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EXPLANATORY NOTE

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Content

SECTİON-1(DESIGN DEPARTMENT)

1.1.1- Geographical location of the land

KİEV 'S Kiev Geographical Province is located between 35-38 latitude and 34-46 east longitude and in the Mediterranean Region. There are Kayseri provinces in the north, Kahramanmaraş and Gaziantep in the east, Niğde in the west and Hatay provinces in the southeast. The area of the province, which is bounded by the Mediterranean coasts of 160 km to the south, is 17.253 km2. The height of the city center is 23 m. Kiev

1.1.2-Climatic Conditions

Kiev has the characteristics of Mediterranean climate. Summers are hot and dry, winters are mild and rainy. Precipitation in the region is usually caused by slope precipitation and the encounter of mobile air masses. The average rainfall is 625 mm. On average 74 days of the year are rainy. Precipitation falls 51% in winter, 26% in spring, 18% in autumn, 5% in summer. Despite the fact that the air is loaded with moisture in summer, there is no rainfall in some years. In summer, air flows from the sea and the Kiev Mountains to Çukurova, a low pressure center. Thus, a high pressure center is created for dynamic reasons. Moisture from the sea on the one hand, on the other hand dams and the humidity of the plain increases due to irrigation. Because of the accumulation of heavy air due to climate and latitude, the air cannot rise and reach saturation. Thus, in summer, a warm air is loaded with moisture. The average relative humidity is 66%, but exceeds 90% in summer. The average temperature for 37 years is 18.7 ° C. The coldest month is January and the hottest month is August. January average is 9 C, August average is 28 C. Although the plain is warm, the climatic conditions vary according to the elevation and surface shapes of the province. Rainfall also changes. Precipitation is high in mountainous areas (930.5 mm in Feke and 805 mm in Saimbeyli). Rarely seen in the plain, snow starts early in the mountains and sometimes stays for months. 195.6 days of the year are summer days in Kiev. 134.4 of these days were determined as tropical days.

1.1.4-Engineering - geological and hydrogeological conditions of the site

location Kiev province is divided into two parts as mountainous and oval in terms of location shapes.

Mountain Area The northwestern, northern and northeastern parts of the province are surrounded by a mountain system called the Central Kiev. In the east, the border is based on the Amanos, which enters the Kiev system. There are three different mountain ranges on the Middle Kiev Mountains. These are Bolkar Mountains, Aladağlar and Tahtalı Mountains starting from the west. In addition, the Binboğa Mountains, which form the northeastern extension of the Middle Kiev Mountains, extend beyond the boundaries of the province and extend to the province of Kahramanmaraş.

The length of the Bolkar Mountains extending in the northeast-southwest direction is approximately 150 km. width of the place is 40-50 km. and rises like a wall between Eregli plain and the Mediterranean coast. There is no regular road through which the Bolkar Mountains, which constitute a barrier to access between the Mediterranean coasts and Central Anatolia, are crossed from the east. The major highways pass north and south of the mass. The east of these is the Ecemiş corridor, where the road and railroads follow each other to some extent, and the Gülek Strait, which was called 'Pylae Ciliciae' in the Antique Age. The highest peaks of the mountains in the province where Aladağlar, approximately 100 km in the northeast direction. It extends. Its width is 40 km. It is up. It is separated from the Çakıt Suyu valley and Pozantı and Kırkpınar Mountains in the west and from the Bolkar Mountains with Ecemiş Corridor. Aladağlar, Zamantı Water, Leisure Stream, Çakıt Water and their arms were broken up. Lush springs are found on the slopes of the mountains. The western slopes are steeper than the eastern slopes. There are traces of glacial erosion on the north-facing slopes. 3,200 m. These traces seen at an altitude of 1 km. It is in the form of small glaciers. These glaciers generally follow the valleys and form small glacial lakes. These lakes are called Seven Lakes. With its dense forests and various plant layers, Aladağlar has a splendid view. With its abundant water streams and lush grass and forests, it is like a generation of plateaus away from the overwhelming heat of the Mediterranean in summer. Pozantı, Çamalan, Tekir and Bürücek plateaus located on these mountains show a plateau feature. The main heights

above Aladağlar are Demirkazık Hill (3.756 m.), Torosan Mountain and Kaldı Mountain (3.374 m.), Kol Hill (3.588 m.) And Karanfil Mountain (3.059 m.). Demirkazık Hill is the peak of the Kiev Mountains.

Tahtalı Mountains Kiev River and Zamanti (Sanvanti) and Göksu between the arms of all the mountains are called. On these mountains extending in the northeast-southwest direction, the peaks such as Koç Mountain, Soğanlı Mountain, Beydağı, Alaylı Mountain and Bakır Mountain are listed. The Tahtali Mountains are a branch of the formerly called antitoros, along with the Binboga Mountains, which lie between the Kiev and Kiev valleys. The mountains were torn to the south by valleys and became impassable. These mountains, which are almost naked in the northeast, are covered with more forested vegetation towards the south.

Apart from Gülek Strait on the mountains within the Middle Kiev System, there is Elmedere Pass after Kiev's Akçalıuşağı Village.

Place area The remaining part of the basin, which is called Kiev Plain, is called Kievand the northern part is called Anavarza. The Misis Mountains divide the two plains. The highest point of these peaks, Cebelinur Mountain is 770 m.

Kiev is Kiev's largest delta plains. Kiev and Kiev rivers and Berdan (Kiev) Stream is composed of alluvial and mixed structure. Its borders are controversial among geographers. According to some, both the Yukova and the plain in the south are called Çukurova. Residents of the region also use the name Kievin this broad sense. It is possible to name the whole plain, which extends from the Central Kiev foothills to the Mediterranean Sea, by the name Kiev Plain and to be divided into more plain units.

The largest of these plains is the Kiev Plain, which is 205,000 hectares in width, and the Kiev Plain with 125,000 hectares. The height of the Kiev Plain is 20-50 m.

Lakes Kiev and Kiev are located in the province. Regimes are irregular like other streams. The Kiev River (560 km) emerges from the Kiev Mountains in the north under the name of Zamantı Suyu, joins with Göksu after various branches and takes the name of Kiev and flows into the sea at Deli Burnu on the western border of Icel. Kiev River (509 km.) Is the second largest river of Kiev and Mediterranean Region. It emerges from the mountains in the north of Elbistan. Palm water, Söğütlü Creek, Göksu Stream merged with the Kiev River until 2500 years ago, like Kiev to the west of Karataş, reaching the sea, then Bebeli Bosphorus turned to the east and began to fall into the Gulf. As a result

of the overflow occurred in 1935, it headed south. Since then, it has been poured into the sea at the date palm. In addition to Kiev Dam Lake, which is one of the important dams in the country, there are several coastal lakes such as Akyatan, Akyayan, Tuzlagölü, and small glacial lakes called Yedigöller on Aladağlar.

Plant cover The vegetation around Kiev has the characteristics of Mediterranean climate. Up to 700-800 m, scrubs of dwarf trees are seen. However, especially in the low plains where the settlements and agricultural areas are located, the natural vegetation has been severely damaged by the human hand and in many places it has been completely eliminated. Formerly the natural vegetation of these places, durable red pine and some oak forests, while the entire Mediterranean region showing widespread spread of maquis, emerged as a result of the destruction of forests. Where the forests are not eliminated, small pine forest remnants, found in maquis communities that begin immediately behind the shoreline and reach 800 m, are evidence of this. Forests, starting at 800 m, consist of low-lying broad-leaved trees (mostly oak), and higher, coniferous trees (cedar). Drought and length of summer reduces the diversity of vegetation. After 2800 m, the cedar communities gradually disappeared, leaving their places to Alpine, sub alpine and Alpine meadows. Alpine meadows look like a carpet with numerous flowers.

Geology The general geological structure of Kiev is examined in two parts. Eastern Taridler Belt (Mountainous section), (Ovalik section) Eastern Taridler Belt is a continuation of the Alpine mountains Kiev Mountains are young mountains, III. It occurred in the second half of the geological period. However, it starts with the lower Cambrian sedimentary rocks which have been metamorphosed in the first geological period. Aladaglar are generally composed of limestones at the end of Carboniferous and Permian (280 million years ago) and Chalk Period (about 136-65 million years ago). Among these limestone masses, there are occasionally ultrabasic efit rocks. The structure of the Tahtali Mountains is dominated by schists and limestones with a time-curvature of

Like the Aladağlar, the base of the Bolkar Mountains is the limestone of the end of the snow bonifer and the Permian. The Bolkar Mountains, which have been subjected to earthquakes and volcanoes on many occasions, are known as the III. It took its present form with the formation of Alpine Mountain at the time.

The last of the eguogenic movements that led to the formation of large surface shapes in the earth's crust allowed the mountains to reach their current height. In the high parts of Bolkar Mountains IV. Traces of time (Quaternary) icing are seen.

Kiev Basin III. It was formed by the sedimentation of marine and land based sediments towards the end of time. The southern part of Çukurova, which is a mixed delta, was recently added by the accumulation of alluvium in the Halocene (from 10 thousand years ago). Behind this is an older delta of the Pleishocene (2,5 million years 10,000 years ago). The surfaces of this old delta today remain high in three separate terraces.

1.2-Main plan and general plan

MEASURES TO BE TAKEN WHEN DRILLING THE INFRASTRUCTURE PIT

Inform the relevant authorities before starting work.

Before starting the excavation, the situation of the neighboring buildings is examined and necessary measures are taken. Damages that may occur during excavation are prevented beforehand. (shoring, sheet, arbitration, etc.)

Excavation work should be carried out according to a plan, rope scaffolding

Small pits and unnecessary deep parts.

The entry and exit paths to the construction site should be constructed. ground and smooth.

Sufficient timber should be available to reinforce the foundation pit.

The building should be illuminated at night, precautions should be taken against accidents, and the pit should be surrounded according to the standards.

Excess excavated soil should not accumulate on the edge of the building pit.

Necessary measures should be taken to discharge the existing water in the building.

In order to protect the pipes and cables coming from the excavation, the relevant departments should be informed (Municipality, Electrical Institutions etc.).

The foundations of the structure should be built as soon as possible.

Soil loading tests should be performed especially on heavy foundation foundations.

Some of the excavated soil should be stored and then filled behind the foundation walls.

Foundation pits deeper than 1.5m should be reinforced.

1.4.1-Define and verify the preference of structural structures

Mankind's desire to build tall buildings has been increasing since early ages. If we look at the development of the buildings, it has been a cause of dignity. Egyptian Pyramids, Mayan Temples, Tower of Babel and Polar Minar are the first examples that come to mind. These buildings were built as masonry and are monumental rather than needing for their intended use. Today, the competition and prestige high Hazım, Göğüş 264 XVIII. National Mechanical Congress is the most important factor affecting the construction of the building. In addition, the increase in land prices and population density in cities all over the world causes the number of high-rise buildings to increase. It is a wrong approach to describe buildings as high, based on floor heights or total height.

For example, in a city with a low number of multi-storey buildings, an eight-storey building would be considered high, whereas in a metropolitan city with a high number of buildings, a 20-storey building might not be considered high.

The definition of high structure varies according to location, time and person. In terms of civil engineering, the concept of high structure can be defined as structures where horizontal loads are more effective than vertical loads and designed according to strength, displacement and operation criteria. Due to the efficiency of horizontal loads, the choice and placement of the structural system in the structure is very important. In recent years, the development of new types of carriers, developments in building materials, the development of new construction techniques and developments in computer technology have changed the high structures from the foundation to the roof. While steel was preferred as a material in high-rise buildings until the 60s, it is now applied in reinforced concrete and mixed systems . In this declaration; high structural structures are mentioned and the behavior of different reinforced concrete structural systems under different loads in different building heights will be examined,

Hıgh construction: There are many different problems in the design of high buildings. These problems are related to the choice of material and carrier system in relation to the loads acting on the structure. Increasing the height of the building increases the loads on the building elements. The cross-sections of the structural elements are overloaded and their dimensions are no longer economical. The vertical and horizontal

loads affecting the structure are taken into consideration in the selection of the structural system. Stationary and moving loads are classified as vertical loads. Constant loads are the loads that continuously affect the structure. Moving loads are loads whose position and size vary according to the purpose of use of the structure. Horizontal loads are wind and earthquake loads which should be taken into consideration in high structure design. As the height of the structure increases, the effect of horizontal loads increases rapidly.

Materials Used in High-Rise Structures : The advantages and disadvantages of the material should be evaluated in the selection of materials in high-rise design. In terms of materials used, it can be classified as reinforced concrete, steel and composite (mixed) high structures. Reinforced concrete structures are often preferred because of the resistance of concrete material to economy, function, easy deformation and over time deterioration. Steel high structures, steel material, which started to be used in the 1800s, is frequently used today. The shortness of construction time, easy access to large openings, allowing for repairs to be made in the project and less impact on horizontal loads due to the low construction weight, and not being affected by weather conditions in the construction process are the preferred reasons of steel. Mixed high structures are mixed structures where concrete and steel materials are used together. Composite structures have been widely used in recent years due to the rapid construction process and strength of steel, the economic nature of concrete and fire resistance Hazım, Göğüş 265 XVIII. National Mechanical Congress 2.2 Structural Systems Used in High-Rise Structures The height of the material chosen in the high-rise structure systems and the number of floors vary according to the function of the structure . Types of structural systems carrying horizontal and vertical loads acting on high structures

- Frame systems are the systems that are formed by the rigid connection of columns and beams.
- Curtain wall system is a system that is formed from curtain walls by arranging the fixed partitions to be made in the building against vertical and horizontal loads.
- Frame and curtain wall systems are systems where curtain and frame systems are used together.

- The core system is a large girder system that comes out of the floor as a cantilever against horizontal loads.
- Tubular system is a system that is formed by columns which are used frequently in the vicinity of the structure.

1.4.2-Identify and verify preferences of fencing designs

Fence classification

All construction site fences can be divided into several classes:

Goal.

By design.

With maintenance.

Consider these features.

We are talking about the purpose of using temporary fences for construction sites. So they can be defensive. Based on the name, it turns out that their main duty is not to harm the health of others and employees.

So, for this purpose, the tension of the façade grille. The network used has excellent durability properties. Such a front net can hold falling debris, tools and construction materials. This is very important because in the process of working in forests something can accidentally fall.

There are also protective and safety sections. In this case, we are talking about fences that prevent intruders from entering the construction site, for example, at a time when no work is being done. Such temporary fence structures are widely used under construction and production conditions.

Another type of temporary fencing - signal. What gives such a fence to a construction site? First of all, the whole area where certain construction works are done is visually separated. So, a person or car that will move near this site will immediately understand that it is necessary to be extremely careful when doing business. In this case, a signal band may be used. For example, it extends over the entire perimeter of the construction site.

design

Among other things, it is divided by the temporary fencing design of a construction site. For example, you can rack. There's some kind of panel. This means continuous protective and safety fence structures. And one more version - shelf and panel. In this case, a combination of the two temporary fences listed is used.

By Executive

The second classification has differences in design. Typically, such structures must complement them. Therefore, such additional facilities such as balustrade, outrigger, sidewalk and so on. You can act like.

What should be temporary fencing

Of course, given the importance of this design, they are subject to certain conditions and even standards. They are displayed in GOST.

Therefore, there are several important points to consider. The construction of various housing structures should be carried out according to established standards. You can pay attention to the examples to do this. In addition, it is necessary to arrange an entry group for temporary construction fences. It should therefore be noted that the input group should be designed for the passage of special equipment, vehicles and workers.

There are requirements for design. We note that such products should have associated fasteners that allow the quick dismantling or assembly of a fence when necessary

According to the requirements of SNiP, the height of the temporary fence of the construction site must provide the following parameters:

Protective safety structures are at least two meters.

Construction without viewfinder 1.6 meters.

A viewfinder with two meters.

The fence of a particular construction site is 1.2 meters.

As for the parts of the fence, they must have a rectangular shape. The distance from the fence to the sidewalk should be no closer than one and a half meters. That is, this distance is necessary to provide free passage to pedestrians.

This is important! Temporary fencing of the construction site should be strong, strong. One square meter should be able to withstand loads up to two hundred kilograms.

Moreover, such fences must completely exclude the sharp elements in which they are easily caught and dropped. Worst of all, these protrusions can harm human health.

Temporary fence supplies

For this purpose, you can use various construction materials, for example:

Knitted fabric.

Orange ribbon.

Slate.

Tree.

Metal.

Plastic.

The Metallobeto.

Each of the listed materials has its own technological properties. One will think about how plastic can prevent accidents and protect human health from damage. Modem technology has allowed the use of this material to create temporary fences for the construction site. With this technological solution in mind, we recommend that you learn more about its features.

Properties of plastic construction

These fences can be found more often on construction sites as soon as they appear. And the reasons are actually many. For example, there is no need to spend serious funding for their construction. For comparison: when installing reinforced concrete fences, it is necessary to utilize a team of experts and lifting equipment. As for the plastic elements, this is not necessary.

They are very simple during assembly and disassembly. In this parameter, the plastic fence also exceeds slate, wood, metal and other materials. The product itself is lightweight, so you can move it safely by hand. The plastic grid is easily visible. Such a grid is easy even when working on multi-storey facades. After installing the scaffold, the plastic cage does not apply any serious load and pressure. Moreover, due to the structure of the network, the sail has been completely eliminated, which has a high impact on the safety of all employees.

To increase the strength of such a fence, the lower part is recommended to strengthen the wire. Therefore, it will not leave, it will fulfill its original purpose.

Therefore, we have emphasized the advantages of plastic fence for the construction site:

Convenient to use. Such a temporary fence can be connected to the inventory, that is to say easy to assemble and remove. So, a worker will suffice for installation. The main task is to set up the support legs in a certain step and the hanging process is reduced to very simple movements.

Long lasting. Plastic fence is also classified as durable. It does not cause corrosion, decay and the like. It can be operated at this temperature ending in -40 ° C to +60 degrees Celsius.

It does not need special care.

It has a very low cost.

Thus, as shown by modern statistics, the presence of temporary protective fences helps prevent a large number of accidents during the fall of construction waste, construction tools and the like. Their presence is therefore a necessity. In addition, it is unacceptable to start the construction process without the installation of these facilities.

The territory of the building should be fenced. This is a mandatory requirement for SNiP 3.01.01-85, which is necessary to ensure job security.

The best solution to this problem is the temporary surrounding structures. Their use is managed by GOST No. 23407-78.

Fencing classification

For functional purposes

Therefore, the following temporary construction fences have been distinguished:

Security and security - they are established in the first place, so that unauthorized persons cannot enter the object area. Such structures can be found not only in construction sites but also in production sites;

Preventive - necessary to protect people from possible traumatic situations. To do this, usually use the façade grille. It can hold tools, remains and remains of materials falling from the pier;

Signal - required to visually highlight the location of any job. This may be a special signal band stretched between the pins pinched in the ground.

Constructive decision

On this basis, emit panels, shelves and panel shelving temporary fence construction sites. In turn, the panel fence can be solid or sparse. The product is only robust for safety and security purposes.

According to this criterion, temporary fences are divided into two. The first is a fence with additional elements.

There may be hills, sidewalks, posts, railings. The second type - without additional elements. It is cheaper than the previous one and therefore more popular.

Technical requirements for protective fences

General conditions

These are the most important points.

These are as follows:

Modern storage structures must fully comply with the requirements of the state standard as well as the approved samples; It is mandatory to have doors for the passage of construction equipment and small doors for the passage of people.

Design requirements

They regulate specific specifications.

so:

All designs must be foldable and also have joined fasteners;

The height of temporary fences according to GOST is 2 m for protective and safety fences. For protective fences without canopy, this parameter is 1.6 m. With a viewfinder - 2m. The height of the safety barriers of the construction sites is 1.2 meters;

The panels can only be rectangular. According to said GOST, their length may be 1.2m, 1.6 or 2.0m; The gaps in the pavement cover should not exceed 5 mm;

The hills and pavements are made in the form of separate elements having a rectangular shape;

The protective visor should have a lifting angle equal to 20 degrees. At the same time, the ascent is made towards the road.

Plastic construction fencing

General features

In some cases it is a very convenient option. Also, very affordable because the prices are low. Sometimes they can even replace normal metal, slate or wood designs.

It is possible that the information provided may appear incomplete to you. In this case, we recommend that you watch the corresponding video posted on the site. In the video presented in this article you will find additional information about it.

Construction site fences - types, uses

According to current regulations, unfinished construction objects should be fenced along the perimeter. The need to establish barrier structures in the first stage of the business plan has already been regulated - when planning the site. At the same time, temporary fencing of construction sites is being used too much to prevent accidents, not to save property or construction materials.

Such areas pose a danger to passengers who may end up in the immediate vicinity of an accidental digging or unfinished structure where work is in progress. Possible injuries not only among random people, but among the workers themselves. Therefore, inventory construction sites represent the inventory class.

And decide which one to use, just the head of the group.

Construction protective fences

Portable fences - a metal frame made of welded pipes. The middle part is thick wire or rebar. The portable construction fences are fully autonomous, can be used on any surface and sufficient installation to arrange as necessary.

Their height is 1600 mm, which is enough to serve as a quality barrier. The catalog also includes a lightweight, small-size temporary portable plastic barrier. All kinds of armatures should be used in the construction site. Mobile fences can be purchased to identify the split zone, the pit location of the foundation, and engineering networks. The protective design eliminates accidents between workers on site and does not allow them to fall into the pit. If the job doesn't stop at night, his interest increases.

Stationary systems - we offer metalworking network and high strength plastic network designed for building barrier structures around the site for sale. The shelves are used for assembly and for the plastic mesh they may be light plastic posts and the fastening may be carried out on polymeric collars. The conventional chain-link is suspended on the metal support and secured by a wire or welding. Mesh systems are lightweight, versatile, durable, can be used repeatedly. In our catalog you will also find a network in a PVC sheath that combines the advantages of metal and plastic products: durability, corrosion resistance, exceptional care and visual appeal.

1.4.4-The materials used in the building or for the assembly of the building

Slingshot: Used for horizontal and vertical transport of YTONG reinforced building elements by crane. It weighs about 25 kg and is made of steel ropes and corners. Carrying capacity is 1,500 kg.

- Vertical / Horizontal Wall Gripper: Used for lifting and mounting of horizontal wall elements. It weighs approximately 23 kg and has a maximum lifting force of 900 kg.
- Roof and Flooring Element Gripper: Used for lifting and mounting roof and flooring elements. It weighs approximately 100 kg and has a maximum lifting force of 1000 kg.

Vertical Wall Mounting Trolley: It is used for horizontal transportation and mounting of carrier vertical wall elements instead of mounting. It weighs about 60 kg and has a maximum bearing capacity of 500 kg.

Roof and Flooring Assembly Trolley: It is used for horizontal transportation and installation of roof and flooring elements instead of assembly. It weighs approximately 70 kg and has a maximum bearing capacity of 325 kg.

Roof and Slab Compression Lever: It is used for joining the profiles of the roof and slab elements placed on the supports and making the assembly properly.

- Partition Panel Mounting Lever: It is used during the assembly of partition panels, compression of wooden wedge between partition panel and floor and leveling the element.

Chamfer Grate: It is used for correcting the chamfering of chamfered elements before assembly or for additional chamfering works.

Unreinforced Material Lowering Device: It is used by transporting the unreinforced material to the floors by mounting to the crane tip.

1.6-Plumbing :

One of the main actors of mechanical installations in livable structures is undoubtedly sanitary installation. Sanitary installation is the pipe network that ensures that clean water is conveyed to the places of use in a healthy way and that dirty and dirty water is collected and taken out of the build ing.

The way to reach water in buildings in a healthy way is through the design of the installation system and the processes of product selection.

Sanitary installation is directly related to the protection of human health. Urbanization and modern life have increased the importance of plumbing and plumbing along with the needs. Similarly, the materials used varied.

As the issue of transporting water is directly related to human health, the pipes used in the clean water installation should be made of materials suitable for the intended use, which do not affect water quality and are resistant to corrosion.

For example, since the peak pipes used until recently have a structure that corrodes over time and is now preferred in superstructure installation. Asbestos cement pipes are replaced by new generation plastic pipes because of their carcinogenic structure threatening health.

The starting point and logic of the European Drinking Water Directive "Our most important food is that the microbiological and chemical use of the drinking water will flow from the tap to the point where it will not harm human health for life ömür

The desired water quality must be provided as a whole with the properties of the installation raw material, the structure of the water, the installation properties and the operating conditions.

Every step should be planned. In order to live in a healthy, safe, comfortable and economic way and to have contemporary structures, people need to have an attentive approach and certain standards at every point. The project should be planned at every step from its design to its positioning, from its beginning to its completion. Not all systems can be implemented in the same way. An office building and a hotel building are unthinkable with the same system plan.

They should be well studied. Preliminary analysis of all systems in buildings should be made and the most accurate system plan should be applied. The installation project of a building will be more successful with a mechanical thinking mind and an architectural thinking mind jointly. The right decisions to be made at the beginning are important in terms of transporting pipes, transition points and device layouts. However, water pressure, insulation, durability, etc. are acceptable for an acceptable installation life. criteria and appropriate pipe and equipment materials should be selected.

Quality of life in the building plumbing, waste water systems, electrical installation and so on. integrated with many mechanical tasks.

The plumbing element used to meet water with sanitary systems is water fittings. The use of the water carried by the pipe system in the place of use is controlled by water fittings. Water fittings are hygienic, durable, reduce the need for maintenance and repair and support life comfort.

The choice of sanitary products used in buildings is critical. Meeting the expectations as a system solution, not as an individual product, is the overall performance of the building construction. Moreover, not only in terms of safety, but also the long life of the products used in the building reduces the need for maintenance and repair and supports the comfort of life.

In sanitary circuits, it is important to transport clean water to the points of use as well as to remove it from the waste water used. It is important for human health to ensure proper connection and not to mix with clean water in removing this waste water from the system.

SECTİON 4 (Construction Production Technology and Organization)

4.1-Selection of business execution methods

Project Management Phases

Project management consists of five separate phases that interact with each other. These phases are as follows:

Initiation Phase : This is the phase in which the definition of the project, the necessary feasibility studies (preliminary studies) and evaluations are made. Feasibility studies are based on the organization of the project, resource requirement and project cost. In this way, the project strategy to be followed approximately in the future will emerge. As a result of feasibility studies, projects that are not deemed appropriate are eliminated and construction is not started.

Planning Phase : In the planning phase , communication mechanisms allow people to understand the project and determine how the work is organized and how to achieve the set goals (Burlton , 2001). The project gives clear answers to questions such as when, where, who and how. In short, it is the phase in which a full description of the project is made before the implementation and the decision to implement it is made (Akan, 2006).

Implementation Phase : It is the phase in which the planning phase is implemented. In short, it is the phase in which the project is started.

Control Phase : The phase in which the performance of the application phase is regularly monitored. Deviations that occur according to the plan should be demonstrated. By analyzing the effect of deviations, the project is planned and put into practice according to the cost, time and quality criteria determined at the beginning of the project.

Termination Phase : The phase in which the project is completed. Contracts with employers and subcontractors are terminated and accounts are closed. The overall assessment of the project is carried out and the success of the project is measured on the road to its goal.

Successful project management is possible by the effective management of these phases and their interactions, which are connected to each other by the cause-effect relationship. Although the output of one phase is used as the input of the next phase in project management, there is no definite boundary between the phases. This relationship continues as a loop. It can be seen from figure 1 above that there is no definite boundary

between the phases. Figure 1 shows the activity intensity of the phases according to the project flow time and the start and end times of the phases. Accordingly, while the most lasting phases are the control and application phases, the shortest phases are the initiation and termination phases. The phase with the highest activity level is the application phase as can be seen from the figure. As in every phase, the activity intensity increases with a certain acceleration and reaches a peak and then decreases with a certain acceleration .

PROJECT MANAGEMENT TECHNIQUES

Project management techniques are based on the flow structure of the project to the activities and present the project schematically. Provides effective management of the project. In the planning phase of the project in the project process included happen and they survived until the end of the project phases. For small projects, GANTT diagram is used. It is a two-dimensional representation showing activities and completion times of activities. Large projects are not preferred, as they are not suitable for demonstration of Relationships between activities. Since other project management techniques, CPM and PERT, have the ability to consider interdependence of activities and priority relationships, large projects are also used. However, even in large projects, one pillar of CPM and PERT management techniques is often simplified GANTT diagrams. In such large projects, GANTT diagrams are used to summarize the status of the project (Kır, 2007). Project management techniques CPM and PERT consist of three stages (Halaç, 2001).

Planning Phase: Starts by dividing the project into separate activities. Then the duration of the activities is estimated and the network diagram is drawn by establishing the predecessor - consecutive relationship between them. The planning phase provides the advantage of examining the different jobs in detail and allows the proposed improvements to be made before the project is implemented. More importantly, it is used to develop programs for the project.

Programming Phase: A time diagram is prepared showing the start and end times of each activity and the relationships between the activities. Indicates which activities (critical activities) must be carried out on time in order for the project to be completed on time. It also shows which activities (non-critical activities) are delayed and how long the project will not extend.

Control Phase: This phase is aimed at preparing the progress reports of the project at regular intervals. A time diagram is used for this purpose. In short, during the control

phase; the project is analyzed, and if there is deviation, it is updated. The features of the CPM and PERT diagrams are given below.

Indicates critical and non-critical activities.

Indicates the relationships between interdependent activities and non-interdependent activities and how to complete them (Albayrak, 2005).

Reveals the planned and realized results of each activity (Albayrak, 2005).

It helps identify and solve potential problems and finish the project in time (Albayrak, 2005).

Indicates when the project will end if all activities go according to plan (Trevor , 1998).

Gives analytical meanings to project scheduling activities (Şimşek and Kasapoğlu, 2006). Project management techniques, as can be understood from the above, are time based techniques. These techniques are also used in time analysis of the project. The information obtained from the project management techniques is also used in the source and cost analysis of the project.

4.2.2-Definition of construction terms

ADERANCE: Adhesion , bonding

Absorption: Absorption , absorbed to

AGREGA: Name of building materials such as sand , gravel, crushed stone

APPLICATION: According to the project , determining the area on which the building will sit

ASMOLEN: Soundproof, perforated briquette type made of terracotta , slag and cement mixture.

ASMOLEN FLOORING: Soundproof, perforated briquette flooring made of terracotta , slag and cement mixture

ATAŞMAN: Indicating non- project works

CONCRETE: Building material obtained by using sand , gravel or crushed stone , cement, water and, if necessary, additives.

BRUTBETON: Bare , smooth surface concrete

AXLE: Measure, distance taken from the middle to the middle of the two structural elements

ALYNMAN: Alignment , alignment to the same axis

ALKALI AGREGA REACTION: Alkali - aggregate reaction, a chemical event between the reactive silica components of the aggregate and the alkalis of the cement (Na2O and K2O)

BUILT-IN: One end fixed beam, recessed

APSIS: Horizontal coordinate

ARTER: Main road

BALAST: 40-110 mm diameter crushed stone

BYPASS: Dirty-fine powder material ejected in the process of turning , deactivating, overturning , breaking of crushed stone in crusher and determination of grain diameters

BEKO: Backhoe , pulling trench boiler is a kind of excavator

BİMSBETON: Lightweight concrete made by adding sand as needed by using pumice aggregates as aggregate.

UNIT WEIGHT: The value obtained by dividing the weight of a material by its volume

BLOCKAGE: Laying and compacting stones of 100-150 mm

BORDERS: Edge Move

BRANCHMAN: Connecting arm

FLOURING: Stains formed as a result of the dissolution and leakage of the components in the cement mortar and in the hardened concrete and crystallization and accumulation on the surface.

DENSITY: Density

DISCHARGE: Discharging

DEVER: Internal slope

DILATATION: The space left between the blocks in order to meet the movements such as earthquake, heat and different settlements.

DOSE: The amount required to enter a mixture

DOSAGE: Adjustment , regulation

DURABILITY: Persistence , resistance of physical and chemical effects of concrete during service life, strength

EXCAVATOR: Digging and loading machine

ELASTISE MODULE: A value calculated by dividing a tension by shortening or bending amount in static calculation

STUDY: Preliminary study

FAY: Ground fracture, ground crack

Elephants: fine material passing through a snow sieve with a mesh opening of 0 , 25 mm, beads , mineral powder

Paver: Paving and compacting machine

COMPANY: Twisted reinforced concrete in the form of the letter U

PILE FORE : Pile made by the method of removing the sheath pipe as soon as concrete is poured after pouring a pipe and emptying the inside.

GABARI: Maximum height specified in the zoning plan of a building to be constructed

GAS CONCRETE: Lightweight concrete obtained by lightening the mixture prepared with a thin and siliceous aggregate and an inorganic binder (lime or cement) by adding a pore forming material.

GERBER BEAM: Self-aligning beam

GRONULOMETRY: Determination of grain distribution as a result of sieve analysis of building materials such as sand , gravel, crushed stone . Grain measurement

GROBETON: Rough concrete, low-dose non-ferrous concrete

MORTAR: A building material used in the construction of masonry walls and internal and external plasters and formed with a mixture of mineral-based binder, mortar sand, water and, where necessary, additives added in appropriate proportions

INTEGRAL: Also known as integral . Technique of finding a function g (x), which is equal to a function f (x), derived in mathematics [Dg (x)]

THIN MODULE: Aggregate gradation property about which provides an empirical numerical value. Thinness modulus = Aggregated percentage of aggregate remaining on the sieve / 100

RETAINING WALL: retaining wall

CAPILLARY CAVITY: Capillary space

KARKAS: Frame , structural system of a structure such as reinforced concrete, steel, wood

CORE: Cylindrical sample taken from constructions such as soil , concrete, asphalt with special device (core barrel)

Cavitation: Scouring in water structures

SLIDING MOLD: Vertical continuous mold

CLINKER: Walnut sized product obtained by firing clay and limestone which are the main components of cement

COMPACT: Tight , solid, dense

CONSOLE: 1 - An oblique part supporting an object from below and from the wall 2- Construction element with only one end embedded in the building element and the other end free

CORROSION: Chemical wear

CURE: Protection of concrete from water loss and air effect during setting time and strength of concrete

LENTO: Door, window, etc. to carry the loads on them. wood, steel or reinforced concrete girder

LIMIT: The concept which is determined based on the concept of proximity to mathematics and is used to search for a value that is suitable for the values at the points near this point, especially at a point where the value of a function is not completed

LODER: Contractor , bucket

LOS ANGELES ABRASION TEST: One of the test methods used to determine the abrasion resistance of the aggregate

JOINT: Joint , rotation direction of the interconnected parts of each connection element

MASSIVE: 1 - No coating or filling 2- Same as width and depth of concrete

SUPPORT: Support

MERTEK: Slats bearing roofing boards on roofs

MICIR: 4 -32 mm grain diameter crushed stone

MOLOZ: Construction demolition waste

MOMENT: Tendency to rotate the mass to which a force is applied about an axis

TIP: Tooth , vein, rib

ROTARY FLOORING: Single-direction slab with series beams of approximately 50 cm in one direction

ROD STEEL: Reinforced steel with various reliefs

LEVELING: land a certain of the various points on the benchmarks measuring action of the elevation or height differences by

PARAPET: Balcony , terrace, bridge and so on. railing walls

PERMEABILITY: Permeability

POISSON RATIO: Absolute ratio of transverse elongation in test specimens to longitudinal unit shortening when compressive stresses are applied to elastic specimens in concrete

POROSITY: 1 - Porosity 2- The ratio of a void to the unit full volume

POS: Pen , kinds

PREFABRICATION: precast , pre-production

PRECAST: Pre- cast

PRESSURE: Time to start solidification of concrete and mortars

PUZOLAN: Tras can be hardened when mixed with lime and water.

RADIGENERAL: The monolithic foundation on which a structure sits on the ground with all its size. Raft foundation

RETORDER: Retarder

Rigid : Rigid, rigid, rigid, rigid. Playful or inflexible

ROTARY: Rotary . Drilling machine with rotary drilling machine

ROTATE: Shrinkage

SEGREGATION: Decomposition

SEPTIC (PIT): Sealing pit

SLAMP: Settling , measurable settling of concrete (consistency)

COLD JOINT: Joint or discontinuity between two layers due to application delay during concrete pouring

SÖMEL: Basic shoe

STATIC: 1- Steady, serene, no movement 2-Balanced

CHAPTER: In order to meet the excessive tensile stresses in reinforced concrete beams and slabs, additionally shaped top iron in special supports

Shunt (leg) Building yükliğin by extending the flue of each ply wide channel is connected to the chimney type

SHUT: Falling , stepping for cutting the current velocity

PLATE: Flooring plate

SUBCONTRACTOR: A small producer of capital, equipment and technical staff who undertakes part of a structure as labor only

TRAS: Volcanic tuff with binding properties

TUVENAN: Sand gravel mixture construction material that has been removed from the creek, not sieved and washed.

DERIVATIVE: The rate of change of a function relative to a variable in mathematicsUNİFORM: Uniform homogeneously distributed

VACUUM CONCRETE: Vacuum method to remove the excess water in the set quicker, shortening the mold time beto

VIBRATION: Vibration

VISCOSITY: Resistance to flow by a liquid substance

4.2.5-Safety and security when working with mechanisms

Occupational Qualification Certificates are compulsory for industrial pipe installer, heating and natural gas internal installation construction personnel, welding operator, heat insulator, water insulator, fire insulator. Vocational Qualification Certificate is required for those who will work in these jobs. In all other jobs, Vocational Education Certificate is compulsory. Work will not start without these documents; documents will be delivered to OHS unit.

Personal clothing should not be too plentiful due to the risk of being worn or burned and should be suitable for the job. Jewelry should not be worn. Hair, clothing and gloves should be kept away from moving parts of the equipment . Gloves are not suitable when using mobile equipment . No part of the body should be placed on the rotating and moving parts of the machine.

While working, walking or resting, pricking and cutting tools shall not be carried in the pocket.

All work will be carried out under the supervision of a competent person and after obtaining the necessary work permits.

Lighting and ventilation of work areas should be sufficient. Work should not be carried out in dark and dim environments and in areas where there is a risk of suffocation.

Material stacks shall be constructed in such a way that they do not cover, overturn or roll over the stairs and pedestrian crossings.

Waste materials shall not be left on the edges of the flooring; additional measures shall be taken for materials that may fall and fall (such as placing them in a bucket-basket).

Packaging wastes, on the other hand, will be collected in areas notified by the site management as waste is generated; will not be left at random.

Parts that are at risk of getting rid of, roll and fall during assembly should be suspended with suitable lifting equipment if necessary, under-wedged, or similar appropriate measures taken; Do not remove the precaution until installation is finished.

Similarly, especially when mounting heavy pipe sections of the ceiling or the like, sufficient to carry the tube rod unless secured to be lifted by the measures taken to fall. Even after such heavy materials have been fixed, the measures already taken to prevent them from falling off during assembly must be removed in a controlled manner; unless it is absolutely certain that it will not fall underneath, should not be allowed to enter.

Protective glasses must be used during the use of equipment, machinery and tools; Ear protectors and dust masks should also be used depending on the situation.

When using equipment, machinery and tools, care must be taken to ensure stability and stability. In case of sudden jams, it should be careful against the recoil of the tools and machines.

In places where there is a risk of falling material from above, work will not be started without taking necessary precautions.

For work on the shafts, work shall start after the shaft is closed from the top so that no material falls from the top; In addition, necessary measures will be taken so that no

material will fall down in its own work area. For this purpose, the areas where the shafts are located on the lower floors will be closed to the passage or a lookout will be provided.

Before starting work on the shafts, a platform shall be established for the working area within the shaft; even if there is a platform, work will still be carried out using a safety belt attached to a suitable anchorage point or life line.

Do not start work in areas where there is danger of falling without taking occupational safety measures. In the use of seat belts and lifelines, work shall be performed in accordance with the rules and rules of working at height.

When welding in shafts, stairs, balconies, floor edges, well edges, etc. , necessary precautions shall be taken to prevent welding slag from flowing to the lower floors; fire blankets will also be used.

If necessary, a 6 kg KKT fire fighting tube shall be kept in the working area .

The mobile ladder shall only be used for very short-term work or for works that do not require scaffolding due to low risk. In all other works, mobile scaffolding in accordance with the standards shall be used.

Ladders should be resting on secure supports; it must be at least 1 m longer than the point it rests on; should be placed at the right angle. The worker must step on the stairs with both feet.

The mobile scaffolding and ladders used must be suitable for the height to be worked. No support shall be provided with different materials on top or bottom to upgrade such equipment .

Scaffolding and ladders shall only be used on flat and solid platforms where the floor is laid. It shall be ensured that the floor where the scaffold and ladder is used is not slippery.

Scaffolding and ladders shall not be moved in the presence of work or material. Scaffolding or ladder descent - ascent and / or tipping will not be held by an assistant staff to keep. During operation on the portable ladder, the auxiliary personnel will continue to hold the ladder. In places where there is vehicle / pedestrian traffic, the scaffolding and stairs should be surrounded and secured.

The exits to the mobile scaffold shall be made only from the staircase of the pier itself; In addition, measures shall be taken to ensure that the scaffolding does not slip and tip over.

A safety belt attached to a suitable anchorage point or life rope should be used in the works to be carried out with the mobile pier and ladder on the elevator shaft, shafts, floor edges and balconies, even if there is a railing in the area ; the seatbelt must be anchored to the anchor point or life rope before further climbing of the scaffold or ladder ; should not be removed as long as the work continues.

It should be checked whether the calibration of the equipment to be used in the pressure tests is appropriate.

When conducting the tests, where water and similar liquids may leak, check for a power line before starting the test; In places where there is a power line, tests should not be started unless the electrical unit has approved it that the line will not be affected.

All equipment , machinery and hand tools to be used must be used only for their intended purpose; should not be used for different purposes. In the same way, only the appropriate equipment - machine tool should be used when a job is to be carried out; o work should not be done with tools produced for other purposes.

Operating and maintenance instructions from the manufacturer / distributor shall be available on the safe use of tools, machinery and equipment ; be kept in a place where users can reach at any time; these will be communicated to users.

30. Protectors of tools, machinery and equipment shall not be canceled; should be removed; must be active during use.

All electrical appliances and machinery must be earthed; grounding should not be canceled; The mobile cables to be used must also have a grounding feature.

Broken, broken, deformed, warped, crushed, defective tools and equipment should not be used.

Power tools and equipment and workbenches shall be used only by employees authorized by the employer. Users will only carry out their own maintenance and will not attempt to repair the defective ones. Maintenance purposes such as cleaning gasoline, thinner, etc. flammables shall not be used; Suitable solvents recommended by the manufacturer shall be used.

Power tools must not be used above the performance specified by the manufacturer.

Tools and machinery that are suspected to be faulty or do not perform normally should not be used without repair. In case of failure of equipment and machinery,

operators are not authorized to repair. Therefore, any failure should be reported to the competent person and repaired only by authorized persons.

Before starting work, all tools and equipment should be checked for any failure; defective machinery and equipment should not be used.

The coal of tools and equipment should be checked frequently. Decreased coal will slow down the speed of the equipment and will produce large sparks.

Mobile cables should not be attached to the distribution board until they are pulled to the area where they will be used; the cable should not be touched when the cables are installed in the distribution board.

Mobile cables should be pulled in such a way that other workers cannot trip over them and not be crushed with other materials or equipment . Mobile cables should be kept away from wet surfaces.

Power tools and machines should only be plugged in when they are to be used; the plug should be removed from the socket when it is to be interrupted even for a short time.

Portable cables and cables of power tools and machinery should be solid and TTR cables. Tools and equipment should not be carried by holding the cable, should not be held by the cable while pulling the plug, the cable should be protected from heat, oil and sharp edges. Mobile cables must also be enclosed in a protective hose.

Setting up, maintaining, checking, repairing, installing or removing power tools, such as guards or stone-tip-knives, must only be carried out when the plug is unplugged.

For tools and equipment, the connection point of the cable to the device shall not be exposed.

Ensure that snow, rain, moisture and water do not come on the equipment while it is in operation; wet and damp tools and equipment should not be used.

On tools and equipment , the latch is firm and on the key; the on-off switch must also be in working order.

When the hammer and hammer are used with drill chuck , it should be noted that the tip is fully tight. Iron, wall and wood etc. appropriate punch should be used during drilling .

In grinding machines, the speed of the disc must be higher than the speed of the machine. In addition, worn, worn, lost discs should not be used.

Make sure that the spark of the grinding machine does not come into the vicinity of flammable / explosive substances; In addition , it should be prevented to prevent damages especially to glass and composite productions.

Grinding should not be performed with cut-off wheels.

The PPRC welding machine must be level on a level surface. Make sure that the thermic is working to prevent the machine from reaching high temperatures. It should be noted that the body is hot while the machine is operating and should not be touched.

Dental, such as pipe cutters and slotting machines, machines must be on level ground scales and can work alone. The work area floor should be clean to avoid tripping or falling. The long pipes must be balanced; ensure that the pipes are firmly tightened by the vice.

Stalls during transport must be careful not to fall during operation of the tube, above 25 kg or unstable and difficult to transport materials to be transported alone.

Do not leave the machine unattended while it is running . The machine's emergency stop button must be running. When more than one person is working on the same machine, a single person must be designated for machine control.

Suitable coolant must be used when the machine is running on the machine tools ; it should not operate without fixing the hand threader; cutter guards should never be removed. The saw should be less or less tightened.

When welding, the device must not touch the electrode and the operating circuit when it is switched on. Wear dry, non-perforated, insulating gloves, masks and body protection. As the light generated during the welding will damage the eyes, it should be worn with suitable mask glass.

During the welding process, the material being treated will be hot and should not be touched.

Work in a ventilated area to prevent gas build-up during welding and shut off the gas supply when there is no operation. Toxic by fumes and gases, and should not be inhaled.

6.4 RESULTS AND GENERALİZATİONS

The global stiffness matrix for all structures is constructed in a default and displacements are performed by blocking technique. Taking into account the infinite stiffness of the plates in the floor plane in the horizontal plane, 6 freed concrete structures are not related to the fundamental stiffnes matrix, for the displacements ëx, ëy, éz in the plane of the floor, there are 3 unknowns for the displacements, and for the displacement of the element ends éx, éy, ëz, all 3 unknowns. . Shear deformations of tie and column elements and torsion elements are taken into consideration. Equation set; The endpoint numbering is arranged in such a way that the program can solve the minimum memory with the point optimization of the program side for the solution to be fast. Structure + foundation can be solved together and basic stiffnes matrices are constructed with winkler hypothesis.

Considerations in the global stiffnes matrix:

The sections of beams in columns and walls, infinitely rigid load and stiffness matrix arrangement.

Flexible recessed solution of beams stuck in the weak curtains in wide curtains.

Consideration of shear deformations in beams stuck in the direction of stiffness in wide curtains.

Considering the axial load eccentricity in the stiffnes matrix in the column with the deflection of the column and static axes.

Dynamic analysis; CQC (Complete Quadratic Combination) method to find the forces according to 5% damping percentage.

STATIC ANALYSIS LOAD COMBINATION NOTATIONS:

G + G + G + G + G	: General dead load
Q + Q + Q + Q + Q	: 1. General moving load
Q + o + Q + o + Q	: 2. Moving load
o + Q + o + Q + o	: 3. Moving load
Q + Q + o + Q + Q	:4. Moving load
o + Q + Q + o + Q	: 5. Moving load
Q + o + Q + Q + o	: 6. Moving load
Sz	: Horizontal ground thrust

Ex + 5% x ey : X direction earthquake + 5% eccentricity

Ex - 5% x ey : X direction earthquake - 5% eccentricity

O + 5% x ex : Y direction earthquake + 5% eccentricity

O - 5% x ex : Y direction earthquake - 5% eccentricity

Wx : X direction wind

Wy : Y direction wind

T : Heat load

Standards used in the program:

Implementing Regulation on Structures to be Constructed in Disaster Regions

TS-498 mobile and wind load standard.

TS-500 is the calculation standard of reinforced concrete structures.

ACI-318, UBC-97 code

EUROCODE-2,8 code

SNIP-2.03.01 code

SECTİON 7 (Improving Economic Efficiency)

7.1 Procedures To Be Done From Construction

The preparatory period for construction works is the most careful and rigorous period in order for the work to proceed in a healthy and orderly manner. However, it is possible to achieve success without any problems and without wasting time in the well-planned constructions where the works that need to be done before the construction is taken care of.

Things to do before starting construction:

The social security number must be obtained from the relevant regional or branch office.

Signature circular obtained from SSK should be filled and signed by the site management.

The account number must be obtained from the relevant tax office and the cash register must be approved by the notary public.

The file number should be obtained from the regional labor directorate of the workplace and the building work book should be obtained and certified to the labor directorate.

Zoning office or the municipality "TUS" to refer should be.

For the supply of electricity, water, telephone and internet connection to the construction site, the relevant institutions should be consulted .

The insurance hospital to be visited in work accidents, the nearest polyclinic and pharmacy to be visited in case of emergency should be identified, the site health personnel and drivers should be informed about the address they will go to and the people they will apply for.

Required insurance procedures must be made. Site Mobilization Plan - Preliminary Project :

The working area and the site limits where mobilization will be done should be determined and documented by taking the site's relief .

The existence of the infrastructure lines that pass through the construction site and need to be moved should be investigated, mobilization procedures should be contacted with related institutions and organizations and attempts should be made for displacement operations.

If there is an energy line passing near the construction site, it should be learned whether the machines that will work with electricity should be taken into consideration or not.

The capacity and size of the warehouses to be established should be determined according to the required materials.

Approximate average daily and total quantities of the productions to be made at the site facilities should be determined.

The type and number of the construction machinery to be used in the construction site should be determined for the determination of the places to be reserved for the vehicles, parking, repair shop, spare parts store and on-site roads .

Considering the size of the work to be done, it should be determined how many workers and technical personnel will work on the construction site and how many of them will remain on the construction site. The location and number of lodging for married staff should be determined.

In the construction of the construction site, the principle of meeting the minimum requirements with minimum investment and operating costs should be the basis, and the most appropriate one among the options such as building, shed and container should be selected in the selection of the facility to be established.

In case the site is far from the big settlement centers, the number and size of the canteen and similar buildings to be built to meet the needs of the personnel and workers to be present at the site should be determined .

On-site transportation routes and internal water and electricity distribution plans and routes should be determined.

Communication needs were determined and the number of telephone lines, internet line capacity, radio need and so on. It must be determined.

It will be necessary for the construction site; Office hardware and equipment such as computers, software, printers , photocopiers and fax machines should be identified.

If the generator is required, their number and capacity should be determined .

The average amount of water to be used per day should be calculated and determined where, how and how this water will be supplied and stored on site.

The entry and exit points must be determined.

The type and route of the perimeter fence must be determined.

Sewerage and septic places should be determined and installations should have sufficient capacity.

The location of fixed plants such as concrete batching plants and tower cranes should be determined.

The concrete plant should be installed close to the center where the concrete to be poured is dense.

Open drainage should be made to the concrete facility area and no shrinkage should be used in this area. Cement in the waste water will facilitate blockage of the shrinkage.

A parking space should be identified to prevent the accumulation of concrete mixers near the concrete batching plant.

Garbage and waste material collection points should be determined.

If a scale is required, a scale building should be constructed near the entrance of the construction site.

Wiring and line drawing should be done properly considering that the site is a permanent facility. Maintaining the minimum number of cable splices in the electricity network will substantially prevent malfunctions over time.

If there is an electrical panel in the power pole, it will be useful to install lightning rod installation.

The dominant wind direction should be learned.

Afforestation and greening should be done in the areas where construction site facilities are located.

The site should be sloped, for example 1-1.25%, in order to prevent the accumulation of rain water, and drainage should be done around the site and around the units if necessary.

In the mobilization project, construction sites, transportation roads and open and closed stock areas should be placed in a way that there will be no construction on the future.

Site Safety

Measures should be taken to ensure environmental safety of the construction site.

Warning signs for occupational safety and job site safety must be placed at visible locations on the construction site.

At the entrance of the construction site, a board with information such as the name of the work, the employer, the island sheet number , the names of the producer company or companies, the names and titles of the technical officers and the cost of the work should be placed .

Determination of Storage Places Before Starting Construction:

Sand Storage

The mortar must be close to the places where there is sufficient distance to maneuver the vehicles.

Gravel Storage

Concrete should be close to the prepared plant and the vehicles should be able to pour out easily.

Excavated Soil

If the soil from the excavations is to be used as a fill in the construction site, this situation should be determined during the project phase and intermediate stock areas should be determined.

Cement Tanks

Concrete should be prepared close to the plant.

If it is placed on cement, concrete or stone floor, the flooring of cement tanks should be covered with ordinary wood flooring as it may be damaged by the effect of moisture.

Reinforced iron storage and preparation location

Stock area and iron preparation area should be easily accessible for loading and unloading, within the scope of the cranes.

If reinforced concrete bars are to be used for a long time, the iron cutting and bending machines should be under a porch so that they do not corrode excessively by rainfall and that the rainy weather does not affect the iron cutting and bending operations.

Joinery Workshops

Ready-made joinery can be placed somewhere inside the building. However , a joinery workshop should be planned near the timber tank for the joinery to be manufactured on the construction site .

Blacksmithing

The places where hot blacksmithing works will be carried out should be considered away from timber and similar warehouses.

Places reserved for cold blacksmithing work should be arranged at a suitable distance from other warehouses and workplace.

Machinery and vehicle parks, maintenance and repair shops

The location of the car parks should be close to the road at the entrance to the construction site.

Maintenance and repair workshop near the 40-50 m2 like a warehouse area of the seat must be installed.

Roads

The width and surface coverage of the on-site roads should be determined according to the characteristics of the motor vehicles to be used and the traffic density.

On-site roads should be arranged according to working places and storage places. When planning roads, care should be taken not to intersect vehicle roads and pedestrian roads frequently.

Designing Mobilization Before Construction

The mobilization project should also include infrastructure facilities (water, telephone, electricity, sewerage, drainage, road), and should be hung in one or more places to be seen by everyone in order to minimize accidents that may occur during subsequent excavation or equipment movement.

Mobilization work program should be prepared.

Construction + electrical + mechanical manufacturing details and plans of the planned facilities should be prepared.

7.2 Measures To Be Taken In Emergency

Responsibilities

Responsibilities for the development, evaluation and implementation of the Emergency Preparedness Plan are as follows:

Site Manager : Responsible for general emergency management, including internal and external emergency response activities and corrective action. The Site Manager should provide adequate resources to respond to emergencies, including coordination with external factors and the provision of emergency response equipment . He is also responsible for external

reporting , including relevant government departments, vulnerable community groups, nearby facilities, and all internal "Safety" reporting.

Site Safety Representative - "health and safety enforcement coordinator" : Responsible for assisting the site manager in the coordination of response activities and assisting in follow-up activities , including accident investigation and corrective measures . The Site Safety Representative should also ensure that emergency response procedures are included in the site compliance program and that accident and leak reports and all reports regarding Emergency Planning are kept. Representatives fire prevention, well intervention spill preparedness and evacuation procedures including to ensure that changes are reflected in the Emergency Preparedness Plan. This person should check the emergency response equipment at least once a month and ensure that annual evacuation exercises are carried out [every 6 months according to the Occupational Health and Safety Regulation] .

Contractor Company Occupational Safety Program Manager : From the preparation of the Emergency Preparedness Plan, the Training of the Site Manager and the Site Safety Representative on the Emergency Preparedness Plan, from making annual assessments as part of the site supervision procedure and checking the emergency response plans specific to the site. is responsible for the

Coordination with External Factors

The first step in establishing an Emergency Preparedness Plan is to identify local emergency resources that can help the site in an emergency. These resources and services include:

Ambulance Service / Medical Technicians: Medical intervention

Fire Department: Fire response, pre-fire planning, rescue from limited area

Hazardous Material Response / Cleaning Groups: response to leakage

Local Emergency Planning Commission (if applicable): Collective warning / evacuation

Police / Gendarmerie: Strikes, bomb threats, unloading in bulk, directing traffic

Neighboring Facilities: Facilities provided through written agreements, fire brigade, hazardous material response team

Hospital: multiple or severe wounds (li) treatment

Other Emergency Services. Bad weather conditions (eg tornado, hose, dangerous storm warnings)

Local Media: Radio and television stations, emergency broadcast facilities and coordination with emergency response teams

Local emergency response authorities - authority for bulk evacuation and traffic routing

Information from each external emergency response team used should include: Address, interviewee, telephone number, how it was discussed, response time, facilities of the emergency source. The need for support or secondary resources should be defined as part of the assessment. Collection and verification of this information is necessary for preliminary planning and coordination in an emergency. The teams' name, address and telephone number should be on the Emergency Coordination Contact List . This list should be posted on the construction site.

Once emergency resources have been identified, the facility should coordinate these resources in order to be efficiently prepared for possible emergencies. The following list should include:

Joint meetings or meetings with emergency sources

Transmission of site plans, procedures and / or maps to the fire department or other response teams

Site tours to fire and medical emergency response resources

Training meetings, emergency exercises or simulations with fire, medical and limited area rescue teams .

If emergency response facilities do not exist to the extent required by the site, the site should create internal resources and internal response facilities, ie fire, medical and leakage response facilities.

Coordination with Customer / Facility

Construction sites in existing facilities should coordinate the emergency preparedness plan with the client / facility being worked. Emergencies in the customer / workplace may affect the project site and likewise in the field, the site may affect the operation. Communication lines should be established to ensure the delivery of important early warnings in emergencies. The alarm system used by the customer / facility must be

communicated to all personnel with intervention instructions as part of the site compliance training.

The client / facilities may also provide emergency response services such as fire response, first aid, limited area rescue, leakage response and emergency protection. An assessment should be made of the ability of the customer / employee facility to provide these services. An agreement should be reached on when and under which conditions emergency services can be used and how to contact them in case of emergency.

Education

All site personnel should be trained on site-specific emergency procedures . This training should be part of the site compliance training and should include the following areas:

Alarms and emergency communications used on site and / or customer / working facility depending on application

Evacuation procedures, including roads and assembly areas to be used

Accident reporting procedures

Location of first aid kits / supplies and identification of first aid providers

Chemical leakage reporting procedures on site

The site should review each emergency response procedure in order to determine which response operations the site personnel will perform . Due to the intensive training required by certain emergency response functions, the creation and use of site response teams should only be considered when external emergency response is not possible. Site emergency response personnel list should be filled in for all construction site first aid teams, leak response teams, members of limited area rescue teams and, if applicable, fire department. Additional training is required for personnel who will perform emergency response activities. The training requirements of emergency response personnel include:

First aid team: CPR , First Aid training course

Chemical Leakage Response Teams: Hazardous chemical training

Firefighters: A training equivalent to the training given in firefighting schools, refresher training should be done every three months.

Use of Fire Extinguishers : Annual refresher trainings on the use of fire extinguishers

Rescue from restricted areas : CPR and first aid training, use of personal protective equipment, use of rescue equipment, and recovery from limited area once a year.

Emergency preparedness exercises should be conducted to assess the efficiency of plan procedures and employee training. Drills will be performed on an annual basis . If the site is in an existing facility, the exercises should be coordinated with the client / employee facility. In this case, a joint emergency exercise should also be considered. The following are the right approaches for implementing the exercises:

The expected alarm or warning methods should be used in a real emergency.

Exercise staff should be informed.

The drill should be as close to the actual emergency as possible. Exercise procedures should be followed from beginning to end .

The exercise should be coordinated with external services or representatives to respond in a real emergency.

All exercises should be documented to certify their completion and check their efficiency. After the exercise, emergency procedures should be examined immediately to ensure that the findings are not forgotten or overlooked .

Emergency Teams

On-site The right equipment must be available at all times to effectively respond to emergencies . Preventive maintenance (inspection and testing) should be carried out in accordance with the manufacturer's recommendations to ensure that emergency equipment is readily available for use. Inventory should be completed and emergency equipment should be inspected on a monthly basis to ensure that equipment is available and functioning correctly . Emergency equipment on site must be checked periodically to reflect changing site conditions.

Alarm and Communication Systems

On-site, an alarm or other system (eg addressing the community, sirens, lights, etc.) is needed to inform personnel of emergency stops or a discharge is required . The evacuation notification system must be recognized by all personnel and must be different from signals, warnings , bells or lights used for other purposes on the site . Communication systems (eg telephone, radio, etc.) should generally be used as part of an emergency response procedure . A cheap megaphone is a practical alternative

to a continuous alarm system to be installed on the construction site. All alarms and communication equipment should be periodically checked and tested as necessary to ensure correct operation.

Fire Prevention and Extinguishing Equipment

Fire extinguishers are portable extinguishing equipment that allows people to intervene in small sized fires . Where fire extinguishers are to be used, there must be suitable conditions for proper selection, placement and maintenance (inspection and testing) of these units. The following conditions will be used to meet these requirements:

Selection - Fire extinguishers shall be selected according to the class of workplace hazards and their severity. Fire classes are: Class A - Ordinary combustibles, Class B - Flammable liquids, Class C - Flammable gases, Class D - Flammable metals. The size and capacity of the extinguisher should be based on the severity of the hazard.

Location - Fire extinguishers must be identified (eg easily visible) within the reach of personnel . Fire extinguishers should generally be placed in the entry areas where there is a risk of fire, but should not be placed close to the source of fire in case of fire. In large areas where there is a risk of fire, extinguishers should be placed within 15 meters of the fire source to ensure rapid response. The location of fire extinguishers should be clearly identified and must not be obstructed by parked vehicles or stored materials.

Maintenance (Inspection and Testing) - Portable fire extinguishers should be checked monthly for comfortable passage to check the physical condition and use of pressure, activation pin and handles. Fire extinguishers shall be subjected to maintenance control and hydrostatic testing in accordance with a defined program according to their type.

Training - All site personnel likely to use fire extinguishers should be trained on the use of extinguishers.

Chemical intervention equipment is required on construction sites where there is a danger of oil and / or chemical leakage / spillage . If the site agrees with a chemical leakage response service outside the site, the need to buy, store and maintain chemical response equipment will be reduced. However, a limited amount of chemical response equipment must be available to handle minor oil and chemical spills . Commonly needed chemical response equipment include

Monitoring and finding tools such as flammable gas indicator

Personal protective equipment such as gloves, breathing apparatus, footwear and protective clothing against chemicals

Obstacles such as drain cover to prevent leakage spread

Fine sawdust, sand, absorbent cushions or other absorbent material for removal of leaking chemical or waste

Vacuum pump to remove large amounts of leaking material stored in trenches or boats, or to remove the remaining material leaking slowly from a broken drum or tank

Tank or pipe plugs to stop leaking drums , records

The drums are stored or disposal of waste materials such as leaking or damaged drums to close the waste drum equipment . Open drums for solids and covered drums for liquids should be available.

Equipment should be placed within reach of leaks to be absorbed or blocked , and ready for immediate use. Periodic checks should be performed to ensure that these equipment is in place.

Emergency Procedures

evacuations

The following requirements must be met to ensure that all personnel are notified in an emergency and that the work area is evacuated properly.

Alarm or other notification system to notify personnel of an emergency

Clean passageways to ensure that staff leave the work area safely

Convenient travel distances for fast and efficient unloading

Pre-determined collection areas and counting procedures

When selecting the collection areas, attention shall be paid to the following: against wind from plant buildings to avoid exposure to toxic gas or smoke in the event of chemical leakage or fire (where applicable); Working areas are close to the main access roads; When emergency vehicles arrive, be away from the main construction site access roads to prevent congestion and confusion; be large enough for people gathered in the venue. If the project is carried out in an existing facility, the locations of the gathering areas are coordinated by the client / worked facilities.

Once the site has been evacuated, the presence of all individuals must be counted immediately and accurately. Each contractor and subcontractor must have an individual responsible for inviting employees.
When the census is completed, the main Contractor will be forwarded to the Site Manager, if not, the main Contractor will be forwarded to the Site Safety Representative. If there is someone who is not believed to be stuck in the construction site, this information should be communicated to response teams immediately. Emergency response teams should look for missing persons; uneducated and unprotected employees should not be allowed to re-enter the work area to participate in the search.

fires

Fires can affect the entire work area, but many fires can also be avoided. Fire prevention activities include minimizing or eliminating possible causes of fire. The existence of these resources should be carried out throughout the project to ensure that changes in the construction site are taken into account and to take fire prevention steps. These investigations should be conducted at least quarterly.

After a fire has been identified, procedures must be followed to trigger the alarm, notify response personnel and leave the building . Employees who notice new fires should immediately inform the external fire department . Employees can extinguish a new fire with a fire extinguisher, but should not attempt to extinguish larger fires, including walls or other structures of the building, which require special equipment and training to extinguish. Employees should attempt to extinguish the fire with the extinguisher only when the following conditions are met: (1) there is an open exit when the fire continues to grow, (2) when the fire department is called or is being called, (3) when the worker is trained to use the fire extinguisher; if the extinguisher is running.

Fires that cannot be extinguished by an extinguisher by an employee must be extinguished by the external fire department . As a general rule, if there is no fire department within 15 minutes of the site , the site must be a fire brigade or be able to reach a fire brigade as a result of mutual assistance agreements.

Medical Emergency

In the absence of infirmary, health center, clinic or hospital, all facilities should have basic first aid equipment on site and an employee trained to perform first aid and

cardiac massage [At least one out of ten persons should receive basic first aid training!]. In all places, especially those with unacceptable intervention times, two persons should be available to manage first aid and cardiac massage on each shift. If site personnel are trained and responsible for providing first aid, appropriate personal protection equipment and protection measures against bloodborne diseases should be provided.

Medical service facilities near the construction site should be evaluated. These include ambulance / emergency medical services, clinics, proximity to hospital, continuously open emergency rooms, intensive care, burn unit, and so on. special services such as In addition, the street address, telephone number, how to get there (and / or map) of the medical facility should be posted or made available. In order to know if this service will be used immediately, it is important that each external medical intervention team responds or takes time.

An important point in preparing for any emergency medical situation is to prepare for the possible transmission of blood-borne diseases. To reduce exposure to blood-borne diseases

, an exposure control program should be implemented to provide training in engineering and application controls, the use of personal protective equipment, cleaning methods and disposal of medical waste . Employees exposed to risk should be trained on annual blood-borne diseases.

Interference to chemical or other leakage can be very different and may include requirements of various rules. Interventions and their procedures also depend on the nature and quantity of leaking materials.

In order to determine the level of the necessary leakage response facilities, it is necessary to first determine which chemicals are present in the site and in what quantities. The determination of the danger posed by each chemical material safety data sheet (MSDS / MSDS) and chemical (s), labels (ri) may be used. The facility must use chemical hazard information to determine which chemicals can create an emergency to plan chemical response. In general, flammable (eg solvents, gasoline) , bulk, toxic, corrosive, explosive or radioactive chemicals should be concentrated .

Once chemical hazards and their possible effects have been identified, measures should be taken to control the occurrence of these events. Sites, to provide intervention

services to chemical hazard situation and / or consider the use of external intervention service (yl) is Mel . External intervention services should be preferred where the facility cannot intervene in an event or where additional support services are required. These services may include the local fire department , hazardous material teams, or chemical response units where available, and should be intervened within the appropriate time, depending on the leaked or spilled chemical.

Due to the intense training and equipment requirements required to form an on-site response team , staff will only be able to respond to minor leaks. A minor leak can be defined as an event that can be controlled by personnel working in that area or that does not present a health or safety hazard. The magnitude of the leakage and the nature of the spilled material are essential in determining when to use an external emergency response service in spills or spills.

In case of oil or chemicals leakage, the following precautions shall be taken as appropriate:

Site management and control includes isolating the area and prohibiting access by persons other than intervention personnel using appropriate personal protection equipment .

The definition of the material includes the type of material, the volume of the material being poured , and where the material is poured (for example , pouring onto the ground, soil or waste).

Hazard and risk assessment can be determined in consultation with the material safety data sheet.

Depending on the selection of personal protective equipment and clothing , the definition of materials and risks, the necessary personal protection equipment for response activities should be identified. Materials MSDS / MSDS should be used in determining the appropriate level of personal protective equipment to be used.

The control of the spilled material can be done in various ways depending on the leakage. This may include closing the valves, reducing the pressures of the tanks, transferring the product, patching or clogging the source of the leak, or using absorbent materials to absorb or remove the leakage material.

Treatment is the process of removing spilled material from equipment and materials and personal protection equipment worn by response personnel.

The result of the events required to form a legal document contains criticisms and event monitoring.

Spill of some materials should be reported to groups, Occupational Safety .

{If life doesn't go the way you want it, remember you're at the wheel… Marlynn Longsdon }

Weather-Related Emergencies

Weather-related emergencies that may affect project sites are tornadoes or typhoons, hoses, floods or severe storms. The local weather station (meteorology) should be contacted to assess the likelihood of one of these events.

Hurricanes or typhoons are very severe storms in the tropics. Heavy rain with it brings big waves of storms on the coast and can cause hoses. Construction sites that are exposed to hurricanes or typhoons should address several points in establishing intervention procedures :

Early warning and accurate storm monitoring are very important and weather information should be available to the construction site by radio or television regarding the route of severe storms.

Co-ordination with local emergency management organizations that plan to evacuate the community may also be necessary. When adequate warning is given, it must protect equipment and structures outside the construction site .

The site should also determine whether the records and computers are to be safely stored in the field or if they need to be taken to a safer location .

When the evacuation decision is made, the site personnel should leave the site and go to a safe place .

After an emergency, appropriate personnel should determine whether it is appropriate to return to the job site. Before starting work, all structures , including scaffolding and equipment such as platforms and cranes, must be checked.

Construction sites that may be affected by hoses should:

The weather information should be reached and the information and warnings regarding the hose should be heard.

If a hose warning (indicating that a hose is observed or detected by radar) is given, the site personnel must be warned.

Shutdown procedures should be initiated and personnel must evacuate to a site on or off site.

A structural engineer or representative of the local emergency management organization can assist in identifying safe areas suitable for the site. Secure areas below the ground are recommended, but small rooms or corridors on the lowest floor away from doors and windows, and rooms with brick or concrete walls and ceilings are considered safe. Conference rooms, cafeterias or large rooms with flat large ceilings and light modular offices and modular homes are not considered safe.

After an emergency, damage must be identified and repaired. Before starting work, all structures , including scaffolding and equipment such as platforms and cranes, must be checked.

Many construction sites may be exposed to heavy storms , including heavy snow, ice, heavy wind , frost, and road closure, structural damage or power outages. In areas where severe storms are expected, the following should be applied:

Be aware of changing weather conditions and have procedures for early release of employees .

In addition, shelter should be provided to protect the workers on site.

After an emergency, the damage must be repaired, and parking, roads, walkways, platforms, piers should be cleared of ice.

Floods: Floods are among the most common and widespread natural disasters and in many places a degree of flood may occur after winter snow melts, spring rains and severe storms. Many floods occur slowly over a few days, but sudden floods that can occur in very heavy storms can occur within minutes. To determine if the construction site is flooded (1) The history of flooding in the region, the source should be considered the height of the region by rivers or dams or to be contacted by local emergency management organizations, and (2) should take precautions against flooding on site and bin intervention procedures should be established. Site flood response procedures should address :

How to follow up on-site flood alerts

How to coordinate actions with the community emergency plan

Staff should be aware of the ways in which the community is emptied and where a higher ground can be found.

Warning and evacuation procedures should be established and include assistance to personnel in need of transport.

Procedures for implementing emergency flood measures

Higher relocation of movable material procedures

If the water level drops, damage must be identified and repaired.

Excavations exposed to the flood are extremely unstable. Before starting work on a excavation, the soil must be re-tested and the slope systems checked and corrected.

Earthquakes: Earthquakes occur suddenly and without warning. It can cause serious damage to buildings, damage public services and communications, and cause landslides, floods and fires. In earthquakes, falling objects such as lighting fixtures, ceilings and parts can be a major hazard. If the site is likely to be affected by earthquakes, necessary measures should be taken to minimize the associated risks:

For new buildings or major renovations, local or legal safety rules must be followed, and construction (civil) engineers should be consulted to inspect the site to obtain appropriate recommendations.

Potential damage to critical processes (electrical, pressure pipes and tanks, fire and cooling water systems, electrical circuits, hydraulic lines) and communication systems that may lead to secondary emergencies should be assessed.

Damages due to falling, flowing or breaking of the material should be minimized by keeping heavy materials on low shelves or on the floor, shelving, high furniture, table top equipment , lighting fixtures, large equipment and heavy machinery to the floor or wall.

Exercises and training are particularly important to secure the lives of employees. Because earthquakes occur with little or no warning, and an intervention cannot be coordinated until the earthquake ends.

Employees should be taught to hide under a solid furniture such as a desk or lean against an internal wall. Outside, they should go to an open area away from buildings, street lamps and power lines.

The response procedure should be initiated after the earthquake . These; determining whether a discharge is required. If there is a discharge, the alarms should be triggered and the personnel should go to the designated areas in the plan.

If there are missing personnel as a result of the census, the intervention personnel should be informed to search for the missing person.

Damage on site must be identified and repaired. Before starting work, all structures , including scaffolding and equipment such as platforms and cranes, must be checked.

Procedures should be applied to rescue the occupants in case of emergency in the construction sites where personnel enter the restricted area . Limited area rescue may only be performed by personnel trained in limited area rescue and with appropriate personal protection equipment. Arrangements for recovery from limited space can be made by external groups such as the customer / employee facility or local fire department . External services should be able to arrive in sufficient time for effective recovery and be adequately equipped for recovery. In either case, the Limited Area Rescue Team must be established before any entry into the limited area. Medical assistance should also be provided as required.

Excavation Recovering From Collapse

In case of collapse of personnel , emergency medical and rescue services such as local fire department and civil defense directorates should be contacted immediately. Since excavation can continue to collapse, construction site personnel are not allowed to enter the excavation for rescue purposes. Mechanism equipment will not be used for rescue, as there may be additional injuries.

Rescue from height

Rescuing from height may be necessary if personnel remain in elevators, platforms, working areas at high altitudes, scaffolding or as a result of a fall. Where rescue from a height is required, fire department should be contacted to perform rescue . When the rescue team is called in order to ensure that rescue teams come with appropriate response teams, the place and height of the personnel should be clearly indicated. Rescue can be performed on site if personnel can be reached using a safe ladder. Rescue will not be carried out unless it is unlikely that personnel will be rescued from unbalanced equipment or accessed by a ladder. Injured or shocked workers will only be rescued by external rescue teams to avoid further injury to victims and rescuers.

Civil Problems

Civilian problems, such as bomb threats, sabotage and strikes, occur with very little warning and threaten the safety of employees. In such cases, interventions such as discharging may be similar to interfering with a fire or natural disaster. Civil problems also include specific conditions that affect responsibilities. For example, interruption of communication or alarm systems may require alternative procedures to alert employees . Appropriate intervention in such situations requires pre-planning and procedures to be communicated to employees and coordination with local police / gendarmerie and emergency services.

In the event of security threats, such as a civilian problem or attack, the local police / gendarmerie will be notified immediately. Unless the police / gendarmerie arrives, dealing with potentially violent personnel will not be carried out by anyone , including security personnel .

The following steps should be taken when threat phone calls arrive on site:

The person answering the phone should keep his calm and try to get as much information as possible.

The information collected should be written.

After a threatening and disturbing phone call, the person who has opened the phone must immediately notify the site manager and the police / gendarmerie. This interview should not be told to anyone unless instructed by the site manager.

Employees who are likely to receive external telephone calls, such as site managers or office managers , should be trained in these procedures .

Post event

reporting

All incidents, fires, explosions, property damage, oil or chemical leakage and incidents close to major accidents must be reported to the main Contractor Occupational Safety Specialist / Manager.

Press Relations

Media / public relations of emergencies should:

Appointment of a person in charge of relations with the press and conducting all contacts with the press.

This person should be trained in the relationship with the press.

An assistant press officer should be appointed to assist the press officer in the written or verbal statements. All descriptions must be made or approved by the site manager.

Establish a procedure to control the entry of the press to the construction site . In general, no one except the intervention teams should be allowed to enter the site while an event is in progress.

Employees and workers to deal with the demands of family procedure to create

Develop procedures to ensure effective use of the press to communicate emergency needs and current situation

After emergency workers or to deal with concerns or demands from society for the procedure to create

Establish procedures to address questions of chemical or smoke poisoning from the community or emergency authorities .

SECTİON-8

8.2-Worker protection

The use of *Personal Protective Equipment* is very important to prevent accidents and diseases in construction sector as in other sectors. In the US, the economic cost of accidents and diseases varies between *$ 10-40 billion per* year. This is indeed a very important figure.

Some deaths and serious injuries in the construction sector are caused by falling objects in the head. *Helmets , helmets* and *helmets ,* which are constantly used as *head protection* equipment, must be used in the construction site against such accidents .

As described in the previous sections, workers in the construction sector are exposed to chemicals such as glues, adhesives, glues, asphalt, tar and solvents, as well as working in dust and sand containing silica and asbestos.

Respirators and *respirators* with *respiratory protection must* be *worn* against all these hazards .

Conversely, extremely dangerous diseases such as *silicosis* * and *asbestosis* * can be caught. Therefore, measurements should be made in environments where dust and gases are present.

Noise has actually started to cause significant damage with the increasing number of machines used in the construction sector. In particular, machinery, cranes, graders and buckets used during demolition of buildings cause *hearing* problems not only for workers who use the machinery, but also for workers in the environment and other people .

Therefore *hearing protection* equipment with *headphones* and *earplugs* should be used. Measures should be taken and the measures specified in the noise regulation should be taken.

Construction works can be carried out in cold, hot, dry and humid environments. For these reasons, *protective clothing* suitable for the environment should be used. *Eye protection goggles, masks* and *shields should* be used to prevent burrs and non-ionizing *ultraviolet radiation* (UV radiation) during frequent welding work . In addition, some accidents that occur during construction work are caused by falls.

Falls are extremely dangerous and may result in disability and death. *Seat belts* must always be used when working at height .

Construction sector is a sector where accidents and diseases are high when employees do not work with protection. **When the safety measures are** not taken in the **construction sector**, the most important problems that cause death and serious injuries are falling and hitting the head. In the same way, the fall of the workers working in the so-called working at height is among the bad situations encountered in the construction sector. Sand, adhesives and dust to the workers in the construction site cause respiratory discomfort.

On the other hand, noise is a factor that affects the health of workers negatively.

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