



**ENVIRONMENTAL IMPACT ASSESMENT OF CAPITAL ICON MALL
AND RESIDENCY PROJECT, MOUZA LOHI BHER ISLAMABAD**

Final Report

April 2021



Project Procurement International (PPI)

Office # 26, Second Floor, Silver City Plaza, G-11 Markaz, Islamabad

Telephone: 051 236 3624; Cell: 0300 8540195; Fax: 051 236 3624

E-mail: projectpi@gmail.com; Web: www.projectpi.pk

Executive Summary

Title of the Project

This report presents the findings of “Environmental Impact Assessment of Capital Icon Mall and Residency Project, Islamabad Expressway, Mouza Lohi Bher, Zone V, Islamabad”.

Location of the Project

Capital Icon Mall and Residency is located near Islamabad Expressway, Mouza Lohi Bher, Zone V of Islamabad. The project site can be accessed from Islamabad Expressway via a service Road.

Name of Proponent and Organization preparing the Report

Curvestone Builders (Pvt.) Ltd. is the proponent of the project.

In order to comply with the regulatory requirement of federal environmental laws of the government of Pakistan, Curvestone Builders (Pvt.) Ltd. the proponent of the project, has acquired the services of Project Procurement International, an Environmental and Management Consultancy Firm, to conduct an Environmental Impact Assessment (EIA) of the project.

Outline of the Project

The objective of the project is to develop a mall and residential building to facilitate the population of Rawalpindi and Islamabad with state-of-the-art housing and commercial area with all the required facilities in one place.

Capital Icon Mall and Residency Project will comprise of 20 storey building (2 basements, Lower Ground, Ground plus 16 Floors) which will be constructed on a 40,500 sq (150' x 270') plot with a total height of 221 feet.

The proposed project will be developed in two building blocks i.e., Front Block and Rear Block. These Blocks will consist of residential apartments with 5 % commercial use on the Ground, First and Second Floor of the Front Block.

The commercial area is restricted to Ground Floor, First Floor and Second Floor of the Front Block and will have 33 shops only.

The total covered area of the Front Block is approximately 544,114 sq. ft whereas the total covered area of the Rear Block is 288,164 sq. ft. The proposed project will have 205 apartments in the Front Block and 226 apartments in the Rear Block. The proposed residential buildings will have 431 apartments, of which 172 are one-bedroom apartments, 193 are two bedroom apartments, 60 are three bedroom and the remaining 6 apartments are four-bedroom.

The facilities provided by the Curvestone Builders (Pvt.) Ltd. includes a car parking facility with a total parking slots of 603 cars.

The cost of the project is Rs. 8 Billion and will be completed in 3.5 years.

Environmental Baseline Conditions

In order to assess and evaluate the impacts and related mitigation measures, in the project area, existing conditions of the physical, biological, and socio-economic environment were studied as under:

Physical Environment

Topography: Islamabad is located on the Northern edge of the track known as Potohar Plateau. The Potohar Plateau has an uneven table and land is gradually rising in elevation from 500 to 600 meters above sea level, and the highest point is 1,600 meters above mean sea level. The land gradually slopes towards the South. The land is composed either of alluvium (clay or silt) or of gravel caps. The plains are formed of alluvial deposits laid by the past and the present river systems in varying thicknesses. A large part of the area is undulating, and at various places, it is badly dissected by gullies and ravines. The Korang River has been dammed at a place named Rawal to form the Rawal Lake. Another dam has been built on the Soan River to form the Simly Lake.

Geology and Soil: The project site strata mainly consist of silty clay underlain by sand and boulders/rock beds.

Land Use: The project site comprises of barren land with scarce vegetation.

Surface Water: There are two surface water bodies in the project area. Korang River is located in the north and Soan River in the south of the project site.

Ground Water: Ground Water is available at a depth of 110 – 150 ft in the project area. There are some housing societies such as Soan Gardens, Jinnah Gardens, and PWD housing society in the project area and many housing societies are about to be developed in the future. All of them will use groundwater for water supply.

A chemical testing of ground water at the project site was conducted. The samples of ground water were collected on 17th March 2021 and were received by the Environmental Services Pakistan on 18th March 2021 for analysis. The parameters that were analyzed include pH, Total Dissolved Solids, Chloride, Copper, Manganese, Zinc, Aluminum, Boron, Barium, Fluoride, and Nitrate whose concentrations were 7.1, 594 mg/L, 46.0 mg/L, 0.017 mg/L, 0.005 mg/L, 0.026 mg/L, 0.154 mg/L, 0.180 mg/L, 0.2 mg/L, and 2.45 mg/L respectively.

Apart from these parameters, the color, taste, odor, turbidity, hardness was also tested, and it was found that all these parameters are within the permissible limit.

Climate: Islamabad has distinct seasons marked by the wide variation in temperature. The climate remains very salubrious from April to October, but the winters get very cold due to snowfall in surrounding areas (especially in Murree). The coldest months are December, January, and February. The hottest months are June and July. Rainfall in April and May is occasional, but the heaviest rain is in July and August.

The temperature of capital territory Islamabad ranges between -1 °C to 46 °C. The coldest month is January when the mean maximum temperature is 18.3 °C, and the mean minimum is 3.8 °C.

From February to May the temperature rises at the rate of 5.0 °C per month. The highest temperature reached in May when the mean maximum temperature remains 39.1 °C.

Air Quality: The ambient air and noise level monitoring was conducted on 18th March to 19th March 2021 for 24 hours at the project site of Capital Icon Mall and Residency Project, Mouza Lohi Bher, Zone V, Islamabad.

The ambient air quality and noise monitoring was carried out by EPA Certified laboratory, Environmental Services Pakistan (ESPAK).

The average 24-hour CO, SO₂, O₃, NO, NO₂, PM_{2.5}, PM₁₀, and TPS were recorded as 1.0815 mg/m³, 20.27 ug/m³, 4.04 ug/m³, 12.1 ug/m³, 21.93 ug/m³, 28.74 ug/m³, 142.19 ug/m³, 263.61 ug/m³ respectively.

The ambient air quality monitoring results indicate that the parameters for ambient air quality are within the NEQS limits.

Noise and Vibration: At present, there is high traffic in peak time at Islamabad Expressway, which is approximately 200m from the project site. The 24-hour monitoring period for noise level was carried out at the project site. The low noise level was 44.4 dB at 1:57 AM, and the highest was 58.6 dB at 8:57 AM, which corresponds to the high traffic load on Islamabad Expressway. The average sound level was recorded to be 50.9 dB for the 24 hours period which is within the compliance limits of NEQS (i.e., 55 dB). During the construction of the project, special care will be taken for noise and vibration.

Ecological Environment

Flora

The vegetation of Islamabad is a representative of Dry Subtropical Scrub Forest which is dominated by *Acacia Modesta* (Phulai), *Ziziphus mauritiana* (Ber); *Ziziphus nummularia* (Mullah), etc. Other associates existing in varying proportions include *Prosopis cineraria* (Jand), *Melia Azadirachta* (Dharek); *Morus alba* (Mulberry-Shahtoot); *Dalbergia sissoo* (Tahli-Shisham); *Acacia nilotica* (Kiker). In the undergrowth *Cannabis sativa* (Bhang), *Calotropis Procera* (Desi Ak), *Parthenium hysterophorous* (Gandi Booti) and *Ocimum bacilicum* (Niazbo) are predominant.

The project site has very little vegetation and mostly comprises of local grass.

Fauna

In its original form, the Dry Subtropical Scrub Forest constituted the habitat of wild fauna consisting of a host of animals and birds. As the disturbance increased to a maximum level with complete inhabitation, wildlife abundance and diversity decreased to a minimum degree. Mammals commonly found in the project area are Rat, Wild boar and Porcupine, birds include Quail, House Sparrow, and House Crow and reptiles common in the area are Monitor Lizard, and Spin tailed lizard.

Protected Areas/National Sanctuaries

Lohi Bher Wildlife Park is located at a distance of 6.3 km north of the project site. Lohi Bher Wildlife Park was established on 687 acres in 1992 at Loi Bher reserve forests on the hilly sloped region running across river Kurang.

Socio-Economic and Cultural Environment

The socio-cultural and socio-economic conditions of the project area, namely Soan Gardens, Jinnah Gardens, and PWD housing society is described in the report. These are the localities, which may get direct positive or negative impacts from the development of Capital Icon Mall and Residency Project.

Public Consultation

During the public & stakeholder consultation, meetings were held with the concerned officials at CDA, Lohi Bher Wildlife Park, and university academia (NUST), and community living around the project site. The project activities impact the physical, biological, and socio-economic environment of the project area were highlighted to them. Stakeholders concerns regarding various aspect, existing environment, and

impacts of the project were noted, and mitigation measures are proposed in the EIA report.

Generally, the people of the project area are in favour of the project and stated that this project would develop and create business opportunities. People welcomed the Capital Development Authority's decision of expansion of Islamabad Expressway and stated that this will reduce the traffic issue the project area is facing.

Major Impacts and Recommended Mitigation Measures

Physical Environment

Impacts: Soil-related issues include soil erosion, slope stability, and soil contamination. The land excavation and filling, construction activities and maintenance of equipment/vehicles may cause these issues. The quality of soil would be affected, as soil contamination would occur because of the disposal of untreated wastewater or direct disposal of chemical and onsite preparation of materials. Oils, chemical spills, and waste from campsites may also deteriorate the quality of the soil.

Dumping of construction wastes/excavated material, in the surrounding area, may limit the use of land in the project area. The solid waste may be generated due to different construction activities, and it will mainly include surplus excavated and construction material.

Land-use change is expected during the construction phase, one at the burrow areas and others where the spoil material will be disposed of.

Construction machinery and project vehicles will release exhaust emissions, containing Carbon Monoxide (CO), Oxides of Sulfur (SO_x), Oxides of Nitrogen (NO_x), and Particulate Matter (PM). In addition, various burning activities involved in road construction will also cause air pollution.

These emissions can deteriorate the ambient air quality in the immediate vicinity of the project site. Furthermore, construction activities such as excavation, land leveling, filling and vehicular movement on unpaved tracks may also cause fugitive dust emissions.

Noise and vibration will be generated by construction machinery and vehicles.

The quality of water may deteriorate in the area. During the deep excavation, the aquifer may be hit, and the quality of water will be depleted. Because of the preparation of construction material on-site, leachate may be produced and percolated through the soil. It may then reach the water table and contaminate the water that may be consumed by the local people.

Capital Icon Mall and Residency Project is being developed on a vacant plot in an area with a mixed commercial and residential setting along Islamabad Expressway. There is a need to implement mitigation measures during the construction and operational phase to minimize the potential negative impacts on these areas.

Mitigations: Soil erosion can be minimized by appropriate land clearing, levelling, and grading. Excavated slopes will not be left untreated/unattended for long durations, and appropriate slope stabilization measures will be taken as per the design.

For the domestic sewage from the contractor's camp, a septic tank with soaking pit will be constructed having adequate capacity. Waste oils will be collected in drums and sold to the recycling contractor.

The recyclable waste from the project site (such as cardboard, drums, broken/used parts, etc.) will be sold to recycling contractors, or where appropriate to reuse/recycle it. The hazardous waste will be kept separate and handled according to the nature of the waste. While storing, hazardous waste will be marked.

Appropriate sewage treatment mechanisms such as septic tanks of adequate sizes will be incorporated in the design for the treatment of sanitation water where the municipal sewage system is not available or does not exist.

Water quality analysis will be carried out at the project site and at campsite quarterly during the construction phase.

Ecological Environment

Impacts: The area allocated for Capital Icon Mall and Residency Project has limited natural vegetation cover with no trees. It is a vacant plot with scarce shrubs on project site boundaries. No tree will be cut during the project while the shrubs will be cleared before the construction phase.

The project site is located in an urban area. The loss of natural vegetation and other project activities will potentially have limited adverse impacts on the faunal resources and habitat of the area as well. The construction of the project will ultimately cause them to leave the area and move to other locations.

Mitigations: M/s Curvestone Builders Pvt. Limited will implement recommended mitigation measures to ensure minimal impact on the aesthetic beauty and vegetation of surrounding areas.

The plantation plan is recommended for the beautification of the project area. It will not only provide an aesthetic view but will also improve the natural vegetation cover and sequester carbon dioxide from the atmosphere.

All preventive measures will be adopted to control the spill-over of chemicals and other effluents on the ground to protect soil fauna and ensure microbial activity in accordance with NEQS.

Socio-Economic Environment

Impacts: The project is located in a mixed residential area may pose some safety hazards to the local population situated near the project area, during the construction phase of the project.

Construction workers may be susceptible to the eye and respiratory diseases due to their routine exposure to dust and exhaust emissions on site. Injuries could happen primarily by occupational-related accidents, animal bites, etc. Activities such as land clearing, earthworks, and construction of facilities present various occupational hazards to the workers on the project site.

There are no reported sites of the archaeological or historically significant site at the project site. However, in case an artifact of such significance is found during the construction activities, the Archeology Department, the Government of Pakistan will be informed.

Mitigations: Eye and respiratory diseases will be mitigated through routine health screening and training of contractor's employees. The physical injury will be mitigated through the provision of appropriate training and emergency response procedures. Protected fencing will be fixed around the construction site.

The provision of Personal Protective Equipment (PPE) to the workers will be ensured. Protective fencing will be fixed around the construction site.

Unauthorized access within the construction area will not be allowed. Vehicle speed of 20 km/hr at the project site will be implemented. Appropriate light diffusers and reflectors will be used, if required, to minimize the public nuisance caused by light pollution.

Environmental Management Plan and Proposed Monitoring

The purpose of the Environmental Management Plan (EMP) is to minimize the potential environmental impacts due to the project. The EMP reflects the commitment of Capital Icon Mall and Residency Project to safeguard the environment as well as the surrounding population.

The EMP provides a delivery mechanism to address the adverse environmental impacts, to enhance the project's benefits and to introduce standards of best practices to be adopted for all phases of the project.

Curvestone Builders (Pvt) Ltd will prepare a Quarterly Environmental Monitoring Report of project activities that will be carried out during the construction phase of the project. These reports will be submitted to the Pakistan Environmental Protection Agency, Government of Pakistan for their review and consideration. The total estimated Environmental Mitigation and Monitoring Cost is **Rs 7.978 million**.

Conclusion and Recommendations

On the basis of the overall impact assessment, more specifically, nature and magnitude of the residual environmental impacts identified during the present EIA, it is concluded that Capital Icon Mall and Residency Project can mitigate potential negative issues provided that the project activities are carried out as mentioned in the report, and the mitigation measures included in this report are completely and effectively implemented.

There are no remaining issues that warrant further investigation. This EIA is considered adequate for the environmental and social justification of the project.