ENVIRONMENTAL IMPACT ASSESSMENT

OF

PAKLAND TOWER II PROJECT, NEW BLUE AREA, SECTOR G-9, ISLAMABAD

Final Report

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Executive Summary

Title of the Project

This report presents the findings of "Environmental Impact Assessment (EIA) of Pakland Tower – II Project, New Blue Area, Sector G-9, Islamabad".

The EIA study aims to identify the possible environmental and social impacts of the proposed project on its immediate surroundings on both short and long-term basis, suggesting mitigation measures and identifying responsible agencies to implement those measures.

Location of the Project

The project site is located on Plot # 4, New Blue Area, Sector G-9, Islamabad, on land measuring 18,000 sq. ft. (180'x100'). The project site can be accessed from Ibn-e-Sina Road from the south, and through Jinnah Avenue from the north side of the project site. The coordinates of the project site are 33°39'58.84"N, 72°59'52.56"E.

Name of Proponent and Organization preparing the Report

M/s Pakland Builders, Islamabad is the proponent of the project.

M/s Project Procurement International, an Environmental and Management Consultancy Firm, Islamabad has prepared the Environmental Impact Assessment of Pakland Tower - II project.

Outline of the Project

Pakland Builders intends to construct a "Pakland Tower II" at the New Blue Area, referred to as the New Business District of Islamabad, along Jinnah Avenue and across the F-9 park.

The project is a 17-storey commercial building (3 basements + Ground + 13 Floors+ 1 Service Floor), with a height of approximately 197 ft. It will be constructed on a land measuring 18,000 sq. ft (180' x 100').

Pakland Tower - II will comprise 275 offices of different sizes (11' x 38", 11' x 33', 22' x 38') and 6 shops. The covered area of the building is 143,958.54 sq. ft and will be an exclusively commercial building.

There will be 275 offices and 6 shops in Pakland Tower - II project. The estimated population of Pakland Tower - II project will be 1,122.

The total water requirement is 130 cubic meter/day considering all the units while the total electricity load of the building will be 1.47 MW. The source of water will be CDA supply line, and IESCO will provide the electricity connection.

The total cost of the project is Rs. 800 million and will be expected to be completed by July 2023.

Environmental Baseline Conditions

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

Physical Environment

Topography: The topography of Islamabad consists of plains and mountains. The northern part of the metropolitan area comprises the mountains terrain of the Margalla Hills. Rawal Lake lies in the northeast just below the hills. The southern portion of this city is an undulating plain drained by Korang River followed by its tributaries. Towards the east is a relatively flat area with bare soil and settlements.

The project site is a plain land bounded by Ibn-e-Sina Road to the south and Jinnah Avenue to the north.

Geology and Soil: The Potohar region has a complex geological history of mountain formation, alluvial-loessic depositions, and erosion cycles. Limestone is the characteristic rock of Margalla range. In age, it ranges from the Jurassic to Triassic. It is usually reddish or bluish-white, mixed or alternating with its beds of red or bluish clay or shades or sandstones. Adiala, Dhamial-Loibher forests are situated over alluvial deposits. The deposits contain small-sized rounded pebbles of sandstone, quartzite or granite and sand mixed or alternating with clayey deposits. They have been described as alluvial deposits, but it is equally probable that they have a glacial origin.

The project area's soil is composed of clay/silt formed of alluvial deposits laid by the past and present river system in varying thickness.

Surface Water:

The Soan and Kurang Rivers are the main streams draining the area. Their primary tributaries are the Ling River, draining north-westward into the Soan; Gumreh Kas, draining westward into the Kurang from the area between the Kurang and Soan; and Lei Nala, draining southward into the Soan from the mountain front and urban areas.

The Kurang and Soan Rivers are dammed at Rawal and Sambli Lakes, respectively, to supply water for the urban area. Extensive forest reserves in the Kurang and Soan Rivers' headwaters benefit the quality and quantity of water supply.

There is no nullah or other surface water resource in the vicinity of the project site.

Ground Water: The groundwater depth in the project area varies from 200 – 250 ft.

Land Use: The project site can be classified as non-agriculture land.

Seismic Risk: Islamabad region can be divided into three major structural zones. The mountainous north, including Margalla Hills, is complexly folded and thrust along the Hazara Fault Zone. Southwards the mountains are a sloping piedmont bench that is truncated in sandstone and shale. The Soan River flows along the axis of Soan syncline. Islamabad lies just at the edge of Hazara Fault Zone, consisting of an arc of thrusted and folded rocks about 25km wide and 150 km long that is convex to the south and extends west-southward away from the Himalayan syntaxis. There are many thrust sheets in the Islamabad area. Some of these thrust faults are in front of Margalla Hills which extends north of Fatehjang and form Kala Chita Range.

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. 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 ^{0}C to 46 ^{0}C. The coldest month is January when the mean maximum temperature is 18.3 ^{0}C, and the mean minimum is 3.8 ^{0}C.

From February to May the temperature rises at the rate of 5.0 ^{0}C per month. The highest temperature reached in May when the mean maximum temperature remains 39.1 ^{0}C.

Air Quality: The ambient air and noise level monitoring was conducted on 27th January to 27th January 2021 for 24 hours at the project site of Pakland Tower - II.

The ambient air quality and noise monitoring was carried out by EPA Certified laboratory, ESPAK.

The concentrations of SO_2, CO, NO, NO_2, O_3, PM_{10}, and $PM_{2.5}$, concentrations (i.e., 20.367 µg/m^3, 0.504-1.818 mg/m^3, 11.584 µg/m^3, 21.158 µg/m^3, 0.054-15.054 µg/m^3, 134.163 µg/m^3, 239µg/m^3 and 27.464 µg/m^3) meet the NEQS limits (i.e., 120 µg/m^3, 5 mg/m^3, 40 µg/m^3, 80 µg/m^3, 130 µg/m^3, 150 µg/m^3, 35 µg/m^3).

Noise and Vibration: The averaged noise level during daytime was 54 dB and 43 dB during night time. The slight spike in noise levels can be attributed to the traffic on Ibn-e-Sina Road and Jinnah Avenue and the construction activities adjacent to the proposed project site. 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 plot area does not have any tree. In the vicinity of the plot there are 9 trees of Amaltas along Ibn-e-Sina and a few shrubs. However, the trees will not be cut or harmed.

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. Mammals commonly found in the project area are Rat, Wild boar and Pocupine. Birds include Quail, House Sparrow and House Crow and reptiles common in Monitor Lizard, and Spin tailed lizard.

Socio-Economic and Cultural Environment

The socio-cultural and socio-economic conditions of Islamabad has been described in the report. This area may get direct positive or negative impacts from the construction of Pakland Tower II Project.

Public Consultation

During the public consultation, meetings were held with the concern officials at CDA, IESCO, Emergency and Disaster Management Directorate, National University of Sciences & Technology, Islamabad, Real Estate Dealers and business owners 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.

Much of the public consultation process has revolved around concerns for the mitigation of construction stage and operational stage impacts. The information obtained from the community was used to identify concerns and issues that have been subsequently mentioned and addressed in the EIA report.

Major Impacts and Recommended Mitigation Measures

Physical Environment

Impacts: Soil-related issues include soil erosion, slope stability, and soil contamination. The land clearing, levelling and grading, excavation and filling, construction activities, and equipment/vehicles maintenance may cause these issues. The soil quality 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 the construction site may also deteriorate the soil's quality.

Dumping of construction wastes/excavated material in the surrounding area may limit land use in the project area. The solid waste may be generated due to different construction activities. 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 or mucking 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). Also, various burning activities involved in roads construction will 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 levelling, filling and vehicular movement on unpaved tracks may also cause fugitive dust emissions.

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

During the deep excavation, the aquifer may be hit, and water quality 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.

Pakland Tower - II project is being developed in an area with a residential and commercial setting. There is very limited vegetation on the project site. However, still, there is a need to maintain much of its existing landscape and vegetation.

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 office, a septic tank with a 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 reused or recycled or sold to recycling contractor. The hazardous waste will be kept separate and handled according to the nature of the waste. While storing, hazardous waste will be marked. Shade-loving plants will be planted to reduce the impacts of the shadows on the plants.

Ecological Environment

Impacts: The project area has a limited natural vegetation cover**.** The site preparation and construction activities may necessitate the removal of natural vegetation. Damage and/or loss of vegetation and clearing of other indigenous and introduced species and undergrowth species comprising bushes, grass, etc., will also lose.

Mitigations: Endeavors will be made to compensate for the loss by enhancing the environment, through a plantation of trees and ornamental plants. A plantation plan for Pakland Tower - II project has been prepared. The plan has a mix of appropriate trees/bushes raised within the available open spaces at the Pakland Tower - II project. 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 according to the NEQS. A record will be maintained for any tree cutting.

Environmental Management Plan and Proposed Monitoring

The Environmental Mitigation Plan (EMP) aims to minimize the potential environmental impacts due to the project. The EMP reflects the commitment of Pakland Tower - II to safeguard the environment and the surrounding population.

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

The contractor will prepare a Quarterly Environmental Monitoring Report of project activities carried out during the project's construction phase. These reports will be submitted to the Pakistan Environmental Protection Agency for their review and consideration. The total Environmental Mitigation & Monitoring Cost is **Rs. 6.87 million.**

Conclusion and Recommendations

Based on the overall impact assessment, more specifically, nature and magnitude of the residual environmental impacts identified during the present EIA, it is concluded that Pakland Tower - II project is likely to cause environmental impacts during its constructional phase. However, these impacts can be mitigated. As mentioned in the report, the proposed project activities will be carried out, and the mitigation measures included in this report will be 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.