed from the terminals using a screw with a suitable head. The cable will be visually checked and made suitable for new motor connection.
- The new motor connection will be carried out over the terminal block, the connection strength will be checked manually and the motor will be fixed using the fasteners supplied by the manufacturer.

Use of Work Equipment

- - Electric hand tools (pliers, control pen, screwdriver, etc.),

Use of Chemical Substances

- It is not foreseen to use any chemical substances.

Access to Workspace

- **The work area is located at various points within the building. In-building access roads will be used.**

Transportation of Materials

- Materials will be transported by hand.

Materials will be carried manually. (Manual handling training should be given.)

PPE - GENERAL	**Need for Trained Personnel**
1. EN 397 HELMET 2. EN 420 INSULATED GLOVES 3. EN 345 INSULATED WORK SHOES 4. EN 340 GENERAL WORK CLOTHES	Electrical Fitter Level – (15UY0241-3) Electrical Panel Installer (Auth. C.:12UY0075-3 | Level 3)

Table 26 RISK ANALYSIS

WORK TO DO	DANGER	RISKS	PRECAUTION
De-energising the line via the electrical panel	Power board, line cable	Injury or death due to unauthorised switching on of the power by other persons or electric shock due to technical problems	▪ Panel intervention shall be carried out by an electrical or Electrical and Electronics Engineer. Minimum Electrical Panel Assembler (Authorisation: 12UY0075-3 | Level 3) under the supervision of Electrical or Electrical and Electronics Engineer. ▪ After the power is cut off, it will be verified by using a multimeter that there is no energy in the neutral and earth line. ▪ The panel will be locked and labelled in accordance with EKED rules. ▪ Before disconnecting the device connections and making new connections, it will be verified by using a multimeter that there is no energy again.

WORK TO DO	DANGER	RISKS	PRECAUTION
Disassembly, assembly, re-energising	Power board, line cable	Electric shock during work carried out inside the switchboard.	▪ Motor disassembly and assembly will be carried out by technical personnel with ELECTRICAL INSTALLER LEVEL 3 (15UY0241-3) qualification certificate. ▪ Before disassembly, the absence of electric current will be verified via multimeter. In the meantime, not only phase lignes but also earthing and neutral lines will be checked. ▪ Panel intervention will be carried out by minimum Electrical Panel Assembler (Authorisation: 12UY0075-3 | Level 3) under the supervision of Electrical or Electrical and Electronics Engineer. ▪ During electrical work, 1kV insulated gloves in accordance with EN 60903: 2003 standard, insulated electrician work shoes in accordance with EN 344 standard, insulated mat (EN 60243-1) or coffee table (EN 60243-1) will be placed on the floor. ▪ The technical personnel who will carry out the work in question will be trained on the effects of electric shock and first intervention and drills will be carried out.

8.2.4 LED Conversion

Replacement of luminaires that have not been converted to LED with high-efficiency LED luminaires of the same size.

- Personnel working on fixture replacement must have a minimum of Electrical Installer Level 3 (15UY0241-3) certification.
- Insulated gloves (suitable for low voltage conditions) and insulated work shoes must be used to prevent electric shocks.
- Personnel making connections inside the panel must have Electrical Panel Assembler (certification: 12UY0075-3 | Level 3).
- EKED system must be used for panel safety.
- If the protection fuse of the lighting line is not labeled, labeling will be done.
- Mobile work scaffolds must comply with TS EN 12811-1 standards. All personnel working on these scaffolds must have received working at heights training and must use full-body safety harnesses and fall prevention equipment.
- Personnel responsible for scaffold installation must have Scaffold Installation Operator Level 3 (12UY0056-3) certification.

Figure 14: Mobile Seaffolding Demonstration

Table 27 COMPLETING THE LED CONVERSION OF EXISTING LIGHTING ELEMENTS WORKS CONTROL PLAN

Work to do:	Completing the LED Conversion of Existing Lighting Elements

WORKING METHOD

Technical Description and Requirements

Construction Technique and Technology

- The power supply to the lighting fixture will be cut off from the column and line connection, and this will be verified using a multimeter.
- Existing lighting fixtures will have their securing screws removed. The fixture will be detached, and terminal connections will be exposed by removing any cover.
- Cable power connections at the terminals will be removed using appropriate screwdrivers. Visual inspections will be conducted on the cable, and adjustments will be made to prepare it for the connection of the new fixture.
- The new fixture will be connected via the terminals. The connection integrity will be manually checked, and the fixture will be secured to the ceiling using the connection elements provided by the manufacturer.

Use of Work Equipment

- - Electrical tools (Pliers, control pen, screwdriver, etc.), H or L type mobile scaffolding

Use of Chemical Substances

- - It is not intended to use any chemicals.
    - Newly supplied LED luminaire will be installed.

Access to Workspace

- The work area is at various points within the building. Internal transportation routes will be used.

Transportation of Materials

- Materials will be carried manually.

PPE – GENERAL	**Need for Trained Personnel**
1. EN 397 HELMET 2. EN 420 INSULATED ELECTRICAL GLOVES 3. EN 345 INSULATED WORK SHOES 4. EN 340 GENERAL WORK CLOTHES 5. FULL BODY SEAT BELT (EN 361) 6. ROPE BRAKING SYSTEM (EN 353) 7. SAFETY HOOK (EN 362) 8. FALL PREVENTOR (EN 355)	1. ELECTRICAL INSTALLER LEVEL 3 (15UY0241-3) 2. ELECTRICAL PANEL INSTALLER (ADJ. C.:12UY0075-3 | LEVEL

Table 28 RISK ANALYSIS

WORK TO DO	DANGER	RISKS	PRECAUTION
Cutting off line energy via electrical panel	Power board, line cable	Injury or death due to electric shock due to unauthorized switching on of the energy by other people or technical problems	▪ Panel intervention electrical or Electrical and Electronics Engineering. It will be carried out under the supervision of at least an Electrical Panel Installer (Author. K.: 12UY0075-3 | Level 3). ▪ After the power is cut off, it will be verified that there is no energy in the neutral and ground lines by using a multimeter. ▪ The panel in question will be locked and labeled in accordance with EKED rules. ▪ Before disconnecting the device onnections and making new connections, it will be verified that there is no power again by using a multimeter.

WORK TO DO	DANGER	RISKS	PRECAUTION
Disassembly and assembly	dock	Falling from high,	▪ H or L type mobile scaffolding will be installed. The scaffolding in question must comply with TS EN 1004-19 standards. Scaffolding installation will be carried out by personnel with a Scaffolding Installation Personnel certificate. (Qualification Code: 12UY0056-3 | Level 3) ▪ The installed mobile scaffolding must be fixed with the fixing elements provided by the manufacturer before work. Working in a mobile position is strictly prohibited. ▪ The completed scaffoldings will be checked and approved by the Field OHS Specialist. The use of unapproved mobile scaffolding is prohibited. ▪ Maximum carrying capacity information and warning signs will be on the pier. ▪ There will be kickplates on the scaffolding against material falls.
Disassembly, Assembly, re-energization	Power board, line cable	material fall	▪ Luminaire disassembly and assembly; It will be carried out by technical personnel with ELECTRICAL INSTALLER LEVEL 3 (15UY0241-3) qualification certificate. ▪ Before disassembly, it will be verified that there is no electric current using a multimeter. In the meantime, not only phase lines but also grounding and neutral lines will be checked. ▪ Panel intervention electrical or Electrical and Electronics Engineering. It will be carried out at least by an Electrical Panel Installer (Author. K.: 12UY0075-3 | Level 3) under the supervision of an Electrical Panel Installer. ▪ During electrical work, 1kV insulated gloves in accordance with EN 60903:2003 standard, insulated electrician work shoes in accordance with EN 344 standard will be used, and an insulated mat (EN 60243-1) or stand (EN 60243-1) will be placed on the floor. ▪ Work will be carried out by at least two technical employees. These people will not come into contact with each other during work. ▪ Technical personnel who will carry out the work in question will be trained on the effects of electric shock and first response and a drill will be carried out.

[9] Mobile access and working towers made of prefabricated elements - Part 1: Materials, dimensions, design loads, safety and performance requirements

8.2.5 Thermal Insulation of Non-Insulated Installation Elements

- Thermal insulation installation for uninsulated installation elements and heat exchanger.
    - At a minimum, the personnel who will take part in the mechanical installation process; Must have Heating and Natural Gas Internal Installation Construction Personnel Level 3 (11UY0031-3) certificate.

Table 29 PLUMBING INSULATION WORKS CONTROL PLAN

<table>
<tr><td>Work to do:</td><td colspan="2">Plumbing Insulation</td></tr>
<tr><td colspan="3">WORKING METHOD</td></tr>
<tr><td colspan="3"><u>Technical Description and Requirements</u>
Construction Technique and Technology
Insulation jackets installed in appropriate sizes will be placed on the installation element to which they will be applied and the jacket will be fixed using fastening ropes / velcro.
Use of Work Equipment
– No equipment use is anticipated.
Use of Chemical Substances
– It is not intended to use any chemicals.
Access to Workspace
– he work area is in the basement of the building and existing access roads will be used.
Transportation of Materials
– It will be carried by hand.</td></tr>
<tr><td colspan="2">PPE - GENERAL</td><td>Need for Trained Personnel</td></tr>
<tr><td colspan="2">1. EN 397 HELMET
2. EN 420 GENERAL PURPOSE GLOVES
3. EN 345 SAFETY SHOES 200J
4. EN 340 GENERAL WORK CLOTHES</td><td>1. Heating and Natural Gas Internal Installation Per. Level 3 (11UY0031-3)</td></tr>
</table>

- A risk list was not deemed necessary for this issue. General risk analysis rules apply

8.2.6 Energy Monitoring System, Automation System

Establishing the energy monitoring system and automation system in accordance with EN ISO 50001 Energy Management System conditions and ensuring its effectiveness.

- Personnel who will work in the installation of energy monitoring systems and automation systems must have, at a minimum, the Automation Systems Installer Level 4 (12UY0076-4) certificate.
- Insulated work gloves (suitable for low voltage conditions) and insulated work shoes should be used against electric shock.
- LOTO system should be used for panel security.

Table 30 ELECTRONIC BUILDING MANAGEMENT SYSTEM & AUTOMATION SYSTEM WORKS CONTROL PLAN

<table>
<tr><td>Work to do:</td><td>Electronic Building Management System & Automation System General Construction Technique</td></tr>
<tr><td colspan="2">WORKING METHOD</td></tr>
<tr><td colspan="2"><u>Technical Description and Requirements</u>
Construction Technique and Technology
– - Control cables and flowmeter cables of central air conditioning systems such as boilers and heat pumps will be pulled to the floor MCC & DCC panel.
– - Motor pump control cables will be pulled to the floor MCC & DCC panel and frequency inverter inputs will be made.
– - Line pressure difference and temperature sensors will be connected to the installation in accordance with the project and signal cables will be drawn to floor MCC & DCC panels.
– - Floor MCC & DCC cables will be pulled to the central panel and connected to switches etc. connections will be made.
Use of Work Equipment
– Electrical tools (Pliers, control pen, screwdriver, etc.), cable cutting/stripping accessories, multimeter
Use of Chemical Substances
– It is not intended to use any chemicals.
Access to Workspace
– Work will be carried out throughout the building and existing transportation routes will be used.
Transportation of Materials
– It will be carried by hand.</td></tr>
<tr><td>PPE - GENERAL</td><td>Need for Trained Personnel</td></tr>
<tr><td>1. EN 397 HELMET
2. EN 420 INSULATED WORK GLOVES
3. EN 345 INSULATED WORK SHOES 200J
4. EN 340 GENERAL WORK CLOTHES</td><td>1. ELECTRICAL PANEL INSTALLER (AUTHORITY: 12UY0075-3 | LEVEL 3)
2. AUTOMATION SYSTEMS INSTALLER (12UY0076-4 | LEVEL 4)</td></tr>
</table>

Table 31 RISK ANALYSIS

WORK TO DO	DANGER	RISK	PRECAUTION
Cutting off line energy via electrical panel	Power board, line cable	Electric shock	▪ The intervention in the electrical panel will be carried out by a minimum Electrical Panel Assembler (Certification: 12UY0075-3 | Level 3) under the supervision of an Electrical or Electrical Electronic Engineer. ▪ After cutting off the power supply, the absence of energy in the neutral and ground lines will be confirmed using a multimeter. ▪ The panel will be locked and tagged according to LOTO (Lockout/Tagout) rules. ▪ Before removing and establishing new connections, it will be ensured again through a multimeter that there is no energy. ▪ The tasks will be performed by a minimum of two technical workers. During the work, these individuals will not make physical contact with each other. ▪ Technical personnel performing the task will receive training on the effects of electrical shock and first aid, including practical exercises.

8.2.7 Renovation of Building Facade and Roof Insulation

40 Mm rockwool facade insulation plant instead of 100mm PS facade insulation available on the facade. Replenishing 40mm thermal insulation on the roof with 150 XPS, preventing water leaks with polymer bituminous waterproofing.

•The construction method for the insulation process of the facade must be prepared together with the scaffolding plans.
•Trucks carrying facade insulation materials must act in accordance with the traffic action plan.
•TS EN 12811-1 standard requirements of work scaffolds are essential. It is imperative that all the personnel who will work at the job scaffolds in question are trained to work at height, use full body seat belts and fall-blocking equipment.
•The personnel who will perform the scaffolding installation must have Scaffolding Installation Element Level 3 (12UY0056-3) certificate.
•The thermal Isolator of the personnel who will take part in the insulation of the facade is obliged to have Level 3 (12UY0057-3) certificate.
•MSDS ‘s of chemicals should be checked by workplace physicians and employees should be informed (response, eye contact, etc.).
•All power tools must have PAT tests. The PAT test reports will be requested and checked before the study. During field inspections, the presence of PAT control and approval label on the electrical devices will be checked. Device without conformity label, use of equipment is not allowed. (Extension cables are also within this scope.)
•Necessary care should be taken to ensure that electrical extension cables are not destroyed and that the cables in question do not come into contact with water. Extension cables and other electrical appliance power cables will be checked daily. Use of damaged cables is not permitted.
•The risk of falling from the high in the work sites should be taken into consideration and the field in question should be marked by determining the impact area.

Table 32 BUILDING FACADE AND ROOF INSULATION RENOVATION WORKS CONTROL TABLE

Work to do:	BUILDING FACADE AND ROOF INSULATION RENOVATION WORKS CONTROL
WORKING METHOD	
Technical Description and Requirements **Construction Technique and Technology** – The perimeter of the building will be separated by the safety strip. Secure scaffolding installation will be carried out, ground and surface fixing connections will be carried out. – - Facade cladding materials will be brought to the working area by truck and stacked appropriately. – - The existing facade will be etched and made suitable for the new insulation plant. Facade rain gutters, etc.The structures capable of coating will be dismantled. – - The insulation material shall be fixed to the facade using adhesives and dowels recommended by the manufacturer, the mesh shall be applied for the disposal of risks such as cracking, etc. – - The above-mentioned general information will be detailed by the consultant company and forwarded to the client in case of construction method. Work cannot be started without approval of the construction method by the consultant!pumps will be pulled to the floor MCC & DCC panel. **Use of Work Equipment** – Truck – Job dock – Adhesive etc chemical mixer.	

- Crusher drill

Use of Chemical Substances

- Adhesive chemicals, mineral plaster, paint

Access to Workspace

- Trucks can move at a maximum speed of 20 km on campus. Traffic action plan is created.

PPE - GENERAL	Need for Trained Personnel
1. EN 397 HELMET 2. EN 420 INSULATED WORK GLOVES 3. EN 345 INSULATED WORK SHOES 200J 4. EN 340 GENERAL WORK CLOTHES 5. FULL BODY SAFETY HARNESS (TS EN 361) 6. SAFETY HOOK (EN 362) 7. SAFETY NET (EN 355)	1. MECHANICAL ENGINEER 2. SCAFFOLDING ELEMENT ELEMENT LEVEL 3 (12UY0056-3) 3. THERMAL INSULATOR LEVEL 3 (12UY0057-3)

Table 33 RISK ANALYSIS

WORK TO DO	DANGER	RISK	PRECAUTION
External Facade Insulation	▪ Work scaffolding ▪ Working at height ▪ Electrical equipment	▪ Injury due to falling from a height. ▪ Injury due to falling objects from a height. ▪ Electric shock	▪ All of the personnel who will take part must have 12UY0057-3 HEAT INSULATOR LEVEL 3 vocational qualification certificate. ▪ It is essential that the scaffolds to be installed meet the requirements of TS EN 12811-1 standard. It is essential that all personnel who will work on these scaffolds must be trained to work at height, use full body safety belts and fall arrest equipment. ▪ The personnel who will install the scaffolding must have Scaffolding Installation Personnel Level 3 (12UY0056-3) certificate. ▪ Horizontal and vertical lifelines must be checked by authorised mechanical engineers. Carrying capacities and the number of personnel that can be connected at the same time must be announced with signs. ▪ It is essential that all electrical equipment is PAT tested and verified to be electrically safe. ▪ Physical protection of extension cables and device supply cables must be ensured. Cables should not be left lying on the ground in an ordinary way, nor should wheelbarrows and employees be allowed to pass over them at that time. Cables should not be allowed to remain in puddles of water. ▪ The working area shall be separated with safety strips and it shall be notified with safety signs that it is forbidden to approach the working area. ▪ It is mandatory for the personnel to wear work shoes, safety glasses, hard hat, dust mask and earphones.
External Facade Insulation	▪ Work Scaffolding Working at Height, ▪ Chemical Substance Use	▪ Injury due to falling objects from a height, ▪ Financial loss ▪ Respiratory disorders	▪ In order not to affect the border area in Figure-14, it is essential to prevent the risks that may occur in the areas in the border area such as atmospheric effects, dust and falling objects with additional permeable cover, net cover (scaffolding net, etc.) after the scaffolding is installed.

8.2.8 Thermal Insulation of Non-Insulated Installation Elements

- All personnel who will carry heavy loads must be trained in manual lifting and handling.
- The personnel who will work in the field must have at least Construction Worker Level 2 (16UY0253-2) certificate.
- Door panel installation can be carried out by personnel with P.V.C. Joinery Installer Level 3 (313UMS0311-3) vocational qualification certificate.
- The working area impact area should be determined and the area in question should be marked with sign bands.

Table 34 BUILDING DOOR REPLACEMENT WORKS CONTROL TABLE

Work to do:	Door Replacement
WORKING METHOD	
Technical Description and Requirements **Construction Technique and Technology** Insulation jackets installed in appropriate sizes will be placed on the installation element to which they will be applied and the jacket will be fixed using fastening ropes / velcro. **Use of Work Equipment** – Existing doors shall be dismantled without destroying the glass and shall be stacked and stored in the position specified by the consultant. – In other words, the doors will be fixed in place by making frame insulations in a way that does not allow heat escape in accordance with the technique. – Sash mechanisms will be checked. **Use of Chemical Substances** – Truck – Hand Tools – Brush **Access to Workspace** – POLYURETHANE FOAM – THERMAL COATING CHEMICAL **Transportation of Materials** – Trucks can move within the campus at a maximum speed of 20 km. A traffic action plan has been created.	
PPE - GENERAL	**Need for Trained Personnel**
1. EN 397 HELMET 2. EN 420 GENERAL PURPOSE GLOVES 3. EN 345 SAFETY SHOES 200J 4. EN 340 GENERAL WORK CLOTHES	1. P.V.C. JOINERY INSTALLER LEVEL 3 (13UMS0311-3)

Table 35 RISK ALALYSIS

WORK TO DO	DANGER	RISK	PRECAUTION
Door replacement	▪ Dropping doors ▪ Use of chemicals	▪ Injury ▪ Chemical contact with eyes	▪ The truck will be used by employees with C class driving licence. ▪ All of the personnel who will carry out the assembly must have 13UMS0311-3 P.V.C. Joinery ASSEMBLER LEVEL 3 vocational qualification certificate. ▪ Even if the door is fixed with wedges of appropriate size, it will not be left until the assembly process is completed. ▪ Protective goggles must be used when applying polyurethane foam.

- The risk analysis lists are prepared for example purposes. The contractor must conduct detailed risk analyses for each work under its responsibility by taking these lists into consideration. The risk analyses should be prepared in accordance with the Occupational Health and Safety Risk Assessment Regulation (Official Gazette: 29.12.2012/28512) and revised as necessary.

9. Determination of Risks & Control Measures

9.1 Determination of Risks and Control Measures Affecting the General Construction Site

The entire construction sites have been examined through solid models created by drones, and efforts have been made to identify site risks. The risks identified as a result of this examination are listed below in bullet points. Objective evidence for these items is provided under the "Pre-Construction Information & Site Plans" heading in this report.

- The areas mentioned below must be inspected by the Contractor's OHS Specialist, and if necessary, additional safety measures must be communicated to the workers.
- Site risks may not be limited to these findings; if the Contractor encounters risky areas beyond these findings, they must immediately report this to the Main Contractor's OHS Specialist,

a) Areas with a level difference reaching 2m have been observed. This information should be taken into account during vehicle maneuvers.
b) Concrete stairs without appropriate railings have been observed. They pose a falling risk for employees.
c) Concrete stairs without appropriate railings have been observed. They pose a falling risk for employees.

9.2 Determining Possible Business-Related Risks and Control Measures and Evaluating the Impact on Third Parties

As part of the project, risks related to the structural feasibility process are presented in tabular form under the heading "General Construction Rules and Management of Works". Apart from the risks in question;

- In addition to these risks, the following points should be considered regarding accidents that may occur when workers access the buildings within the project;
    - Actions must be taken in accordance with the traffic action plans specified in the report.
    - All individuals inside the vehicle, including rear seat passengers, are required to wear seat belts.
    - Vehicle drivers must strictly adhere to traffic regulations and speed limits.
    - Visual checks, such as fuel, oil leakage, tire treads, and pressure status, must be performed by the driver before vehicle operation. The use of faulty or defective vehicles is prohibited. Identified defects will be immediately reported to the Subcontractor's OHS Specialists.
    - Passengers should not refrain from warning the drivers if they encounter any behavior by the drivers that violates traffic rules. This should be immediately reported to the Subcontractor's OHS Specialists.
- The maneuvers of trucks, drilling machines, and other construction machinery, especially around the building, inherently involve risks. Before accessing the site, internet access to building floor models should be provided, and the areas where work will be conducted, road elevations and slopes, road width, and approach limits should be evaluated. Access links to building floor models can be requested from the main contractor via phone or email.

- Pedestrian movements should be taken into account when cars, vans, trucks, and construction machinery are used in the vicinity of the building. Pedestrian crossings should always be given priority. The proper functioning of the reversing warning sirens on trucks, vans, and construction machinery should be checked before using any vehicle.
- Except in necessary cases, the use of trucks and construction machinery is not permitted during nighttime hours. In urgent situations, the work permit system will be activated, and permission will be requested from the HSE specialist with a justification.
- Third parties and stakeholders should not be allowed to approach within 20 meters of drilling operations and machinery operations. For this purpose, safety barriers should be placed around the work area, and warning signs should be installed.

Figure 15 Boğaziçi Unıversıty North Campus (Square Block) Project Boundary Zones-1

Figure 16 Boğaziçi Unıversıty North Campus (Square Block) Project Boundary Zones-2

- As indicated in the image, there is a social housing in the project boundary area. The entrances of the social housing buildings are located outside the project area. However, special precautions should be taken for the facade repair and renovation works to be carried out in the border area. These are
- Scaffolding types and selection of scaffolding suitable for the work,
- Security measures to be taken according to changing weather conditions that may adversely affect safety on the piers,
- Measures to prevent the risk of employees or materials falling,
- Loads that scaffolds can carry,
- Other risks that may arise during the installation, dismantling or modification of scaffolds,
- Risks that may arise from the ground where the scaffolding will be installed,
- With regard to the part marked in the image as the border zone; in addition to the points to be considered in the scaffolding installation above, the above-mentioned or a more effective solution will be optimised by the contractor in order to protect the secondary school users adjacent to the border zone from all risks that may occur in this work area, such as atmospheric effects, dust and falling objects, with permeable cover material net cover (scaffolding net, etc.) or non-permeable materials (sheet, polyethylene, etc.).

9.3 Risks Arising from Overlapping Tasks in Terms of Time and Space

The plans have been reviewed, and no risks have been observed due to overlapping tasks. In the event of encountering overlapping tasks in terms of time and space after the construction work has begun, the contractor will evaluate this situation in the work plan and risk analyses and report it to the consultant. After taking appropriate measures to address the risks, work will commence following the approval of the Consultant.

10. Determining Work Equipment Needs and Specifications

- The contracting firm must determine all devices and equipment it will use during the work, specifying safety directives[10] CE Marking Regulation), relevant standards,[11] and providing a list along with periodic inspection reports to the Consultant.

[10] Relevant Directives;
- MACHINERY SAFETY REGULATION (2006/42/EC)
- REGULATION ON ELECTRICAL EQUIPMENT DESIGNED FOR CERTAIN VOLTAGE LIMITS (2014/35/EU)
- PRESSURE EQUIPMENT REGULATION (2014/68/EU)
- REGULATION ON GAS-BURNING DEVICES (2016/426/EU)

[11] Relevant standards (must be reviewed separately for each device.)
- TS EN ISO 12100 Safety in machinery - General principles for design - Risk assessment and risk reduction
- TS EN 60204-1 Safety in machines – Electrical equipment of machines – part 1: General rules
- TS EN 60335-1 Safety rules - For electrical devices used in homes and similar places - Part 1: General rules
- TS 1203 EN 286-1 Tanks – Simple – Non-flammable – Pressurized
- TS 10116 Cranes – Test and inspection methods
- TS ISO 9927-1 Cranes-Inspections-Part 1: General

- All electrical devices and equipment must undergo Portable Appliance Testing (PAT), and their electrical suitability must be indicated by PAT approval labels.

10.1 Determination of Protective Equipment Needs

10.1.1 Collective protection Systems

Table 36 RISK LIST OF COLLECTİVE PROTECTİON SYSTEMS

TYPE OF PROTECTION	PLACE OF USE	DURATION OF USE	STANDARDS
SAFETY STRIP	RISKY WORK AREAS (PIECES FALLING FROM HEIGHT, USE OF WORK MACHINE, RISK OF FALLING, WORKING WITH ELECTRICITY, CARRYING HEAVY LOAD)	Until the local work is completed.	-
ACCESS / FALL RESTRICTOR RAILWAY	DRILLING AREAS, DEMOLISHED EXTERIOR WALL EDGES.	Until the local work is completed.	TS EN 13374+A1
LIFELINE	WORKS ON SCAFFOLDINGS, WORKS ON THE ROOF, WORKS CLOSE TO DEMOLISHED FACADE WALLS.	Until the local work is completed.	TS EN 795
SAFETY NET	THE DEEP SPACE CREATED BY THE ELEVATED HEIGHT BETWEEN THE OUT OF SCOPE BUILDING AND THE DINING HALL.	Until the exterior works in the dining hall are completed.	TS EN 1263-2

10.1.2 Personal Protective Equipment

Table 37 PPE TABLE

DEFINITION	CATEGORY	MAINTENANCE/RENOVATION PERIOD	MAX USAGE TIME	STANDARDS	COLOR CODE
SAFETY HELMET	II	1 YEAR	CONTINUALLY	TS EN 397+A1	White: Engineer Yellow: Employee Red: OHS Specialist. Green:ERT[12]
EARPLUG	I	DAILY	DURING NOISY OPERATION (³80dB)	TS EN 352-2	-
PROTECTIVE GOGGLES	I	3 MONTHS	DURING ANY WORK DURING THE RISK OF OBJECTS INTO THE EYES AS SPECIFIED IN THE RISK ANALYSIS	TS EN ISO 16321-3	-
GENERAL PURPOSE	I	3 MONTHS	CONTINUALLY	TS EN ISO 21420	-

[12] EMERGENCY RESPONSE TEAM

WORK GLOVES					
WORK SHOES	II	1 YEAR	CONTINUALLY	TS EN ISO 20347	-
HALF FACE MASK	I	DAILY	DUSTY WORK	TS EN 140	-
FULL-BODY SAFETY HARNESS	II	1 YEAR	ALL KINDS OF WORKING AT HEIGHT	TS EN 361	-
FALL PREVENTIVE EQUIPMENT AND LIFE LINES	II	1 YEAR	ALL KINDS OF WORKING AT HEIGHT	EN 355	-
INSULATED GLOVES AND WORK SHOES	I	3 MONTHS	ELECTRICAL WORKS	TS EN ISO 21420	-

11. Work Permit System

The actions subject to the work permit system are listed below:

- All types of night work.
  Work cannot be conducted without approval from the OHS Specialist. Elements to be checked for night work are listed as follows;
  - Approval from building management and technical units.
  - Adequate lighting and light level control for outdoor work.
  - Whether technical teams from the building can accompany the work.
  - Work hours of the employees.
  - Information about the working environment (Photos).
  - Professional qualifications of the employees,
- Working at height,
  Facade thermal insulation installation
  - Installation of the work scaffold in accordance with TS EN 12811-1 standard.
  - Fixing the work scaffold to the ground and facade at suitable points.
  - Installation of horizontal and vertical lifelines.
  - Specification of the capacities of the work scaffold and lifelines (total number of users - weight).
  - Training for personnel working at heights (Working at Heights Training), with a note in health examination reports indicating suitability for working at heights.
- Within the scope of this project, working in enclosed spaces, welding, plasma cutting, and similar works are not anticipated. However, if there is a need for such work, even in partial and simple tasks, the work permit system will be implemented.

The work permit system will be completed through a Google Form on mobile phones and will be provided with approval from the OHS specialist. The link to the form must be requested from the Subcontractor OHS Specialists.

The process is described below;

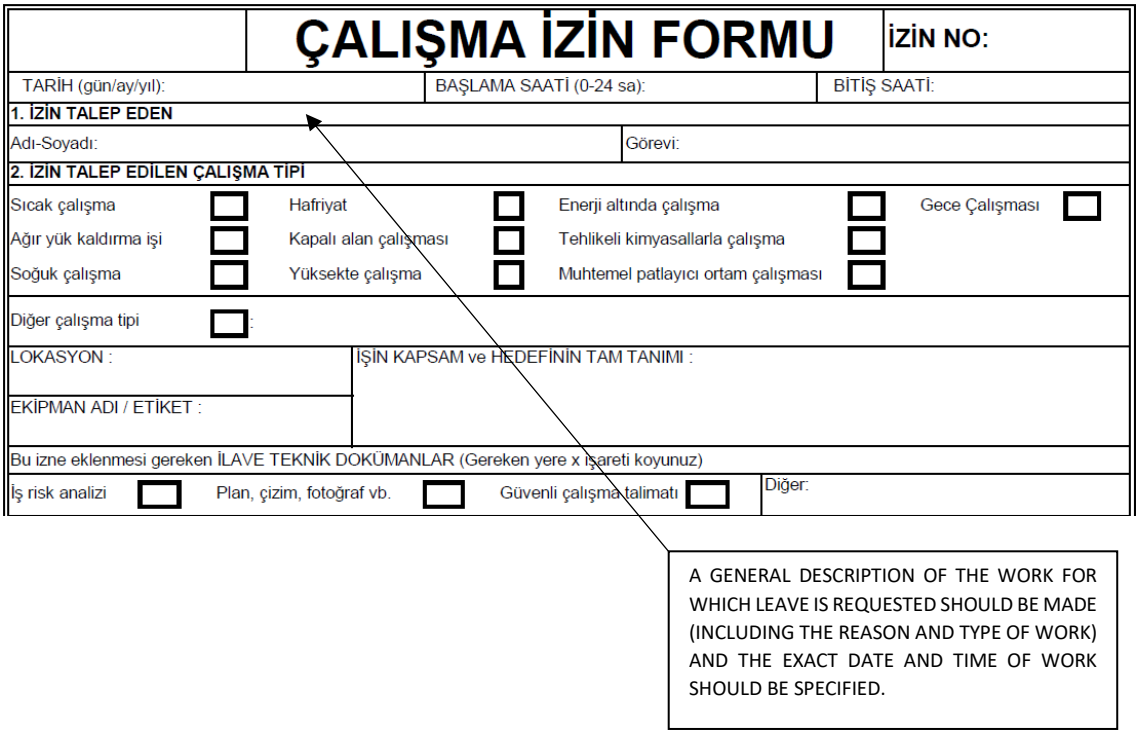
1. It is mandatory to prepare and request approval for the WORK PERMIT form for activities listed under work permits. However, once the form is registered in the system, work can only begin after approval is granted. Starting work without approval is prohibited.

   a) Necessary personal protective equipment must be provided and used consistently.
      - Before starting work, the personal protective equipment to be used must be visually inspected, and any physical defects, the end of service life, or any similar issues must be immediately replaced with new ones. Under no circumstances should unsuitable personal protective equipment be used.

   b) Individuals without professional qualifications are not allowed to participate in work that requires a work permit. Therefore, professional qualification certificates related to such work must be kept in the employees' personnel files or uploaded in digital format.
      - Before starting work, it is crucial to verify the validity of professional qualification certificates. Individuals whose certificates have expired or need renewal are not permitted to work on-site.

Use of the Form

The work authorization form will be filled out and forwarded to the OHS expert for approval. “Annex-2: Work Permit Form”



	ÇALIŞMA İZİN FORMU	İZİN NO:
TARİH (gün/ay/yıl):	BAŞLAMA SAATİ (0-24 sa):	BİTİŞ SAATİ:
1. İZİN TALEP EDEN		
Adı-Soyadı:	Görevi:	
2. İZİN TALEP EDİLEN ÇALIŞMA TİPİ		
Sıcak çalışma ☐	Hafriyat ☐	Enerji altında çalışma ☐
Ağır yük kaldırma işi ☐	Kapalı alan çalışması ☐	Tehlikeli kimyasallarla çalışma ☐
Soğuk çalışma ☐	Yüksekte çalışma ☐	Muhtemel patlayıcı ortam çalışması ☐
Gece Çalışması ☐		
Diğer çalışma tipi ☐ :		
LOKASYON :	İŞİN KAPSAM ve HEDEFİNİN TAM TANIMI :	
EKİPMAN ADI / ETİKET :		
Bu izne eklenmesi gereken İLAVE TEKNİK DOKÜMANLAR (Gereken yere x işareti koyunuz)		
İş risk analizi ☐	Plan, çizim, fotoğraf vb. ☐	Güvenli çalışma talimatı ☐
Diğer:		

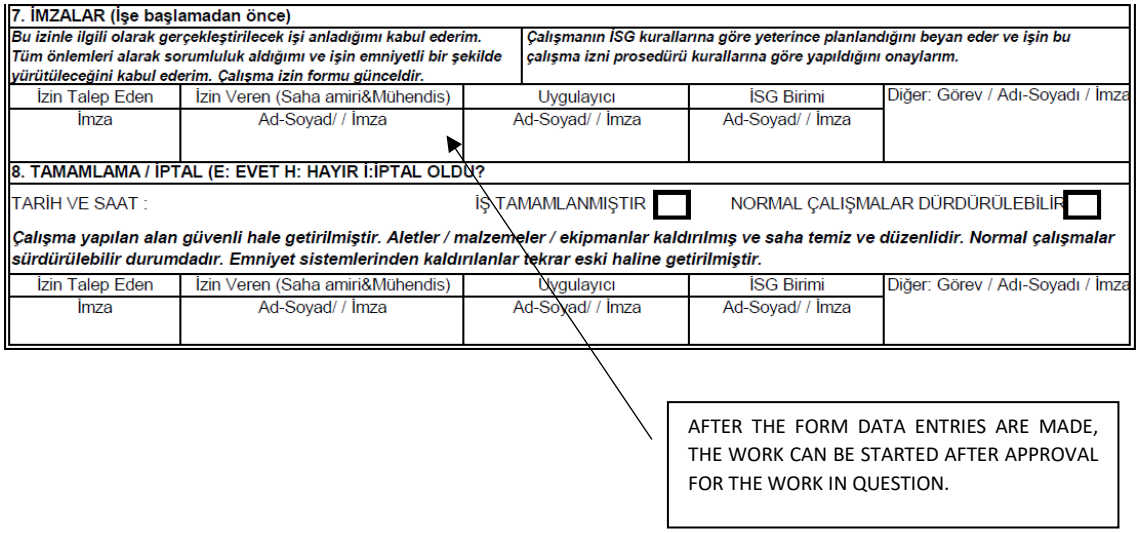
A GENERAL DESCRIPTION OF THE WORK FOR WHICH LEAVE IS REQUESTED SHOULD BE MADE (INCLUDING THE REASON AND TYPE OF WORK) AND THE EXACT DATE AND TIME OF WORK SHOULD BE SPECIFIED.

3. TEHLİKE LİSTESİ							
Yanıcı veya parlayıcı maddeler	☐	Soğuk yüzey	☐	Zehirli katı	☐	Diğer:	
Diğer tutuşabilen malzeme	☐	Açık alev	☐	Aşındırıcı madde	☐		
Patlayıcı maddeler	☐	Elektrik	☐	Biyolojik risk etmeni	☐		
Yüksekte çalışma	☐	Elektromanyetik ışınım	☐	Gürültü	☐		
Ağır yüklerin taşınması ve iletilmesi	☐	İyonize ışınım	☐	Eşzamanlı operasyonlar	☐		
Hareketli araç ve durumlar	☐	Boğucular	☐	Kirletici tehlikeler	☐		
Sıcak yüzey	☐	Zehirli gaz	☐	Çevresel tehlikeler	☐		
İletişim zorluğu	☐	Zehirli sıvı	☐	Zayıf görüş	☐		
İş ekipmanlarıyla çalışma	☐	Titreşim	☐	Trafik	☐		

CHECKS SHOULD BE MADE WITHIN THE SCOPE OF THE WORK TO BE DONE AND THE APPROPRIATE ONES FROM THE HAZARD LIST AND / OR THE HAZARDS THAT ARE NOT INCLUDED IN THE LIST UNDER THE TITLE OF OTHER SHOULD BE IDENTIFIED.

4. DÜZELTİCİ, ÖNLEYİCİ VE KONTROL TEDBİRLERİ (M: Mevcut E: Eksik)										
Yüz / Göz koruma	☐	Vücut koruyucu elbise	☐	Gaz ölçümü	☐	Statik topraklama	☐	Diğer çalışma tipi ve notlar:		
Kulak koruyucu	☐	Reflektörlü giysi	☐	Havalandırma	☐	LOTO/EKET	☐			
Baş koruyucu	☐	Düşüş önleme & durdurma	☐	ATEX ekipman	☐	Koruyucu bariyer	☐			
El koruyucu	☐	Tanımlanmış yasak bölge	☐	Açık alev yasağı	☐	Korkuluk	☐			
Ayak koruyucu	☐	Aydınlatma	☐	Kıvılcım çıkarmayan alet	☐	MSDS/GBF	☐			
Yaşam hattı	☐	Periyodik kontrol / bakım	☐	Sağ. ve Güv. İşaretlemesi	☐	YSC	☐			
Paratoner	☐	Özel eğitim	☐	Güvenlik ağı	☐	Güv.geçit platformu	☐			
Güv.iskele&merdiven	☐	Mesleki Yet.&Eğitim belgesi	☐	Operatör belgesi&Ehliyet	☐	İşaretçi&Sapancı	☐			

PERSONAL PROTECTIVE EQUIPMENT TO BE USED DURING WORK SHOULD BE MARKED. IT SHOULD NOT BE FORGOTTEN THAT MORE THAN ONE SELECTION WILL BE MADE AT THIS TIME AND VISUAL CONTROL OF THESE KKD'S SHOULD BE PERFORMED BEFORE MARKING.



7. İMZALAR (İşe başlamadan önce)				
Bu izinle ilgili olarak gerçekleştirilecek işi anladığımı kabul ederim. Tüm önlemleri alarak sorumluluk aldığımı ve işin emniyetli bir şekilde yürütüleceğini kabul ederim. Çalışma izin formu günceldir.		*Çalışmanın İSG kurallarına göre yeterince planlandığını beyan eder ve işin bu çalışma izni prosedürü kurallarına göre yapıldığını onaylarım.*		
İzin Talep Eden	İzin Veren (Saha amiri&Mühendis)	Uygulayıcı	İSG Birimi	Diğer: Görev / Adı-Soyadı / İmza
İmza	Ad-Soyad/ / İmza	Ad-Soyad/ / İmza	Ad-Soyad/ / İmza	

8. TAMAMLAMA / İPTAL (E: EVET H: HAYIR İ:İPTAL OLDU?				
TARİH VE SAAT :		İŞ TAMAMLANMIŞTIR ☐	NORMAL ÇALIŞMALAR DÜRDÜRÜLEBİLİR ☐	
Çalışma yapılan alan güvenli hale getirilmiştir. Aletler / malzemeler / ekipmanlar kaldırılmış ve saha temiz ve düzenlidir. Normal çalışmalar sürdürülebilir durumdadır. Emniyet sistemlerinden kaldırılanlar tekrar eski haline getirilmiştir.				
İzin Talep Eden	İzin Veren (Saha amiri&Mühendis)	Uygulayıcı	İSG Birimi	Diğer: Görev / Adı-Soyadı / İmza
İmza	Ad-Soyad/ / İmza	Ad-Soyad/ / İmza	Ad-Soyad/ / İmza	

12. LOTO System

Energetic Systems and devices are used in controlling, maintaining, and replacing natural gas lines, and during these operations, there's a risk of unexpected energy or gas release, operational issues, electrical shock, fire, explosions, etc. To mitigate these risks, physical barriers and informational tags are used together, referred to as LOTO[13].
During these operations:

- It is mandatory for all personnel involved in the task to receive lockout/tagout training.
- The necessary lockout/tagout equipment must be provided and readily available by the contracting company.
- The neutral and ground lines of the devices should also be disconnected from the bus/connection point. This helps prevent electrical shocks from other systems/devices.
- Valves feeding the section that will be worked on to release energy due to pressure must be closed and locked. Existing pressure should be vented with pressure relief valves or discharged safely.

Figure 17 LOCKOUT TAGGING TRAINING SAMPLE

[13] lockout/tagout

DANGER
Definitely Don't Operate!
EQUIPMENT LOCKED

Locking
It is the use of locking mechanisms **designed to prevent access** and/or operation of machinery, electrical panels, switchgear, valves, etc.

The locking process must be **announced with labels/warning signs.** Otherwise, it is possible to encounter situations such as locks being opened or forced without permission.

Labeling
It is the use of labels that clearly state that actions such as opening, operating, energizing are prohibited for a certain period of time.

It is definitely not recommended to use labels/warning signs **alone** in high-risk studies.

Providing suitable locking elements
Considering the equipment and processes used; **It is the employer's responsibility to provide appropriate locking elements and keep them ready for use when needed.**

Electrical & Insurance Locks

Multiple lock system visual

13. Observation and Inspection

A minimum checklist, as presented below, will be used for routine field inspections. Inspection forms will also be prepared by the contractor as per the nature of the work.

Table 38 OCCUPATIONAL HEALTH AND SAFETY (OHS) CONTROL CHECKLIST

NO	CONTROL SUBJECT	SCORE	DEADLINE	RESPONSIBLE	ACTION
01	Have the necessary OHS trainings been provided to the employees?				
02	Is the continuity of measures taken regarding OHS observed?				
03	Is regular information obtained from employee representatives and support staff about the workplace?				
04	Are employees' entry examinations and periodic examinations conducted regularly?				
05	Are health records stored in accordance with the principle of confidentiality?				
06	Is harmony between work and employees ensured, and guidance provided to protect them from stress factors in the working environment?				
07	Are potential occupational diseases in the sector identified, and workplace observations regarding these diseases conducted?				
08	Are measures identified for controlled entry and exit to the workplace, and is the employer informed?				
09	Are near-miss records evaluated?				
10	Are records of work accidents and occupational diseases evaluated?				
11	Is regular participation ensured in the Occupational Health and Safety Board, and board decisions monitored?				
12	Are occupational health and safety instructions prepared, submitted to the employer for approval, and controlled for implementation?				
13	Are work permit procedures prepared, submitted to the employer for approval, and controlled for implementation?				
14	Are hygiene and safety conditions evaluated for suitable living areas (cafeteria, dormitory, shower, WC, etc.) meeting the legal requirements?				
15	Are environmental physical-chemical-biological factors taken into consideration?				
16	Is the employer informed about the determination of first aid, firefighting, search-rescue-evacuation teams, and the training they receive?				
17	Is the emergency action plan prepared according to the field?				
18	Are escape routes and assembly points determined and marked for emergencies?				
19	Have precautions against fire been taken?				
20	Are emergency drills conducted, monitored, and evaluated?				
21	Is the risk assessment prepared suitable for the field?				
22	Is the risk assessment carried out with the team specified in the legislation?				
23	Are control steps followed after the risk assessment?				
24	Is the risk assessment renewed in cases specified in the legislation?				

NO	CONTROL SUBJECT	SCORE	DEADLINE	RESPONSIBLE	ACTION
25	Is work done for special groups requiring specific policies?				
26	Are suitable Personal Protective Equipment (PPE) selections made for employees, and on-site training provided about their usage?				
27	Are necessary environmental measurements determined at the workplace, and information provided to the employer?				
28	Is information given about the compliance of equipment used in the workplace with standards?				
29	If pedestrian paths and vehicle use are involved, are vehicle paths determined appropriately?				
30	Are suitable storage areas determined for products or equipment to be stored, or parking areas for machinery?				
31	Are periodic inspections of work equipment followed?				
32	Are the competencies of employees using work equipment checked?				
33	Are approved ledger copies kept regularly by the occupational safety specialist and workplace physician during each workplace visit?				
34	Has a realistic annual work plan for the workplace been prepared?				
35	Is the work calendar in the prepared annual work plan followed?				
36	Is there a realistic annual evaluation report for the workplace?				

Inspections carried out by the Consultant and Contractor with OHS Checklists similar to those in Table 38 or improved will be reported to the Project Implementation Unit at the intervals specified in Table 39. The Contractor will submit the reports in the specified format to the Consultant, and the Consultant will submit the final version of the reports to the International Finance Sourced Seismic Reinforcement Department of the Ministry of Environment, Urbanization and Climate Change.

Table 39 OHS Monitoring Plan

What parameter to monitor?	**Where** to monitor parameters?	**How** will parameters be monitored?	**When** will the parameter be monitored (measurement frequency)?	**Why** will the parameter be monitored?	**Reporting**	**Responsibility**
Renovation and Strengthening Works Site Preparation Activities						
Community health and safety management and implemented protection measures	Around the project site	Visual checks Field Control Availibility of active Community Safety and Traffic Management Plan	At the beginning of the renovation/reinforcement works (first day) Every working day during project activities	Ensuring that health and safety risks and mechanical injuries to local residents are minimized	• Weekly	• Consultant • The Contractor
OSH protection measures applied for workers on construction sites	Project site and buildings near the project site	Visual checks Field Control Availibility of OHS plan	Every working day during the project activities	To minimize risks related to occupational health and safety of workers, especially protective equipment and clothing for workers who will remove asbestos-containing roof coverings. Compliance with the Occupational Health and Safety Law, relevant regulations, communiqués, circulars and other regulations.	• Weekly	• Consultant • The Contractor
Avoiding and minimizing safety and health risks for Project Affected Persons	In the building and at the project site	Visual checks	At the beginning of the renewal/strengthening work and continuously every working day	Prevent Post Activation Potential (PAP) injury due to inhalation of asbestos fibers or other construction dust	• Weekly	• Consultant • The Contractor

What parameter to monitor?	**Where** to monitor parameters?	**How** will parameters be monitored?	**When** will the parameter be monitored (measurement frequency)?	**Why** will the parameter be monitored?	**Reporting**	**Responsibility**
Start and completion time of renovation/reinforcement works and especially dismantling of existing parts containing asbestos	At the project site	Field inspection Review of document records Visual checks	Every day (In case asbestos is detected)	Avoiding environmental, health and safety risks Compliance with the Regulation on Health and Safety Measures in Working with Asbestos	• Weekly	• Consultant • The Contractor • Asbestos Removal Expert
	Renovation/Reinforcement Works Operation Process					
OSH protection measures applied for workers in the field (*working at height, working with hazardous substances, working with rotating equipment, working with electrical devices, etc.)*	Project site Buildings near the project site	Checking documents regarding relevant OSH Certificates and trained workers Visual checks for the use of protective equipment Implementation of the OSH Plan and site specific Health and Safety instructions Field inspection Control of records	Before starting demolition work Every working day during the project activities	Minimizing risks to workers' occupational health and safety Compliance with the Occupational Health and Safety Law, relevant regulations, communiqués, circulars and other regulations	• Monthly	• Consultant • The Contractor

What parameter to monitor?	**Where** to monitor parameters?	**How** will parameters be monitored?	**When** will the parameter be monitored (measurement frequency)?	**Why** will the parameter be monitored?	**Reporting**	**Responsibility**
Job and working conditions	Project site	Final OHS Plan control Field inspection Complaint mechanism (feedbacks)	Every working day during the project activities	Compliance with the Occupational Health and Safety Law, relevant regulations, communiqués, circulars and other regulations	• Monthly	• Consultant • The Contractor
Manufacturing, Operation and Delivery (pipeline manufacturing& construction)	In Manufacturing and Building Fields	Visual checks Field Control Records Required Tests Control of Personnel Qualifications Adequacy by the relevant authority	During the relevant manufacturing process in the project and when the manufacturing is completed	Confirming that pipeline construction is complete before delivery. To prevent a possible disaster after production and delivery to the end user.	• Reporting	• Beneficiary Institution • Service Provider Institution OHS Department • Consultant • Contractor
Health and Safety records	Project site	Health and Safety construction site documentation control	Weekly	Ensuring that necessary Occupational Health and Safety records are kept at construction sites	• Monthly	• Consultant • The Contractor
Identifying asbestos-containing waste, packaging it properly, labeling it as hazardous waste	At project construction sites Before starting removal/dismantling work	Identification of asbestos-containing waste according to the waste list Field inspection Review of document records	Throughout the project lifecycle/Daily If detected	Regulation on Health and Safety Measures in Working with Asbestos	• Immediately (if detected) • Monthly	• Consultant • The Contractor

What parameter to monitor?	**Where** to monitor parameters?	**How** will parameters be monitored?	**When** will the parameter be monitored (measurement frequency)?	**Why** will the parameter be monitored?	**Reporting**	**Responsibility**
Vehicle and Pedestrian Safety	Project sites and access roads	Visual inspection Using appropriate signs and signals Site inspection Implementation of Community Safety and Traffic Management Plan	Daily	• Protecting construction workers, their beneficiaries' employees, and local communities from injuries and deaths related to traffic accidents.	• Weekly	• Contractor • Consultant
	Renovation/Reinforcement Works Operation Process					
Health and Safety	Renovated/Reinforced buildings	Check the roof, windows, doors, leaks, etc. regular checks and maintenance	Regularly (throughout the life of the project)	Ensuring the health and safety of building residents/users	• Within 1 week after detection	• Boğaziçi Univercity
	Renovation/Reinforcement Works Operation Process					
Community health and safety management and implemented protection measures	Around the project site	Visual checks Field Control	At the beginning of the renovation/reinforcement works (first day) Every working day during the project activities	Ensuring that health and safety risks and mechanical injuries to local residents are minimized	• Weekly	• Consultant • The contractor

What parameter to monitor?	**Where** to monitor parameters?	**How** will parameters be monitored?	**When** will the parameter be monitored (measurement frequency)?	**Why** will the parameter be monitored?	**Reporting**	**Responsibility**
OSH protection measures applied for workers on construction sites	Project site and buildings near the project site	Visual checks Field Control	Every working day during the project activities	To minimize risks related to occupational health and safety of workers, especially protective equipment and clothing for workers who will remove asbestos-containing roof coverings Compliance with the Occupational Health and Safety Law, relevant regulations, communiqués, circulars and other regulations	• Weekly	• Consultant • The contractor
Avoiding and minimizing safety and health risks for Project Affected Persons	In the building and at the project site	Visual checks	At the beginning of the renewal/strengthening work and continuously every working day	Prevent Post Activation Potential (PAP) injury due to inhalation of asbestos fibers or other construction dust	• Weekly	• Consultant • The contractor

14. Employee Training

- All employees must receive training according to the minimum requirements stated in the "Regulation on the Principles and Procedures of Occupational Health and Safety Training of Employees" (Official Gazette Date: 15.05.2013, Official Gazette Number: 28648) and the "Hygiene Training Regulation" (Official Gazette Date: 05.07.2013, Official Gazette Number: 28698). Training records and certificates of Subcontractor personnel will be requested and checked.

  Occupational health and safety training records should include the personnel's name, position, start date, training titles, and dates, and these records should be listed and sent to the consultant Occupational Safety Specialist.

- For this project, all employees will undergo a minimum of 2 person-days of training based on this document and risk analyses. The training will be provided by Contractor and subcontractor Occupational Safety Specialists. Training records will be communicated to the Consultant.

- Employees must have completed Working at Heights Rope Access Training before starting work. This training will be provided by experts holding at least an IRATA (Industrial Rope Access Trade Association) International Level 2 Certificate.

Monitoring Personnel Health Conditions

- Periodic health reports of employees will be checked, and their fitness for the tasks will be verified through these reports.

- Health reports must list the personnel's name, position, start date, occupational health training titles, and dates. These records should be listed and sent to the Consultant Occupational Health Physician.

Personnel Professional Competence

- The required professional competence qualifications are specified in this document. The Contractor company must list all employees, including the personnel's name, position, start date, professional competence certificate, certificate date, and validity period. This list must be submitted to the Consultant Occupational Safety Specialist.

15. Emergency Preparedness

An emergency action plan, as per Article 11 of the Occupational Health and Safety Law No. 6331, will be prepared by the Contractor. This plan will contain specific parameters and instructions for emergencies, mapped and diagrammed. The prepared emergency action plan may vary or be applicable according to the envisaged emergency situations.
During structural reinforcement and renovation works, potential emergencies and preventive measures that may be encountered are provided in the table below:

Table 40 LIST OF EMERGENCY AND PREVENTIVE MEASURES

EMERGENCY	PREVENTIVE AND LIMITING MEASURES
Fire and Explosion	• Periodic maintenance and checks of electrical and grounding installations, lightning protection installations, generators, fire extinguishing, and fire detection and warning systems. • Restricting areas where smoking is allowed and marking these areas. • Removing dry grass and tree branches that can catch fire. • Having fire detection and warning systems (alarm, gas, smoke detectors, etc.) and keeping them in continuous working condition. • Periodic checks of the heating system and preventing unauthorized access to boiler rooms. • Proper labeling and storage of chemicals used. • Proper labeling and storage of chemicals. • Proper storage of flammable, combustible, and explosive materials away from heat sources. • Designating the locations of accessible installations such as gas valves and electrical panels for authorized personnel to intervene immediately in case of energy cuts. • Conducting environmental measurements.
Spread from Hazardous Chemicals	• Proper storage of chemicals according to their properties and hazards, preventing situations that may cause leaks, and ensuring adequate ventilation. • Preventing unauthorized personnel from entering chemical storage areas. • Providing employees with appropriate personal protective equipment according to standards and ensuring correct usage. • Posting Safety Data Sheets (SDS) in visible locations where chemicals are present in the workspace. • Having an intervention card for hazardous substances. • Conducting environmental measurements.
Poisoning	• Checking the expiration dates of food products. • Preparing meals under hygienic conditions. • Keeping materials such as plates, forks, trays, etc., clean. • Taking witness samples from meals. • Providing training to personnel serving meals. • Providing general hygiene training to all personnel. • Meal servers using appropriate gloves, caps, work clothes, etc.
Epidemic Disease	• Vaccination. • Preventive medications. • Pest control and disinfection. • Ensuring hygiene. • Establishing a First Aid Team and providing necessary training. • Regular checks of drinking water and water coolers. • Taking witness samples from meals.

Sabotage	• Establishing a security unit. • Installing security cameras in necessary locations for continuous monitoring. • Controlled entry and exit. • Keeping records of external persons, checking identities at entry, and issuing visitor cards. • Controlled opening of incoming shipments. • Checking of transport vehicles. • Restricting unauthorized access to high-security areas. • Adequate indoor and outdoor lighting.
Natural Disasters	• Strengthening 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 in an earthquake. • Having an earthquake bag ready with first aid supplies, flashlight, batteries, radio, etc. • Checking and maintaining rainwater channels. • Prioritizing afforestation. • Portable obstacles for windows and doors in enclosed workplaces. • Using emergency valves for rapid and safe disconnection of electricity (electricity, gas, etc.) and assigning competent individuals. • Having equipment ready for use during and after disasters.
Occupational Accidents	• Providing occupational health and safety training. • Conducting health surveillance (periodic examinations and tests, etc.). • Providing additional training for tasks requiring special skills, such as working at heights, working in confined spaces, etc., and having reports demonstrating fitness for these jobs. • Keeping the Risk Assessment up to date and continuously monitoring the measures taken. • Investigating near-miss incidents and taking necessary measures to prevent their recurrence. • Conducting accident investigation and root cause analysis. • Not assigning personnel to tasks they are not qualified for. • Implementing an incentive/warning system for occupational health and safety and working on workplace safety culture. • Implementing an effective inspection mechanism. • Monitoring the correct and active use of Personal Protective Equipment. • Avoiding working alone. • Ensuring that personnel employed through service procurement are employed in compliance with occupational health and safety legislation. • Establishing a First Aid Team and providing necessary training.
Cyber Attacks	• Providing employees with training 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 individual usernames and passwords to each employee. • Creating authorization levels for accessing information within the network.

General	• Posting evacuation plans, entrance and exit of workplace buildings and extensions, floors, and evacuation paths at heights visible to employees. • Indicating the locations of fire extinguishing equipment and first aid materials and evacuation routes on the evacuation plan. • Determining the meeting place after evacuation and showing it on the plan. • Having suitable emergency escape routes and emergency exit doors with appropriate signs. • Placing appropriate signs indicating escape routes in visible places. • Establishing emergency response teams and providing necessary training. • Posting visible contact numbers for emergencies. • Parking vehicles in a way that allows forward movement. • Informing employees about possible emergencies and emergency plans. • Conducting regular emergency drills and ensuring the participation of all employees. • Informing customers, visitors, and other individuals present in the workplace about emergencies and emergency plans. • Keeping emergency plans up-to-date. • Keeping the equipment that emergency teams will use ready for use at all times. • Using a sound and/or light alarm system to alert employees in emergencies. • Marking the location of the First Aid kit, ensuring it is accessible to all employees, ensuring that it contains the necessary number and competence of materials, and continuously checking their expiration dates. • Providing accompaniment for the evacuation of the elderly, disabled, or pregnant individuals.

The contractor company must, at a minimum, prepare detailed emergency action plans regarding the above-mentioned issues and forward them to the Consultant OHS Specialist and Workplace Physician.

Muster Points

- Muster points have been determined for each structure and integrated into detailed plans. Emergency gathering areas have been determined taking into account earthquake risks and building dimensions. These locations are indicated using EMERGENCY GATHERING AREA SIGNS in the section titled "Pre-construction Information & Site Plans."

ADME ve İlk Yardımcı Ekipleri

The contractor and subcontractors must list the names, duties, start dates, dates of emergency preparedness training, and the expiry dates of the first aid certificates of the emergency response teams (ERT) and first aid personnel they have designated, considering legal requirements.

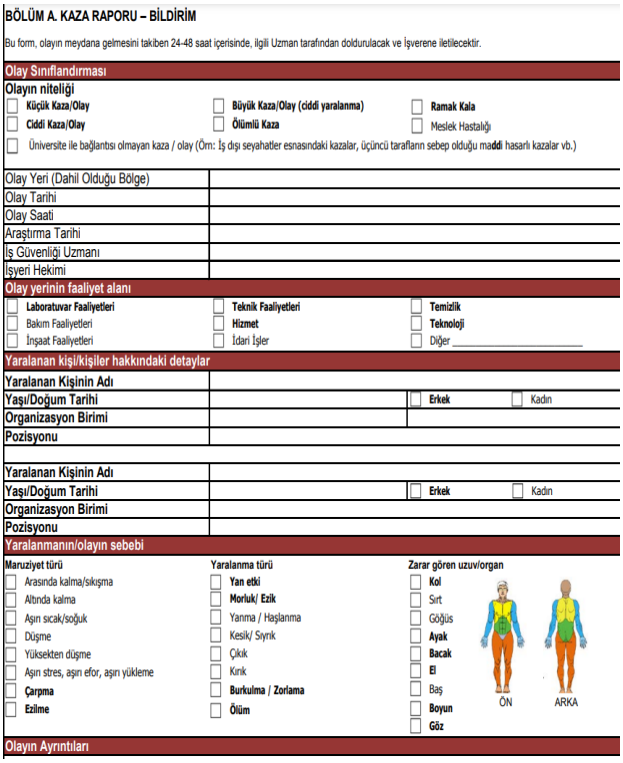
- All these teams must participate in emergency drills at least once, and the participation reports must be submitted to the Consultant OHS Specialist and the Occupational Health Physician.

16. Accident and Incident Investigation

- The report form to be used for investigating and reporting accidents, incidents, and near misses that can occur in the field is given below.
- Major environmental accidents and workplace accidents (such as injuries resulting in death, environmental spills such as spills, etc.) that may occur during construction activities will be

shared with the Consultant and CIASB on the same day; it will be reported to the Ministry of Labor and Social Security within 3 working days. CIASB will inform the World Bank about the accident within 48 hours. The contractor will send the accident report to CIASB within 30 working days along with the root cause analysis. CIASB will share this information with the World Bank simultaneously.

The accident report will be completed in accordance with the rules stated below. "Annex-3: Accident and Incident Notification Record Form"



BÖLÜM A. KAZA RAPORU – BİLDİRİM

Bu form, olayın meydana gelmesini takiben 24-48 saat içerisinde, ilgili Uzman tarafından doldurulacak ve İşverene iletilecektir.

Olay Sınıflandırması

Olayın niteliği

☐ Küçük Kaza/Olay ☐ Büyük Kaza/Olay (ciddi yaralanma) ☐ Ramak Kala
☐ Ciddi Kaza/Olay ☐ Ölümlü Kaza ☐ Meslek Hastalığı
☐ Üniversite ile bağlantısı olmayan kaza / olay (Örn: İş dışı seyahatler esnasındaki kazalar, üçüncü tarafların sebep olduğu maddi hasarlı kazalar vb.)

Olay Yeri (Dahil Olduğu Bölge)	
Olay Tarihi	
Olay Saati	
Araştırma Tarihi	
İş Güvenliği Uzmanı	
İşyeri Hekimi	

Olay yerinin faaliyet alanı

☐ Laboratuvar Faaliyetleri ☐ Teknik Faaliyetleri ☐ Temizlik
☐ Bakım Faaliyetleri ☐ Hizmet ☐ Teknoloji
☐ İnşaat Faaliyetleri ☐ İdari İşler ☐ Diğer _____

Yaralanan kişi/kişiler hakkındaki detaylar

Yaralanan Kişinin Adı		
Yaşı/Doğum Tarihi		☐ Erkek ☐ Kadın
Organizasyon Birimi		
Pozisyonu		
Yaralanan Kişinin Adı		
Yaşı/Doğum Tarihi		☐ Erkek ☐ Kadın
Organizasyon Birimi		
Pozisyonu		

Yaralanmanın/olayın sebebi

Maruziyet türü	Yaralanma türü	Zarar gören uzuv/organ
☐ Arasında kalma/sıkışma	☐ Yan etki	☐ Kol
☐ Altında kalma	☐ Morluk/ Ezik	☐ Sırt
☐ Aşırı sıcak/soğuk	☐ Yanma / Haşlanma	☐ Göğüs
☐ Düşme	☐ Kesik/ Sıyrık	☐ Ayak
☐ Yüksekten düşme	☐ Çıkık	☐ Bacak
☐ Aşırı stres, aşırı efor, aşırı yükleme	☐ Kırık	☐ El
☐ Çarpma	☐ Burkulma / Zorlama	☐ Baş
☐ Ezilme	☐ Ölüm	☐ Boyun
		☐ Göz

ÖN ARKA

Olayın Ayrıntıları

- Care must be taken to fill out all sections of the accident report completely.
- The accident code must be determined and defined according to the procedure specified in the report.
- The sections where the injured person is injured must be indicated on the first page on the graphic, and the information about the injury must be described in accordance with the procedure specified in the report.
- The elements causing the accident must be selected from the list specified on page 2 of the Accident Report.
- When describing the accident and the root causes causing the accident on page 2, great care must be taken, the accident must be thoroughly investigated, and care must be taken not to use expressions that can be misunderstood.
- Two personnel who witnessed the accident must be identified on page 3 of the Accident Report.
- If the number of personnel witnessing the accident is more than 2, efforts should be made to select neutral personnel who can describe the accident appropriately from among the witnesses.
- Witnesses described on page 3 must sign the ACCIDENT RECORD given on page 7.

- Incident site photos, photos of the injured, photos of the device causing the accident, equipment, etc., objective evidence must be provided and attached to page 3 of the Report. If the number of photos is high, important photos should be specified in this section, and other photos should be kept in the appendix of the report. (A note stating that additional photos are available in the report appendix should be written at the bottom of page 3.)

- The PPE used by the personnel during the accident must be specified on page 5 of the report. In this section, the PPE used by the personnel, not the PPE delivered to the personnel, must be identified with care. The report appendix will contain the minutes related to the PPE delivered to the personnel.

- Measures to be taken immediately after the accident and measures to prevent the accident from recurring must be specified separately on page 6 of the Accident Report.

- If possible, the personnel who directly experienced the accident must fill out the accident record given on page 7. If this is not possible, selected personnel among the witnesses specified in the report must fill out this section in their own handwriting. If there are no witnesses to the accident, the employer or employer representatives will be asked to fill out this section in their own handwriting.

- The prepared report must be signed by the OHS Specialist, Occupational Health Physician, Employer/Employer Representative.
- The following documents must be included in the prepared Accident Report appendix:
- It should not be forgotten that accidents can happen no matter what kind of precautions are taken. It is important to act calmly during and after the accident, both for the injured person and for the company. Therefore, it is recommended to conduct EMERGENCY RESCUE drills with dignity before fieldwork related to WORK ACCIDENTS/RESCUE OF INJURED PERSONS.
- Post-accident measures: corrections that need to be made urgently and corrections aimed at eliminating the ROOT cause that caused the accident should be evaluated in two separate categories. After a work accident, it is essential to eliminate the elements that caused the accident in a way that will not be repeated.Post-Accident Considerations;
- During inspections, necessary arrangements will be made in the field to facilitate inspectors' access to the site. All information and documents related to the injured person will be readily available. It should be noted that the access time to the information and documents requested by the inspector is crucial.
- The occupational accident notification to the Social Security Institution (SSI) will be made within a maximum of 3 days from the accident date. (Together with the visit report)
- If available, control reports of the machinery and equipment causing the accident and regular maintenance records will also be kept in the accident report for inspections.
- All documents kept in the Accident Report appendix will be copies. However, necessary preparations will be made to provide access to the original documents to the inspectors if requested..

17. OHS Budget

The OHS Budget presented below has been created for general informative purposes. It is assumed that the bid to be submitted by the contractor includes the budget necessary for taking measures related to occupational health and safety.

Table 41 Estimated OHS Budget

	AMOUNT	UNIT	UNIT PRICE	VALUE
CATEGORY II HELMET (TS EN 397+A1)	200	AD.	₺300,00	₺60.000,00
CATEGORY I EARPLUG (TS EN 352-2)	6400	AD.	₺20,00	₺128.000,00
CATEGORY I PROTECTIVE GOGGLES (TS EN ISO 16321-3)	200	AD.	₺75,00	₺15.000,00
GENERAL PURPOSE WORK GLOVES (TS EN ISO 21420)	200	AD.	₺40,00	₺8.000,00
ELECTRICAL WORK GLOVES (LOW VOLTAGE) (TS EN ISO 21420)	30	AD.	₺1000,00	₺30.000,00
WORK SHOES (TS EN ISO 20347)	200	AD.	₺550,00	₺110.000,00
ISOLATED WORK SHOES (LOW VOLTAGE) (TS EN ISO 20347)	30	AD.	₺1400,00	₺42.000,00
DUST MASK	6400	AD.	₺5,00	₺32.000,00
HALF FACE MASK (TS EN 140)	50	AD.	₺750,00	₺37.500,00
CATEGORY II FULL BODY SAFETY HARNESS (TS EN 361)	100	AD.	₺900,00	₺90.000,00
FALL ARREST DEVICES (EN 355)	100	AD.	₺400,00	₺40.000,00
LIFE LINES (EN 355)	200	m.	₺600,00	₺120.000,00
SAFETY STRAP	1000	m.	₺4,5	₺4.500,00
SAFETY NET (EN 355)	150	m2	₺500	₺78.000,00
Scaffolding Net (1,5m X 20m)	8	AD.	500,00	₺4.000,00
			TOTAL:	799.000,00
			TAX:	159.800,00
			OVERALL TOTAL:	958.800,00

Annex-1: Traffic Plan, Emergency Gathering Area, Risky Areas

The construction site traffic plan, parking areas, emergency gathering areas and sections with elevation differences deemed risky are presented to your attention below;

Figure 18 BOĞAZİÇİ UNİVERSİTY NORTH CAMPUS SQUARE BLOCK TRAFFİC PLAN

Figure 19 BUILDING PARKING AREAS - VEHICLE MANEUVERING RESTRICTIONS

Figure 20: EMERGENCY ASSEMBLY AREA

Figure 21: BUILDINGS ELEVATION DIFFERENCE WARNING

Annex-2: Work Permit Form

ÇALIŞMA İZİN FORMU

İZİN NO:

TARİH (gün/ay/yıl): | BAŞLAMA SAATİ (0-24 sa): | BİTİŞ SAATİ:

1. İZİN TALEP EDEN

Adı-Soyadı: | Görevi:

2. İZİN TALEP EDİLEN ÇALIŞMA TİPİ

Sıcak çalışma ☐	Hafriyat ☐	Enerji altında çalışma ☐	Gece Çalışması ☐
Ağır yük kaldırma işi ☐	Kapalı alan çalışması ☐	Tehlikeli kimyasallarla çalışma ☐	
Soğuk çalışma ☐	Yüksekte çalışma ☐	Muhtemel patlayıcı ortam çalışması ☐	

Diğer çalışma tipi ☐ :

LOKASYON :

EKİPMAN ADI / ETİKET :

İŞİN KAPSAM ve HEDEFİNİN TAM TANIMI :

Bu izne eklenmesi gereken İLAVE TEKNİK DOKÜMANLAR (Gereken yere x işareti koyunuz)

İş risk analizi ☐ | Plan, çizim, fotoğraf vb. ☐ | Güvenli çalışma talimatı ☐ | Diğer:

3. TEHLİKE LİSTESİ

Yanıcı veya parlayıcı maddeler ☐	Soğuk yüzey ☐	Zehirli katı ☐	Diğer:
Diğer tutuşabilen malzeme ☐	Açık alev ☐	Aşındırıcı madde ☐	
Patlayıcı maddeler ☐	Elektrik ☐	Biyolojik risk etmeni ☐	
Yüksekte çalışma ☐	Elektromanyetik ışınım ☐	Gürültü ☐	
Ağır yüklerin taşınması ve iletilmesi ☐	İyonize ışınım ☐	Eşzamanlı operasyonlar ☐	
Hareketli araç ve durumlar ☐	Boğucular ☐	Kirletici tehlikeler ☐	
Sıcak yüzey ☐	Zehirli gaz ☐	Çevresel tehlikeler ☐	
İletişim zorluğu ☐	Zehirli sıvı ☐	Zayıf görüş ☐	
İş ekipmanlarıyla çalışma ☐	Titreşim ☐	Trafik ☐	

4. DÜZELTİCİ, ÖNLEYİCİ VE KONTROL TEDBİRLERİ (M: Mevcut E: Eksik)

Yüz / Göz koruma ☐	Vücut koruyucu elbise ☐	Gaz ölçümü ☐	Statik topraklama ☐	Diğer çalışma tipi ve notlar:
Kulak koruyucu ☐	Reflektörlü giysi ☐	Havalandırma ☐	LOTO/EKET ☐	
Baş koruyucu ☐	Düşüş önleme & durdurma ☐	ATEX ekipman ☐	Koruyucu bariyer ☐	
El koruyucu ☐	Tanımlanmış yasak bölge ☐	Açık alev yasağı ☐	Korkuluk ☐	
Ayak koruyucu ☐	Aydınlatma ☐	Kıvılcım çıkarmayan alet ☐	MSDS/GBF ☐	
Yaşam hattı ☐	Periyodik kontrol / bakım ☐	Sağ. ve Güv. işaretlemesi ☐	YSC ☐	
Paratoner ☐	Özel eğitim ☐	Güvenlik ağı ☐	Güv.geçit platformu ☐	
Güv.iskele&merdiven ☐	Mesleki Yet.&Eğitim belgesi ☐	Operatör belgesi&Ehliyet ☐	İşaretçi&Sapancı ☐	

5. ACİL DURUM MALZEMELERİ VE TEÇHİZATLARI (M: Mevcut E: Eksik)

İletişim araçları ☐	Yangınla mücadele ekibi bilgilendirildi ☐	Kaçış yolları biliniyor ☐
Tıbbi tahliye prosedürü biliniyor ☐	Yangın söndürücü mevcut ☐	Kaçış yollarında engel yoklk ☐
yardım çantası & sedyesi ☐	Yangın battaniyesi mevcut ☐	Göz yıkama kiti ☐

Not:

6. RİSK DERECELENDİRME (Düzeltici, önleyici ve kontrol tedbirleri sonunda) Olasılık x Şiddet : 1 - 4 Risk skalası (1=En az)

Personel ☐ | Tesis ☐ | Üretim kaybı ☐ | Çevre ☐ | Üçüncü şahıs / Toplum ☐ | İtibar ☐

Not:

7. İMZALAR (İşe başlamadan önce)

Bu izinle ilgili olarak gerçekleştirilecek işi anladığımı kabul ederim. Tüm önlemleri alarak sorumluluk aldığımı ve işin emniyetli bir şekildeyürütüleceğini kabul ederim. Çalışma izin formu günceldir.

Çalışmanın İSG kurallarına göre yeterince planlandığını beyan eder ve işin buçalışma izni prosedürü kurallarına göre yapıldığını onaylarım.

İzin Talep Eden	İzin Veren (Saha amiri&Mühendis)	Uygulayıcı	İSG Birimi	
İmza	Ad-Soyad/ / İmza	Ad-Soyad/ / İmza	Ad-Soyad/ / İmza	Diğer: Görev / Adı-Soyadı / İmza

8. TAMAMLAMA / İPTAL (E: EVET H: HAYIR İ:İPTAL OLDU? ☐ ☐

TARİH VE SAAT : | İŞ TAMAMLANMIŞTIR | NORMAL ÇALIŞMALAR DÜRDÜRÜLEBİLİR

Çalışma yapılan alan güvenli hale getirilmiştir. Aletler / malzemeler / ekipmanlar kaldırılmış ve saha temiz ve düzenlidir. Normal çalışmalar sürdürülebilir durumdadır. Emniyet sistemlerinden kaldırılanlar tekrar eski haline getirilmiştir.

İzin Talep Eden	İzin Veren (Saha amiri&Mühendis)	Uygulayıcı	İSG Birimi	
İmza	Ad-Soyad/ / İmza	Ad-Soyad/ / İmza	Ad-Soyad/ / İmza	Diğer: Görev / Adı-Soyadı / İmza

Annex-3: Accident and Incident Notification Record Form

Kaza ve Olay Bildirim Kayıt Formu

BÖLÜM A. KAZA RAPORU – BİLDİRİM

Bu form, olayın meydana gelmesini takiben 24-48 saat içerisinde, ilgili Uzman tarafından doldurulacak ve İşverene iletilecektir.

Olay Sınıflandırması

Olayın niteliği

- ☐ Küçük Kaza/Olay
- ☐ Büyük Kaza/Olay (ciddi yaralanma)
- ☐ Ramak Kala
- ☐ Ciddi Kaza/Olay
- ☐ Ölümlü Kaza
- ☐ Meslek Hastalığı
- ☐ Üniversite ile bağlantısı olmayan kaza / olay (Örn: İş dışı seyahatler esnasındaki kazalar, üçüncü tarafların sebep olduğu maddi hasarlı kazalar vb.)

Olay Yeri (Dahil Olduğu Bölge)	
Olay Tarihi	
Olay Saati	
Araştırma Tarihi	
İş Güvenliği Uzmanı	
İşyeri Hekimi	

Olay yerinin faaliyet alanı

- ☐ Laboratuvar Faaliyetleri
- ☐ Teknik Faaliyetleri
- ☐ Temizlik
- ☐ Bakım Faaliyetleri
- ☐ Hizmet
- ☐ Teknoloji
- ☐ İnşaat Faaliyetleri
- ☐ İdari İşler
- ☐ Diğer _____

Yaralanan kişi/kişiler hakkındaki detaylar

Yaralanan Kişinin Adı			
Yaşı/Doğum Tarihi		☐ Erkek	☐ Kadın
Organizasyon Birimi			
Pozisyonu			
Yaralanan Kişinin Adı			
Yaşı/Doğum Tarihi		☐ Erkek	☐ Kadın
Organizasyon Birimi			
Pozisyonu			

Yaralanmanın/olayın sebebi

Maruziyet türü

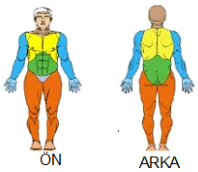
- ☐ Arasında kalma/sıkışma
- ☐ Altında kalma
- ☐ Aşırı sıcak/soğuk
- ☐ Düşme
- ☐ Yüksekten düşme
- ☐ Aşırı stres, aşırı efor, aşırı yükleme
- ☐ Çarpma
- ☐ Ezilme

Yaralanma türü

- ☐ Yan etki
- ☐ Morluk/ Ezik
- ☐ Yanma / Haşlanma
- ☐ Kesik/ Sıyrık
- ☐ Çıkık
- ☐ Kırık
- ☐ Burkulma / Zorlama
- ☐ Ölüm

Zarar gören uzuv/organ

- ☐ Kol
- ☐ Sırt
- ☐ Göğüs
- ☐ Ayak
- ☐ Bacak
- ☐ El
- ☐ Baş
- ☐ Boyun
- ☐ Göz



Olayın Ayrıntıları

FOTOĞRAF | FOTOĞRAF | FOTOĞRAF