Kemenkes
RS Fatmawati

ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (ESIA) AND MANAGEMENT PLAN (ESMP)

Redevelopment of Fatmawati Hospital Jakarta



Lender
Asian Infrastructure Investment Bank (AIIB)

Executive Agency
Ministry of Health of the Republic of Indonesia

AGUSTUS 2026

DOCUMENT CONTROL

Versions	Date	Compiled By	Reviewed By	Status
v0.1	26-Apr-2026	ESIA Team	Team Leader	PRELIMINARY DRAFT
v1.0	31-May-2026	ESIA Team	Team Leader	Version 1
v2.0	02-July-2026	ESIA Team	Team Leader	Version 2
v3.0	12-August-2026	ESIA Team	Team Leader	Version 3
v4.0	21-August-2026	ESIA Team	Team Leader	Version 4

This document is a Living Document and will be updated periodically in line with the progress of the Fatmawati Hospital Detailed Engineering Design (DED), the Andalalin traffic study, and the parallel AMDAL (KA-ANDAL, ANDAL, RKL-RPL), Pertek BMAL/BMUE, and Rintek B3 deliverables. Each issuance is captured in the version history table above; superseded versions are retained in the Fatmawati Hospital document repository and made available to the Project Implementation Unit on request.

TABLE OF CONTENTS

TABLE OF CONTENTS i
LIST OF TABLES iv
LIST OF FIGURES vii
GLOSSARY viii
ABBREVIATIONS ix
KATA PENGANTAR xi
FOREWORD xiii
RINGKASAN EKSEKUTIF xv
EXECUTIVE SUMMARY xxi
1. INTRODUCTION 1
1.1. Institutional Profile 9
1.2. Project Location and Applicable Permits 9
1.3. Project Rationale 11
1.4. Project Activities and Expected Results 16
1.5. Purposes of the ESIA/ESMP 17
1.6. Methodology for Preparing ESIA 17
1.7. Screening for Associated Facilities 20
2. PROJECT DESCRIPTION 25
2.1. Project Type and Scope 25
2.2. Initiator and Parties Involved 26
2.3. Project Location, Site Capacity Analysis 27
2.4. Cultural Heritage Designation 29
2.5. Project Cycles 29
2.6. Operational Phase 37
2.7. Decommissioning Considerations 37
2.8. Smart and Green Hospital Strategy 38
2.9. Project Alternatives 38
2.10. Area of Influence 44
3. POLICY AND LEGAL 46
3.1. National Legal Framework of the Republic of Indonesia 46
3.2. AIIB Environmental and Social Framework 51
3.3. Institutional Framework and Internal Policies 52
3.4. Other International Frameworks Applicable in Indonesia 55
3.5. Gap Analysis between AIIB ESF and Indonesian Legislation 56
4. ENVIRONMENTAL BASELINE 58
4.1. Geographic and Administrative Context 58
4.2. Topography and Geology 59
4.3. Climate and Meteorology 60
4.4. Hydrology and Hydrogeology 61
4.5. Water Supply 62
4.6. Groundwater Quality 63
4.7. Air Quality and Noise 64
4.8. Asbestos-Containing Materials 77

4.9. Waste Management 79
4.10. Biodiversity and Ecology 91
4.11. Land Use and Spatial Compliance 91
4.12. Cultural Heritage Setting 92
4.13. Five-Year Operational Environmental Trend (RKL-RPL 2020–2025) 93
4.14. Valued Environment Component (VEC) 100
5. SOCIAL BASELINE 101
5.1. Demographic Profile of the Area of Influence 101
5.2. Healthcare Service Context 102
5.3. Workforce Profile by Gender and Employment Status 103
5.4. Patient Population Characteristics 104
5.5. Economic and Livelihood Context 105
5.6. Workers' Right and Protection 108
5.7. Stakeholder Mapping 111
5.8. Gender and Gender-Based Violence 112
5.9. Vulnerable Groups Identification 117
6. COMMUNITY HEALTH AND SAFETY 118
7. RISK/IMPACT ASSESSMENT 120
7.1. Assessment Methodology 120
7.2. Pre-Construction Phase Impact Assessment 124
7.3. Construction Phase Impacts 138
7.4. Operation Phase 149
7.5. Cumulative Impact Assessment 156
7.6. Summary of Environmental and Social Impact Assessment and Mitigation Plan 159
7.7. GREENHOUSE GAS INVENTORY AND RESOURCE EFFICIENCY 189
7.8. Climate Adaptation and Mitigation Strategy: Integrated Climate-Resilient Hospital Strategy 196
7.9. Climate Resilient Hospital Action Plan 206
8. STAKEHOLDER ENGAGEMENT 209
8.1. Stakeholder Identification and Analysis 209
8.2. Consultation Programme 210
8.3. Information Disclosure 211
9. GRIEVANCE REDRESS MECHANISMS 212
9.1. Objectives and Principles 214
9.2. Existing Baseline at Fatmawati Hospital 214
9.3. GRM Channels and Procedures 215
9.4. Complaint Handling Stages 215
9.5. Roles and KPIs 216
9.6. Hospital Specific Adaptations 216
10. IMPLEMENTATION ARRANGEMENTS 217
10.1. Institutional Roles and Responsibilities 217
10.2. Capacity Building 221
11. MONITORING ARRANGEMENTS 222
11.1. Monitoring Institutional Arrangement 222
11.2. Capacity Building 224
12. MONITORING PLAN 225

12.1. Pre-construction Phase Monitoring 225
12.2. Construction Phase Monitoring 227
12.3. Operational Phase Monitoring 229
12.4. Indicative ESMP Budget 236
BIBLIOGRAPHY AND REFERENCES 240
National Regulations of the Republic of Indonesia 240
AIIB Environmental and Social Framework 241
International Standards and Good Industry Practice 241
Project Documents and Primary Data Sources 242
Comparable ESIA References and Methodological Sources 242
ANNEXES 244
Annex A — Stakeholder Engagement Plan (SEP) 245
Annex B — Grievance Redress Mechanism (GRM) 260
Annex C — Climate Risk Assessment and GHG Inventory 264
Annex D — Baseline Data Compilation 265
Annex E — Labor Management Plan 267
Annex F — Vulnerable Groups Plan 291
Annex G — Gender Action Plan 292
Annex H — List of Affected Tenants 343
Annex I — Asbestos Management Plan RSFP 346
Annex J — Stakeholder Engagement for Cultural Heritage 363
Annex K — Standard Operating Procedures (SOPs) on Health, Safety, Security, and Environment 368
Annex M — Livelihood Restoration Plan (LRP) 370

LIST OF TABLES

Table 1.1. Key Institutional Milestones of Fatmawati Hospital 9
Table 1.2. Directorate structure of Fatmawati Hospital 9
Table 1.3. Applicable permits and legal instruments 10
Table 1.4. Project Timeline for Phase I (2026 – 2030) 14
Table 1.5. Project Activities and Expected Results by Implementation Phase 16
Table 1.6. Methodological dimensions for ESIA preparation 17
Table 1.7. Data Sources Underpinning the ESIA 19
Table 1.8. Associated Facilities Screening Results 21
Table 2.1.Technical specifications of the Multi-building Plan 25
Table 2.2. Initiator and Parties Involved in the Project 26
Table 2.3. Site Boundary Coordinates of Fatmawati Hospital (WGS84) 29
Table 2.4. Pre-construction Activities and Safeguards Relevance 30
Table 2.5. Project Demolition Supervision Team, RSUP Fatmawati Phase 1* 31
Table 2.6. Demolition Process Steps, RSUP Fatmawati Phase 1 31
Table 2.7. Worker Safety Equipment Requirements During Demolition 32
Table 2.8. Emergency Response Plan During Demolition 33
Table 2.9. Construction Activities and Safeguards Relevance 34
Table 2.10. Summary Comparison of Project Alternatives 43
Table 3.1. Spatial Zoning Intensity Controls, Fatmawati Hospital Site 49
Table 3.2. Principal Health and Hospital Regulatory Instruments 49
Table 3.3. Relevant standards and regulatory frameworks on resettlement 52
Table 3.4. Existing Operational Systems and Procedures, Fatmawati Hospital 53
Table 3.5. International Reference Frameworks Applied to Fatmawati Hospital 55
Table 3.6. Gap Analysis: AIIB ESF Requirements Against Indonesian National Legislation 57
Table 4.1. Summary of Site-Specific Geotechnical Profile at Fatmawati Hospital 59
Table 4.2. Summary of Climatic Conditions in South Jakarta 60
Table 4.3. Groundwater Quality Results (Baseline Survey) at Fatmawati Hospital 63
Table 4.4. Summary of Ambient Air Quality Monitoring Results at Project Facilities (2022–2025) 65
Table 4.5. Ambient Air Quality Results (Baseline Survey) at Project Facilities Area 67
Table 4.6. Air Emission Sources Dimension 68
Table 4.7. Genset Emission Monitoring 2022 - 2025 70
Table 4.8. Boiler Emission Monitoring 2022 - 2025 70
Table 4.9. Indoor Air Quality Monitoring Results at Fatmawati Hospital 72
Table 4.10. Ambient Noise Monitoring Results at Fatmawati Hospital (2022–2025) 74
Table 4.11. Ambient Noise Results (Baseline Survey) at Fatmawati Hospital Area 75
Table 4.12 Asbestos-containing Material Inspection and Laboratory Results 78
Table 4.13. Existing Domestic Waste Management, Fatmawati Hospital 80
Table 4.14. Domestic Solid Waste Streams, Fatmawati Hospital 81
Table 4.15. Existing Wastewater Design 82
Table 4.16. Wastewater Design Criteria 82

Table 4.17. WWTP Outlet Effluent Quality Trends and Compliance with Indonesian Discharge Standards (2021–2025) 83
Table 4.18. Existing Hazardous Management, Fatmawati Hospital 84
Table 4.19. Principal Hazardous Waste Streams, Fatmawati Hospital 84
Table 4.20. Existing Radioactive Management, Fatmawati Hospital 85
Table 4.21. Radioactive Waste Streams, Fatmawati Hospital 87
Table 4.22. Inventory of Operational Baseline Data Sources, Fatmawati Hospital 2021–2025 94
Table 4.23. IPAL Sentral Fatmawati Hospital Five-Year Operational Trend (2021–2025) vs MOEF Regulation 68/2016 Annex I Standards 96
Table 4.24. Hazardouz Waste Streams, Fatmawati Hospital (2021–2025) 97
Table 4.25. Clean Water Consumption by Activity, Fatmawati Hospital (RKL-RPL Semester II, 2022) 98
Table 4.26. RKL-RPL Responsible Person Timeline, Fatmawati Hospital (per Operational Documents) 98
Table 4.27. Electricity Supply and Back-up Generators, Fatmawati Hospital 99
Table 4.28. Environmental and Quality Awards and Certifications, Fatmawati Hospital 99
Table 4.29. Valued Environmental Component 100
Table 5.1. Key demographic and development indicators for DKI Jakarta 101
Table 5.2. DKI Jakarta Health Facility Landscape 102
Table 5.3. Gender Distribution by Employment Status 103
Table 5.4. Summary of Patient Population and Service Utilisation Indicators 104
Table 5.5. Summary of Contract Period Distribution 105
Table 5.6. Legal Basis for Workers' Rights and Protection, RSUP Fatmawati 108
Table 5.7. Construction Workforce Labour Management Requirements 109
Table 5.8. Principal Stakeholder Groups, Fatmawati Hospital Redevelopment 111
Table 5.9. Gender-Based Workforce Distribution 113
Table 5.10. Gender Action Plan, Fatmawati Hospital TRUST Project 114
Table 6.1. Healthcare Infrastructure and Community Health Indicators for Cilandak District and Kota Jakarta Selatan 118
Table 5.11. DKI Jakarta Disease Prevalence 119
Table 7.1. The scoring, description, and typical characteristics for Nature & Duration of Risks/Impact 121
Table 7.2. The scoring, description and Probability Interpretation for Risks/Impacts Likelihood 121
Table 7.3. The scoring, description and Extends for Scope 121
Table 7.4. The scoring, description and Geographic Extent for Spatial Scale 122
Table 7.5. Risk/Impact Magnitude Category 122
Table 7.6. Receptor Sensitivity Category 122
Table 7.7. Impact Significance Interaction Matrix 123
Table 7.8. Proposed Relocation Plan 135
Table 7.9. Relocation Implementation Action 136
Table 7.10. Type, Quantity, Capacity, and Operating Hours of Pre-Construction and Construction Equipment 139
Table 7.11. Estimated Emission Rates for Area Sources from Pre-Construction and Construction 140

Table 7.12. Predicted Concentration Ambient from Pre-Construction and Construction.....141
Table 7.13. Summary of Potential Traffic and Access Impacts During Construction.....144
Table 7.14. Daily Water Demand and Wastewater Generated 150
Table 7.15. Summary of Technical Information on the Licensed Hazardous Waste Management Company.....152
Table 7.16. Cumulative Impact Assessment 157
Table 7.17. Summary of Environmental and Social Impact Assessment 160
Table 7.18. Summary of Environmental and Social Impact Assessment 169
Table 7.19. Summary of Environmental and Social Mitigation Measure 177
Table 7.20. Summary of Identified Climate Risk, Future Trends, and Proposed Adaptation Responses for Fatmawati Hospital Project (Swiss Re CatNet 2026) 187
Table 7.21. Scope 1 Baseline GHG Inventory of RSUP Fatmawati 191
Table 7.22. Baseline Scope 2 GHG Inventory of RSUP Fatmawati 192
Table 7.23. Baseline Scope 3 GHG Inventory of RSUP Fatmawati 192
Table 7.24. GHG and Energy Intensity of RSUP Fatmawati.....193
Table 7.25 GHG Emission Reduction.....195
Table 7.26. Summary of Climate Action Plan for Integrated Climate Resilient Hospital Concept of RSUP Fatmawati.....207
Table 8.1. Principal stakeholder groups and engagement phases 209
Table 8.2. Two-phase consultation programme.....210
Table 9.1. GRM Channel.....215
Table 9.2. Complain Handling Stages.....215
Table 10.1. Institutional roles and responsibilities 217
Table 10.2. Capacity building programme: targets, topics, and indicative coverage 221
Table 11.1. Mitigation and Monitoring Arrangement 223
Table 11.2. Capacity building programme: targets, topics, and indicative coverage 224
Table 12.1 Pre-Construction Phase Monitoring Details.....225
Table 12.2. Construction Phase Monitoring Details 227
Table 1.1 Operational Phase Monitoring Details.....229
Table 1.2 Indicative ESMP Budget Allocation 237

LIST OF FIGURES

Figure 1-1. Fatmawati Hospital 2
Figure 1-2. Master Plan of Fatmawati Hospital 3
Figure 1-3. Phase I Masterdesign – Tower 1A-JKN, Podium, and Tower 1B 4
Figure 1-4. Master Design of Roof Podium B 5
Figure 1-5. Demolition Area for AIIB-Financed Buildings 7
Figure 1-6. Project Footprint of Fatmawati Hospital 10
Figure 1-7. Annual Patient Trends at Fatmawati Hospital 12
Figure 2-1. Relocation Plan - Tenants 35
Figure 2-2. Relocation Plan - Hospital Continuity 36
Figure 2-3. Area of Influence 45
Figure 4-1. Project Area and Administration Boundaries 59
Figure 4-2. Annual and Monthly Rainfall in South Jakarta 61
Figure 4-3. Groundwater level below ground level and piped water service are (Modified from Taftazani et al., 2022) 62
Figure 4-4. Air Emission Sources within Fatmawati Complex 69
Figure 4-5. Air Emission Monitoring 71
Figure 4-6 Baseline Sampling Location 76
Figure 4-7. ACM Inspection and Data Collections 79
Figure 4-8. Existing Waste Container Design at RSUP Fatmawati 81
Figure 5-1. Distribution of Existing Commercial Tenant 108
Figure 5-2 Proposed Contractors' Base Camps 111
Figure 7-1. Result of Asbenstos-containing Material (ACM) Inspection 125
Figure 7-2. Gedung Induk/Soehasim 129
Figure 7-3. Perseption of support the RSUP Fatmawati Facility Development Plan 131
Figure 7-4. Willing to Be Temporarily Relocated 131
Figure 7-5. Commercial Tenant Relocation 137
Figure 7-6 Temporary Relocated Parking Area 143
Figure 9-1 Project Affected Peoples Mechanism (PPM) 213
Figure 10-1. Organizational Chart 220

GLOSSARY

AMDAL (Analisis Mengenai Dampak Lingkungan)	The Indonesian Environmental Impact Assessment framework, mandated under Law No. 32/2009 and PP 22/2021. Comprises KA-ANDAL, ANDAL, and RKL-RPL.
Andalalin (Analisis Dampak Lalu Lintas)	Traffic Impact Analysis — a mandatory Indonesian regulatory instrument assessing the effects of a proposed development on surrounding road networks.
B3 / Limbah B3 (Bahan Berbahaya dan Beracun)	Hazardous and Toxic Materials/Wastes under Indonesian law. In hospitals: infectious waste, expired pharmaceuticals, pathological waste, chemical waste.
ESIA-ESMP	Environmental and Social Impact Assessment — Environmental and Social Management Plan. The combined safeguards instrument required by the AIIB ESF (2022).
ESF (Environmental and Social Framework)	The AIIB's overarching policy framework (2022) governing environmental and social risk management. Comprises ESS1, ESS2, and ESS3.
GRM (Grievance Redress Mechanism)	A structured process for project-affected persons to raise concerns and receive timely responses. Required under AIIB ESF and ESS1.
Kemenkes (Kementerian Kesehatan RI)	Ministry of Health of the Republic of Indonesia — parent ministry of Fatmawati Hospital and institutional home of the TRUST Project PIU.
Living Document	A document management approach in which the ESIA-ESMP is issued in successive versions (v0.1, v0.5, v1.0) as data and approvals are progressively acquired. [PLACEHOLDER] entries mark gaps to be closed.
Masterplan KMK 1673/2024	The Fatmawati Hospital Master Plan formalised through KMK No. HK.01.07/MENKES/1673/2024 (28 October 2024). Establishes the four-phase 2027-2041 redevelopment programme.
Pertek (Persetujuan Teknis)	Technical Approval — an Indonesian environmental permit. Pertek BMAL for wastewater and Pertek BMUE for stack emissions.
PPK-BLU (Pola Pengelolaan Keuangan Badan Layanan Umum)	Public Service Agency financial governance model. Fatmawati Hospital has operated under PPK-BLU since 2005.
Rintek (Rincian Teknis)	Detailed Technical Document for B3 (hazardous waste) storage facilities, required under Indonesian environmental law.
Fatmawati Hospital (Rumah Sakit Umum Pusat Fatmawati Jakarta)	Class A General Hospital, Teaching Hospital, and National Referral Centre. Founded 1954, located at Jl. Fatmawati Hospital Raya No. 4, Jakarta Selatan. The project proponent.
TRUST Project	Transforming and Revamping Universal-Health Services for Tomorrow — the AIIB-financed project under which the Fatmawati Hospital redevelopment is implemented.

ABBREVIATIONS

ACM	Asbestos Containing Material
AIIB	Asian Infrastructure Investment Bank
BMAL	Baku Mutu Air Limbah — Wastewater Quality Standard
BMUE / BMEU	Baku Mutu Emisi Udara — Stack Emission Quality Standard
BPCB	Balai Pelestarian Cagar Budaya - Cultural Heritage Preservation Office
BPS	Badan Pusat Statistik - Central Statistics Agency
B3 (LB3)	Bahan Berbahaya dan Beracun (Limbah B3) — Hazardous and Toxic Materials (Wastes)
BLU	Badan Layanan Umum
BMKG	Badan Meteorologi, Klimatologi, dan Geofisika - Reference station: Stasiun DKI Jakarta Province
BOR	Bed Occupancy Rate
CHMP	Cultural Heritage Management Plan
DED / DEDC	Detailed Engineering Design / DED Consultant
DLH	Dinas Lingkungan Hidup - Environment Agency
DOTS	Directly Observed Treatment, Short-course
ESF	Environmental and Social Framework (AIIB, 2022)
ESIA	Environmental and Social Impact Assessment
ESMP	Environmental and Social Management Plan
ESS	Environmental and Social Standards
FS	Feasibility Study
GBV / SEAH	Gender-Based Violence / Sexual Exploitation, Abuse, and Harassment
GHG	Greenhouse Gas
GRM	Grievance Redress Mechanism
HEPA	High-Efficiency Particulate Air
HVAC	Heating, Ventilation and Air Conditioning
IMB / PBG	Izin Mendirikan Bangunan / Persetujuan Bangunan Building
IPAL	Instalasi Pengolahan Air Limbah — Wastewater Treatment Plant
IPPT	Izin Penggunaan Peruntukan Tanah
JKN	Jaminan Kesehatan Nasional — National Health Insurance scheme
KA-ANDAL	Kerangka Acuan ANDAL — Terms of Reference for the impact assessment
KBLI	Klasifikasi Baku Lapangan Usaha Indonesia
KJSU	Kanker, Jantung, Stroke, Uro/Nefro — National priority complex services
KKPR / PKKPR	Konfirmasi / Persetujuan Kesesuaian Kegiatan Pemanfaatan Ruang
KMK	Keputusan Menteri Kesehatan
KPA	Komisi Penilai AMDAL - AMDAL Assessment Commission
TB / TB-RO	Multi-Drug-Resistant Tuberculosis / Tuberkulosis Resisten Obat
NIB	Nomor Induk Berusaha
NPWP	Nomor Pokok Wajib Pajak
OHS / K3	Occupational Health and Safety / Keselamatan dan Kesehatan Kerja
P3K / PPPK	Pegawai Pemerintah dengan Perjanjian Kerja — Government employee on contract

Pertek	Persetujuan Teknis — Technical approval
PIU	Project Implementation Unit
PNS	Pegawai Negeri Sipil — Civil Servant
PPDS	Program Pendidikan Dokter Spesialis — Specialist Doctor Education Programme
PPI	Pencegahan dan Pengendalian Infeksi — Infection Prevention and Control
RKL-RPL	Rencana Pengelolaan / Pemantauan Lingkungan — Environmental Management / Monitoring Plan
Rintek	Rincian Teknis
Fatmawati Hospital	Rumah Sakit Umum Pusat Fatmawati Jakarta
RSPPU	Rumah Sakit Pendidikan Penyelenggara Utama - Primary Teaching Hospital
RTRW / RDTR	Rencana Tata Ruang Wilayah / Detail Tata Ruang — Spatial Plans
SEP	Stakeholder Engagement Plan
SIO	Surat Izin Operasional
SK SOTK	Surat Keputusan Susunan Organisasi dan Tata Kerja
SLO	Sertifikat Laik Operasi
SOP / SPO	Standard Operating Procedure / Standar Prosedur Operasional
TB	Tuberculosis
TPA / TPS	Tempat Pemrosesan Akhir / Penampungan Sementara — Final Disposal Site / Temporary Storage
TT	Tempat Tidur - Bed
RKL-RPL	Upaya Pengelolaan Lingkungan — Upaya Pemantauan Lingkungan (semester reports)

KATA PENGANTAR

Pemerintah Indonesia menyadari perlunya transformasi sistem kesehatan nasional Indonesia, termasuk revitalisasi rumah sakit pusat. Melalui Undang-Undang Nomor 17 Tahun 2023 tentang Kesehatan, Pemerintah Indonesia berkomitmen untuk memperkuat kapasitas rujukan dan pendidikan kedokteran spesialis, serta menempatkan Rumah Sakit Umum Pusat Fatmawati Jakarta (RSUP Fatmawati) sebagai rumah sakit rujukan nasional untuk memperluas akses terhadap layanan bedah umum, ortopedi, onkologi, uro-nefrologi, kesehatan ibu dan anak, serta bedah minimal invasif yang berkualitas tinggi.

RSUP Fatmawati merupakan rumah sakit rujukan nasional berstandar Asia. Didirikan pada tahun 1954 oleh Ibu Fatmawati Soekarno (semula bernama Rumah Sakit Ibu Soekarno, yang melayani tuberkulosis anak), rumah sakit ini secara resmi ditetapkan sebagai Rumah Sakit Umum Kelas A, Rumah Sakit Pendidikan, dan Pusat Rujukan Nasional dengan tata kelola PPK-BLU.

RSUP Fatmawati berencana melakukan pengembangan dan perluasan dalam empat tahap dari tahun 2027 hingga 2041. Pada Tahap I (2027–2030), inisiatif ini bertujuan untuk meningkatkan dan memodernisasi layanan klinis melalui pembangunan menara kembar dengan total luas lantai dasar 127.609,72 m², yang terdiri atas dua menara 22 lantai dan satu podium bersama 5 lantai. Tahap II (2030–2034) akan berfokus pada peningkatan kapasitas pendidikan melalui pembangunan pusat pelatihan dan penelitian. Tahap III (2034–2038) bertujuan untuk memperluas layanan utama rumah sakit, sedangkan Tahap IV (2038–2041) akan mengintegrasikan prinsip desain *Smart Hospital* dan *Green Hospital*.

Penilaian Dampak Lingkungan dan Sosial (*Environmental and Social Impact Assessment*/ESIA) serta Rencana Pengelolaan Lingkungan dan Sosial (*Environmental and Social Management Plan*/ESMP) ini, yang selanjutnya disebut ESIA-ESMP, disusun sesuai dengan peraturan perundang-undangan nasional dan Kerangka Perlindungan Lingkungan dan Sosial AIIB (*Environmental and Social Framework*/ESF, 2024), dengan menerapkan standar yang lebih ketat di antara keduanya. Secara umum, Proyek menerapkan standar lingkungan dan sosial 1 (AIIB ESS1) sebagai kriteria utama serta melakukan penapisan terhadap AIIB ESS2 dan ESS3, di samping peraturan perundang-undangan, seperti Undang-Undang Nomor 32 Tahun 2009 tentang Perlindungan dan Pengelolaan Lingkungan Hidup, Peraturan Pemerintah Nomor 22 Tahun 2021, serta Peraturan Menteri LHK Nomor 4 Tahun 2021 yang mengatur jalur AMDAL untuk proyek rumah sakit.

ESIA ini disusun sesuai dengan praktik industri yang berlaku umum dan dengan pemahaman bahwa data dan informasi *Detailed Engineering Design* (DED) yang digunakan dalam dokumen ini relevan pada saat penyusunan dan publikasi dokumen ESIA ini. Laporan ESIA ini harus dibaca secara utuh bersama dengan dokumen atau instrumen safeguard lingkungan dan sosial lainnya yang disusun untuk Proyek, seperti Rencana Pemulihan Mata Pencaharian (Livelihood Restoration Plan) dan Rencana Pelibatan Pemangku Kepentingan (Stakeholder Engagement Plan).

Setiap perubahan desain yang berpotensi menimbulkan dampak lingkungan dan sosial yang material akan memerlukan pemutakhiran ESIA, termasuk ESMP sebagai ‘langkah adaptif’ (adaptive measure).

- Ruang lingkup ESIA ini terbatas pada Tahap 1, yang meliputi pembangunan menara 22 lantai untuk layanan JKN, podium 5 lantai, dan menara 22 lantai untuk layanan eksekutif.

- Dokumen lingkungan yang tersedia meliputi Dokumen Pengelolaan Lingkungan (DPL) tahun 2026.
- Sistem pengelolaan lingkungan yang berjalan saat ini mencakup struktur organisasi, prosedur operasional standar, dokumen lingkungan dan sosial yang tersedia, dan lain-lain.

Atas nama Direksi RSUP Fatmawati, apresiasi yang tulus disampaikan kepada seluruh pihak yang telah memberikan kontribusi substansi, waktu, dan keahlian dalam penyusunan draf awal ini, termasuk manajemen RSUP Fatmawati, Direktorat Jenderal Pelayanan Kesehatan Lanjutan, tim safeguards AIIB, dan tim konsultan EGI.



FOREWORD

The Government of Indonesia (GoI) recognizes the need to transform Indonesia's national health system, including the revitalization of hospital centers. Through Law No. 17 of 2023 on Health, the GoI committed to strengthening referral capacity and specialist medical education and has placed Rumah Sakit Umum Pusat Fatmawati Jakarta (Fatmawati Hospital) at the center of national efforts to expand access to high-quality general, orthopedic, oncology, uro-nephrology, maternal-child, and minimally invasive surgical services.

Fatmawati Hospital is a national referral hospital with aspirations at the Asian level. Established in 1954 by Ibu Fatmawati Soekarno (originally as Rumah Sakit Ibu Soekarno, serving pediatric tuberculosis), the hospital was formally designated a Class A General Hospital, Teaching Hospital, and National Referral Center under PPK-BLU governance.

The Fatmawati Hospital will undergo a four-phase redevelopment and expansion from 2027 to 2041. In Phase I (2027–2030), the initiative intends to enhance and modernize clinical services by building twin towers totalling 127,609.72 m² ground floor area, comprising two 22-storey towers and a shared 5-storey podium. Phase II (2030–2034) will focus on increasing educational capacity by constructing training and research centres. Phase III (2034–2038) aims to broaden the hospital's key services, while Phase IV (2038–2041) will see the integration of Smart Hospital and Green Hospital design principle.

This Environmental and Social Impact Assessment (ESIA) and Environmental and Social Management Plan (ESMP), hereafter collectively referred to as the ESIA-ESMP, are prepared in accordance with national regulations and the AIIB Environmental and Social Framework (ESF, 2024), adopting the more stringent of the two standards. In general, the project applies AIIB ESS1 (Environmental and Social Assessment and Management) as the principal standard and screening for ESS2 and ESS3, and the GoI legal framework, including Law No. 32 of 2009 on Environmental Protection and Management, Government Regulation No. 22 of 2021, and Ministerial Regulation MoEF No. 4 of 2021 governing the AMDAL track for hospital projects.

This ESIA has been prepared in accordance with generally accepted industry practices and an understanding that the Detailed Engineering Design (DED) data and information used herein are relevant at the time of the report preparation and disclosure. Therefore, verification of these data and information is not conducted. This ESIA report should be read in full together with other E&S safeguard documents or instruments prepared for the Project, such as the Livelihood Restoration Plan and the Stakeholder Engagement Plan.

Any design changes likely to generate material E&S impacts will require an update of the ESIA, including an ESMP as the ‘adaptive measure ‘.

- The scope of this ESIA is limited to Phase 1, including construction of 22-storey tower for JKN, 5-storey podium, and 22-storey tower for executive.
- The available environmental documents include the Environmental Management Document (*Dokumen Pengelolaan Lingkungan*/DPL) in 2026.
- Current environmental management system, including organizational structures, standard operating procedures, available environmental and social documents, and others.

On behalf of the Board of Directors of Fatmawati Hospital, sincere appreciation is extended to all parties who have contributed substance, time, and expertise to the preparation of this preliminary draft - including the Fatmawati Hospital management, the Directorate General of Tertiary Health Services, the AIIB safeguards team, and the EGI consultant team.

Jakarta, August 2026

Executive Director of Fatmawati Hospital



Dr. dr. Wahyu Widodo, Sp.OT(K), S.H

RINGKASAN EKSEKUTIF

Latar Belakang. RSUP Fatmawati Jakarta merupakan Rumah Sakit Umum Kelas A, Rumah Sakit Pendidikan, sekaligus Pusat Rujukan Nasional yang dikelola oleh Direktorat Jenderal Pelayanan Kesehatan Lanjutan, Kementerian Kesehatan. Sesuai dengan SK Menkes No. 1243/Menkes/VIII/2005RSUP Fatmawati, RSUP Fatmawati ditetapkan sebagai Badan Layanan Umum (BLU).

RSUP Fatmawati menempati lahan milik Kementerian Kesehatan seluas 135.740 m² (sekitar 13 hektar), di Jalan RS Fatmawati Raya No. 4, Kelurahan Cilandak Barat, Kecamatan Cilandak, Kota Administrasi Jakarta Selatan, Provinsi DKI Jakarta.

Pada tahun 2027 sampai dengan 2030, RSUP Fatmawati akan melakukan empat tahap pengembangan. Tahap I ditujukan untuk meningkatkan dan memodernisasi layanan klinis melalui pembangunan menara kembar dengan total luas lantai 127.609,72 m² yang terdiri atas dua menara 22 lantai dan satu podium 5 lantai. Tahap II (2030–2034) berfokus pada peningkatan kapasitas pendidikan melalui pembangunan pusat pelatihan dan penelitian. Tahap III (2034–2038) bertujuan memperluas layanan-layanan utama rumah sakit, sedangkan Tahap IV (2038–2041) mengintegrasikan prinsip desain "*Smart Hospital*" dan "*Green Hospital*".

Skema Pembiayaan. AIIB — selanjutnya disebut "Bank" — direncanakan akan membiayai Menara 1A-JKN setinggi 22 lantai, Podium 1A-JKN setinggi 5 lantai, dan gedung utilitas pada Tahap I, dengan total luas lantai 73.445 m². Bangunan utilitas akan mewadahi instalasi pengolahan air limbah (IPAL) berkapasitas 750 m³/hari, tambahan pasokan daya listrik sebesar 21,0 MW — termasuk genset 10 MVA — serta tangki pemanenan air hujan (150 m³) dan rumah pompa (364 m³).[1]

Menara 1B beserta komponen podiumnya pada Tahap I — selanjutnya disebut "Podium 1B" — akan didanai dari pendapatan BLU, kemitraan investasi, alokasi APBN atau sumber dana lainnya yang sah. Pengembangan kembali ini akan berjalan secara bertahap sesuai rencana induk yang telah disetujui.

Selama Tahap I, pembangunan Menara Kembar, Podium, dan gedung utilitas memerlukan pembongkaran sembilan bangunan eksisting — Gedung Griya Husada, Gedung eks-BPJS, Instalasi Rawat Jalan (IRJ), Gedung Azalea, Gedung Amarilis, Farmasi, Rumah Genset, Rumah Pompa, dan Masjid — yang seluruhnya didanai dari anggaran BLU RSUP Fatmawati.

Lingkup dan Pendekatan Studi. ESIA-ESMP ini disusun mengacu pada Kerangka Pelindungan Lingkungan dan Sosial AIIB (*Environmental and Social Framework*/ESF, 2024) dengan ESS1 sebagai standar utama, IFC General EHS Guideline (2007), Praktik Industri Internasional yang Baik (GIIP), serta diselaraskan dengan peraturan perundang-undangan — termasuk namun tidak terbatas pada UU No. 17 Tahun 2023 tentang Kesehatan, PP No. 28 Tahun 2024, UU No. 32 Tahun 2009 tentang Perlindungan dan Pengelolaan Lingkungan Hidup, PP No. 22 Tahun 2021, dan kerangka AMDAL/RKL-RPL.

Lingkup kajian mencakup keseluruhan Tahap 1, meliputi bangunan yang dibiayai AIIB (Menara dan Podium 1A-JKN serta gedung utilitas) dan bangunan yang dibiayai melalui anggaran BLU (Menara dan Podium 1B). Podium 1A-JKN dan 1B disiapkan untuk mendukung laboratorium, pusat diagnostik, transplantasi organ, radiologi, talasemia, hemodialisis, endoskopi, dan medical check-up, serta klinik infeksi dan rehabilitasi medik bagi pasien BPJS dan eksekutif, farmasi untuk pasien JKN dan eksekutif,

[1] Berdasarkan data yang dikumpulkan pada 29 Juni 2026.

Cathlab CITO, radiologi, wellness center, ICU, PICU, HCU, Instalasi Gawat Darurat, dan klinik infeksi. Fasilitas terasosiasi (associated facilities) proyek ini mencakup Menara & Podium 1B, area relokasi layanan kesehatan dan tenant, kegiatan pembongkaran, pembangunan area penempatan material (laydown area), base camp kontraktor, serta fasilitas pengelolaan limbah konstruksi untuk Menara 1B di dalam kawasan rumah sakit eksisting.

Pada Tahap 1, sekitar 15,946.0 m² bangunan eksisting non-cagar-budaya di dalam tapak RSUP Fatmawati akan dibongkar — mencakup 10.519,2 m² untuk pengembangan bangunan AIIB dan 5,426.8 m² untuk fasilitas terasosiasi. Bangunan yang dipastikan dibongkar adalah Griya Husada (5.629,0 m²), MM Juice atau Gedung eks-BPJS (197 m²), gedung Instalasi Rawat Jalan (IRJ/Anyelir; 6.246,0 m²), Gedung Azalea (3.035,0 m²), Gedung Amarilis (392,0 m²), farmasi (1.728,0 m²), Rumah Genset (48,0 m²), Rumah Pompa (24,8 m²), dan Masjid (76 m²). Karena seluruh kegiatan berlangsung di atas lahan Kementerian Kesehatan di dalam tapak RSUP Fatmawati, tidak diperlukan pengadaan lahan, pemindahan fisik, maupun pemukiman kembali secara tidak sukarela (involuntary resettlement).

Pendekatan dan Metodologi ESIA. Metodologi studi ESIA memadukan data primer yang meliputi data dan informasi hasil wawancara dengan pemangku kepentingan dan data pengukuran lapangan; serta data sekunder yang diperoleh melalui studi literatur dan triangulasi data baik dari data iklim yang diperoleh dari Stasiun Meteorologi Jakarta Selatan, data demografi dari BPS Provinsi DKI Jakarta dan Kota Jakarta Selatan, dan data perizinan lingkungan dari Dinas Lingkungan Hidup Provinsi DKI Jakarta serta Jakarta Selatan. Data lingkungan operasional diambil dari sepuluh Laporan Pelaksanaan RKL-RPL Semester I dan II tahun 2021 hingga 2025. Kampanye pengukuran rona awal primer (minggu kedua dan ketiga Juni 2026), bersama program konsultasi pemangku kepentingan satu tahap, melengkapi pendekatan metodologi ini.

Perizinan Lingkungan dan Sosial. Pelaksanaan studi dan penyusunan ESIA dilaksanakan secara bersamaan dokumen lingkungan sebagai pemenuhan peraturan perundang-undangan sedang disusun – DELH[2], AMDAL (KA-ANDAL, ANDAL, RKL-RPL), Persetujuan Teknis Pemenuhan Baku Mutu Air Limbah (Pertek BMAL), Persetujuan Teknis Baku Mutu Udara Emisi (Pertek BMUE), Rincian Teknis Penyimpanan Limbah B3 (Rintek B3), dan Analisis Dampak Lalu Lintas (Andalalin).

Secara umum, RSUP Fatmawati telah memiliki perizinan berupa NIB 8120003972112 (KBLI 86101, terbit 14 Juli 2022); KKPR DKI Jakarta No. 11062410113174492 (terbit 11 Juni 2024, luas disetujui 172.333 m², zonasi SPU-1, RTH-8, dan K-1); Sertifikat Hak Pakai No. 198-2 Tahun 2011 dan No. 82.HP/Cilandak Barat Tahun 1990 — yang mengonfirmasi total luas 135.740 m²; SK Kapasitas Tempat Tidur No. HK.02.03/D.XXI/11087/2025 (851 tempat tidur); 12 IMB eksisting yang akan digantikan oleh satu Persetujuan Bangunan Gedung (PBG) baru; SK Persetujuan Lingkungan No. 6/DPL/-1.774.151; serta Surat Izin Pengambilan Air Tanah (SIPA) untuk sumur bor No. 43/7.15/31/1.774.1/2016 tertanggal 11 Oktober 2016.

RSUP Fatmawati menunjukkan kecenderungan peningkatan volume pasien yang signifikan pada masa pemulihan penuh pasca-pandemi. Kunjungan rawat jalan mencapai 869.338 pada 2023, mendekati puncak pra-pandemi sebesar 883.682 pada 2019, setelah sempat turun ke 621.553 pada 2020 akibat

[2]DELH (Dokumen Evaluasi Lingkungan Hidup): dokumen kajian lingkungan yang bersifat retrospektif di Indonesia, digunakan untuk usaha/kegiatan yang telah berjalan dan telah memegang izin operasional/berusaha yang sah, tetapi belum memutakhirkan dokumen AMDAL-nya terhadap pengembangan eksisting.

COVID-19. Tindakan operasi dan bedah meningkat tajam sebesar 25%, dari 10.517 pada 2022 menjadi 13.135 pada 2023. Pada Triwulan I 2026 (Januari–Maret), kunjungan poliklinik rawat jalan reguler dan gawat darurat mencapai 92.420 (86.184 rawat jalan reguler ditambah 6.236 gawat darurat), nilai ini melampaui angka 90.000; bila memperhitungkan klinik eksekutif (Griya Husada) dan klinik 24 jam (Griya Cattleya), dengan jumlah total mencapai 105.593. Layanan dengan kunjungan terbanyak adalah penyakit dalam (12.570 kunjungan), jauh di atas bedah ortopedi (7.722) dan kesehatan anak (7.715). Layanan gawat darurat mencatat 8.069 kunjungan sepanjang caturwulan pertama 2026. Tingkat hunian tempat tidur *(Bed Occupancy Rate*/BOR) pada empat bulan yang sama berkisar 66,1%–80,3% (Januari 80,3%; Februari 77,5%; Maret 66,1%; April 80,3%).

Profil Ketenagakerjaan. Per 31 Desember 2023, RSUP Fatmawati beroperasi dengan didukung 2.398 pekerja, terdiri atas 52 dokter umum, 239 dokter spesialis, 1.031 perawat (43%), 45 bidan (2%), 447 tenaga kesehatan lainnya, dan 584 tenaga non-medis dan administrasi; 1.774 orang di antaranya berstatus Aparatur Sipil Negara (ASN) dan 624 orang non-ASN. Per 30 Juni 2024, total tenaga kerja meningkat menjadi 2.457 orang. Rasio perempuan terhadap laki-laki adalah 3:1, dengan 68,9% tenaga keperawatan dan 100% bidan adalah perempuan.

Data Lingkungan dan Sosial. IPAL Sentral terpusat dengan total kapasitas terpasang 510 m^3/hari menunjukkan kepatuhan 100% terhadap baku mutu Permen LHK No. 68 Tahun 2016, berdasarkan 60 hasil uji laboratorium bulanan dari laboratorium terakreditasi KAN untuk periode 2021–2025, dengan rata-rata BOD_5 4,93 mg/L, COD 19,62 mg/L, TSS 4,23 mg/L, dan amonia 0,48 mg/L — seluruhnya jauh di bawah baku mutu nasional. Debit aktual IPAL rata-rata 351 m^3/hari pada pemantauan pada bulan Januari–Maret 2026, sehingga masih tersedia ruang kapasitas (*headroom*) lebih dari 30%. Volume limbah medis infeksius sekitar 30.000 kg/bulan menurut logbook RKL-RPL 2022, dan dikelola melalui vendor berizin PT PPLI (Pertek S.55/2024).

Emisi udara dari 11 genset pada 2022–2025 secara umum memenuhi baku mutu nasional, kecuali untuk parameter karbon monoksida, sementara emisi dari dua boiler umumnya lebih rendah dari baku mutu nasional. Di samping kualitas udara ambien, kualitas udara dalam ruang RSUP Fatmawati tergolong baik dibandingkan baku mutu nasional. Tingkat kebisingan umumnya melampaui baku tingkat kebisingan siang maupun malam hari, dengan kebisingan latar terutama disumbang oleh Jl. Raya TB Simatupang dan Jl. Raya Fatmawati, aktivitas MRT di Stasiun Fatmawati yang berdekatan, serta lanskap suara perkotaan pada umumnya.

Mengingat padatnya lalu lintas di sekitar RSUP Fatmawati, masyarakat mencatat dan melaporkan tingginya angka kecelakaan lalu lintas dalam konsultasi publik (11 Juni 2026). Pemantauan rona awal pada Juni 2026 mencatat kepadatan lalu lintas yang tinggi, dengan sepeda motor sebagai jenis kendaraan dominan. Data lalu lintas terperinci akan disajikan pada versi ESIA berikutnya.

Kapasitas sistem pengelolaan limbah eksisting — meliputi limbah domestik, padat, air limbah, B3, dan radioaktif — memadai untuk memenuhi kebutuhan operasional saat ini. Data pemantauan mengonfirmasi bahwa air limbah terolah telah memenuhi baku mutu sebelum dilepas ke saluran drainase kota. Pengelolaan limbah B3, infeksius, dan radioaktif dijalankan bersama pihak ketiga berizin yang mematuhi regulasi dan prosedur nasional.

Meskipun tidak terdapat warisan budaya berbenda (tangible) di dalam area proyek, terdapat satu bangunan terduga cagar budaya — dibangun tahun 1954 — yang kemungkinan akan digunakan sebagai area relokasi layanan kesehatan JKN dan eksekutif setelah seluruh bangunan tersebut di atas dibongkar.

Berdasarkan hasil survei, seluruh 24 tenant (100%) menyatakan dukungan terhadap rencana pengembangan fasilitas rumah sakit. Untuk menjaga kesinambungan usaha selama Proyek Pengembangan RSUP Fatmawati, penyewa komersial terdampak yang berada di dalam tapak pembongkaran akan direlokasi sementara ke lokasi alternatif di dalam kompleks rumah sakit. Strategi relokasi dirancang untuk meminimalkan gangguan ekonomi, menjaga akses terhadap pelanggan, dan memastikan keberlanjutan layanan bagi pasien, pengunjung, pendamping pasien, dan staf rumah sakit sepanjang periode konstruksi.

Dampak Potensial Utama dan Strategi Mitigasi. Tahap prakonstruksi mencakup pembongkaran sembilan bangunan — Gedung Griya Husada, Gedung eks-BPJS, Instalasi Rawat Jalan (IRJ) umum, Gedung Azalea, Gedung Amarilis, Farmasi, Rumah Genset, Rumah Pompa, dan Masjid — untuk memfasilitasi pembangunan menara, podium, dan gedung utilitas AIIB, disertai pembongkaran Griya Husada, MM Juice, dan mushala yang diperhitungkan untuk memfasilitasi pembangunan Menara dan Podium 1B. Tahap ini juga mencakup penyiapan area relokasi beserta proses relokasinya. Pembongkaran berpotensi menambah konsentrasi $PM_{2,5}$ sebesar 1,45 µg/Nm³ dan PM_{10} sebesar 8,58 µg/Nm³ pada radius 100 m dari area permukiman — masih memenuhi baku mutu yang diadopsi (PP No. 22 Tahun 2021 dan IFC General EHS Guideline 2007). Sementara itu, tingkat kebisingan diperkirakan meningkat 8–27 dBA dari rona awal. Langkah mitigasi diusulkan untuk menekan timbulan partikulat dan kebisingan, termasuk penerapan prosedur manajemen pembongkaran, rencana pengelolaan bahan berbahaya, upaya penekanan debu, manajemen lalu lintas, dan protokol keselamatan dan kesehatan kerja.

Terkait rencana pemanfaatan bangunan terduga cagar budaya sebagai area klinik relokasi, pendekatan kehati-hatian akan dipertahankan sampai clearance diperoleh dari otoritas yang berwenang. Modifikasi apa pun akan bersifat minimal dan non-invasif, dengan tetap menjaga keberlangsungan layanan rawat jalan.

Pemindahan ekonomi (*economic displacement*) tenant akibat pembongkaran area komersial untuk pengembangan kembali Tahap 1 dapat mengganggu kesinambungan usaha dan berpotensi menurunkan pendapatan tenant selama masa transisi. Tenant terdampak adalah mereka yang beroperasi di fasilitas yang dijadwalkan dibongkar, yang penghidupannya bergantung pada jumlah pengunjung dan visibilitas di dalam kompleks rumah sakit. RSUP Fatmawati terus berupaya menyediakan ruang bagi tenant untuk melanjutkan usahanya di sekitar kawasan rumah sakit. Untuk mengelola dampak ini, rumah sakit telah melakukan sosialisasi awal kepada para pemilik tenant mengenai lokasi relokasi dan rencana pelaksanaannya pada 9 April 2026, disusul konsultasi publik kedua pada 29 Juni 2026. RSUP Fatmawati telah menyiapkan lokasi relokasi sementara bagi seluruh tenant.

Risiko Tahap konstruksi berpusat pada enam jalur dampak utama pada gabungan lingkup proyek yang dibiayai AIIB dan Fasilitas Terasosiasi.

Pertama, *debu dan emisi partikulat* berpotensi timbul selama gabungan pekerjaan tanah dan konstruksi pada tapak seluas sekitar 15.946,0 m² — terdiri atas 10.519,2 m² pada lingkup yang dibiayai AIIB dan sekitar 5,426.8 m² pada lingkup Fasilitas Terasosiasi berpendanaan lain— beserta pergerakan kendaraan untuk konstruksi bersamaan Gedung 1A, Podium, 1B, dan utilitas. Dampak ini dapat memengaruhi reseptor rentan di dalam tapak yang sama sepanjang periode konstruksi.

Kedua, *kebisingan dan getaran* dari mobilisasi, pekerjaan pondasi, dan penggalian pada gabungan tapak konstruksi memengaruhi lingkungan penyembuhan (healing environment) bagi 851 tempat tidur yang saat ini beroperasi (SK No. HK.02.03/D.XXI/11087/2025). Konstruksi bersamaan tiga bangunan (Menara 1A-JKN, podium, dan 1B beserta struktur utilitas) di dalam kampus rumah sakit yang aktif memperpanjang durasi dan memperluas sebaran spasial dampak kebisingan dan getaran, dengan sensitivitas khusus pada kamar operasi, ICU/ICCU/NICU/PICU, dan Pusat Kanker.

Ketiga, *gangguan lalu lintas dan aksesibilitas* di sepanjang koridor Jalan TB Simatupang dan Jalan Fatmawati yang telah padat. Risiko utama mencakup kecelakaan akibat lumpur dan sisa material konstruksi yang terbawa ban kendaraan berat ke jalan umum, peningkatan kepadatan lalu lintas akibat mobilisasi kendaraan konstruksi, serta gangguan terhadap akses ambulans gawat darurat. Risiko-risiko ini akan semakin meningkat karena konstruksi tiga bangunan berlangsung bersamaan pada lingkup AIIB maupun lingkup berpendanaan lain, yang akan memperbanyak pergerakan kendaraan konstruksi di koridor ini secara signifikan.

Keempat, *kesinambungan layanan rumah sakit* selama konstruksi menimbulkan dampak dengan signifikansi sedang, mengingat adanya relokasi layanan klinis dari beberapa gedung pada gabungan tapak pembongkaran serta layanan gawat darurat 24 jam yang harus tetap berjalan sepanjang periode konstruksi gabungan Menara 1A-JKN, Podium (1A-JKN dan 1B), dan Menara 1B. Selama sekitar empat tahun (2027–2030), layanan klinis sementara akan berlangsung di Gedung Induk sebagai area relokasi.

Kelima, *pengelolaan material yang mengandung asbes* yang mungkin terdapat pada bangunan lama yang dijadwalkan untuk dilakukan pembongkaran. Inspeksi asbes akan dilakukan sebelum pembongkaran, dan rencana pengelolaannya diintegrasikan ke dalam ESMP ini, Rencana Pengelolaan Asbes (AMP), dan C-ESMP sebelum kegiatan pembongkaran apa pun dimulai.

Keenam, *konstruksi bersamaan Gedung 1B dan Podium 1B* sebagai Fasilitas Terasosiasi di kampus rumah sakit aktif yang sama semakin memperbesar dampak kumulatif Tahap konstruksi pada kelima jalur di atas — memperkuat kebutuhan akan satu pendekatan manajemen konstruksi dan safeguards yang terpadu, yang mencakup keseluruhan tapak multibangunan Tahap 1.

Langkah mitigasi utama meliputi: jadwal konstruksi bertahap untuk menjamin operasional klinis yang berkesinambungan; relokasi seluruh layanan dari gedung yang dibongkar ke lokasi sementara di Gedung Induk; pengendalian debu melalui penyiraman basah, pencucian roda kendaraan (wheel washing), dan pemantauan PM_{10} dan $PM_{2,5}$ secara real-time di lokasi sensitif; pembatasan jam kerja untuk pekerjaan bising dan bergetaran tinggi di dekat ruang rawat inap; pemantauan getaran secara menerus di seluruh titik klinis kritis selama pembongkaran; penggunaan pondasi tiang bor (bored pile) alih-alih tiang pancang (driven pile) untuk seluruh pekerjaan pondasi di dalam kampus rumah sakit aktif; manajemen lalu lintas dengan rute truk khusus, penjadwalan bongkar-muat, serta koordinasi dengan Dinas Perhubungan dan Polisi Lalu Lintas; inspeksi visual pra-pembongkaran dan penyusunan Rencana Pengelolaan Asbes (AMP) sebelum kegiatan pembongkaran dimulai serta penerapan AMP selama kegiatan konstruksi; dan penegakan Kode Etik Kontraktor dengan kebijakan nol-toleransi terhadap KBG/SEAH bagi seluruh tenaga kerja konstruksi di Gedung 1A-JKN, Podium, dan 1B.

Untuk Tahap operasi, risiko dominan meliputi: pengendalian infeksi nosokomial pada fasilitas klinis yang diperluas di Gedung 1A-JKN, Podium, dan 1B saat kapasitas penuh Tahap 1 sebesar 1.352 tempat tidur mulai dioperasikan; kepatuhan mutu efluen IPAL, yang memerlukan peningkatan IPAL Sentral eksisting dari kapasitas terpasang 510 m^3/hari menjadi sekitar 1.455,49 m^3/hari untuk menampung

proyeksi timbulan air limbah dari 1.352 tempat tidur, dengan IPAL hasil peningkatan tersebut dipasang di basement Menara 1A-JKN; pengelolaan peningkatan volume limbah B3 dari perluasan kegiatan bedah, kemoterapi, radiologi, dan laboratorium di ketiga gedung; serta manajemen keselamatan radiasi untuk peralatan medis Tier-1 — termasuk PET Scan, Laboratorium Kateterisasi Hibrida (Hybrid Cathlab), dan Rontgen Digital — di 1A-JKN dan Podium. Strategi mitigasi mengikuti hierarki mitigasi ESF AIIB: menghindari, meminimalkan, memulihkan, dan mengimbangi (offset), sebagaimana ditetapkan pada Bagian 8.1 dokumen ini.

Lima Aksi Prioritas. Lima aksi prioritas berikut mencerminkan kesenjangan data material yang tersisa serta pelibatan kelembagaan yang harus segera dimulai untuk memantapkan pendekatan safeguards sebelum target penyampaian kepada AIIB pada September 2026.

Aksi 1 — Penuntasan Proses AMDAL. Persetujuan lingkungan atas DELH dan AMDAL, beserta persetujuan teknis untuk limbah B3, emisi udara, dan air limbah, diperkirakan berpotensi terbit pada akhir Desember 2026.

Aksi 2 — Penuntasan Analisis Dampak Lalu Lintas (Andalalin). Tim RSUP Fatmawati menuntaskan analisis tingkat pelayanan (level of service) di Jalan Raya TB Simatupang, Jalan Raya Fatmawati , Jalan Lingkar Fatmawati, dan titik-titik akses simpang susun Jalan Tol Lingkar Luar Jakarta (JORR), yang mencakup pergerakan truk pada Tahap konstruksi maupun arus pasien dan pengunjung pada Tahap operasi.

Aksi 3 — Pelaksanaan Program Pelibatan Pemangku Kepentingan Tahap 1. Program pelibatan Tahap 1 (Juni–Agustus 2026) dimobilisasi, mencakup Camat Cilandak, Lurah Cilandak Barat, instansi terkait di lingkungan Pemerintah Provinsi DKI Jakarta, pemangku kepentingan kelembagaan di sekitar rumah sakit, dan masyarakat permukiman Kelurahan Cilandak Barat, termasuk kelompok perempuan dan perwakilan UMKM.

Aksi 4 — Penuntasan Rencana Ketenagakerjaan. Rencana Ketenagakerjaan Annex G dilengkapi dengan target tenaga kerja terpilah gender untuk gedung-gedung baru — termasuk spesifikasi fasilitas ramah perempuan yang dipimpin RSUP Fatmawati — beserta proyeksi kebutuhan tenaga kerja untuk kapasitas operasional 1.352 tempat tidur.

Aksi 5 — Penuntasan Detailed Engineering Design (DED) untuk bangunan yang didanai AIIB dan fasilitas terkait. PIU (dalam hal ini RSUP Fatmawati) mengidentifikasi bangunan dan utilitas mana saja yang akan dibiayai AIIB serta mendefinisikan batas proyek secara jelas sesuai DED termutakhir. DED juga perlu memuat rencana pengelolaan limbah, langkah efisiensi sumber daya dan energi, fitur ketahanan iklim, rencana aksi gender, inisiatif penurunan emisi GRK, serta protokol pencegahan SEAH/kekerasan terhadap anak (VAC)/KBG.

EXECUTIVE SUMMARY

Background. Fatmawati Hospital Jakarta is a Class A General Hospital, Teaching Hospital, and National Referral Centre managed by the Directorate General of Tertiary Health Services, Ministry of Health of the Republic of Indonesia, under the Public Service Agency Financial Management framework (PPK-BLU) since 2005 (SK Menkes No. 1243/Menkes/VIII/2005).

The hospital occupies a 135,740 m² site (approximately 13 hectares) owned by the Ministry of Health, located at Jalan RS Fatmawati Raya No. 4, Cilandak Barat Sub-district, Cilandak District, South Jakarta Administrative City, DKI Jakarta Province.

Under the updated Redevelopment Master Plan, Fatmawati Hospital will undergo a four-phase redevelopment and expansion from 2027 to 2041. In Phase I (2027–2030), the initiative intends to enhance and modernize clinical services by building twin towers totalling 127,609.72 m² ground floor area, comprising two 22-storey towers and a shared 5-storey podium. Phase II (2030–2034) will focus on increasing educational capacity by constructing training and research centres. Phase III (2034–2038) aims to broaden the hospital's key services, while Phase IV (2038–2041) will see the integration of Smart Hospital and Green Hospital design principles.

Financing Architecture. The AIIB, hereinafter referred to as the "Bank," is expected to finance the 22-storey Tower 1A-JKN, the 5-storey podium 1A-JKN, and the utility building in Phase I, with a total ground-floor area of 73,445 m^2. The utility building aims to facilitate a wastewater treatment plant (750 m^3/day), an additional power supply of 21.0 MW — comprising a 10 MVA generator, a rainwater harvesting tank (150 m^3), and a pump house (364 m^3).[3]

Tower 1B and its associated Podium component in Phase I, hereinafter referred to as "Podium 1B," will be funded through BLU revenue, investment partnerships, or subsequent state budget allocations. This redevelopment will proceed gradually, in accordance with the approved masterplan.

During Phase I, construction of Twin Tower, Podium, and the utility building will require the demolition of nine existing buildings — Griya Husada Building, Ex-BPJS Building, the General Outpatient Clinic (IRJ), Azalea Building, Amarilis Building, Pharmacy, the Genset House, Pump House, and Mosque — all funded under the Fatmawati Hospital BLU budget.

Scope and Approach of the Assessment. This ESIA-ESMP has been prepared in accordance with the AIIB Environmental and Social Framework (ESF, 2024), with ESS1 as the principal standard, IFC General EHS Guideline (2007), Good International Industry Practices (GIIP), and aligned with national regulations, including but not limited to Government of Indonesia legislation including Law No. 17 of 2023 on Health, Government Regulation No. 28 of 2024, Law No. 32 of 2009 on Environmental Protection and Management, Government Regulation No. 22 of 2021, and the AMDAL/RKL-RPL framework.

The assessment scope covers the overall Phase 1, including AIIB-financed buildings (Tower and Podium 1A-JKN, and the utility building) and the BLU-financed building (Tower and Podium 1B). The Podium 1A-JKN and 1B are intended to support laboratories, diagnostic centers, organ transplantation, radiology, thalassemia, hemodialysis, endoscopy, and medical checkups, as well as infectious clinics, and medical rehabilitation for BPJS and executive patients, pharmacy for JKN and

[3] According to data collected on June 29, 2026.

executive patients, CITO cathlab, radiology, wellness center, ICU, PICU, HCU, Emergency Installation Unit, and infectious clinics. The associated facilities of this project include Tower & Podium 1B, healthcare services and tenant relocation areas, demolition activities, construction of a laydown area, a contractor base camp, and construction waste management facilities for Tower 1B within the existing hospital campus.

In Phase 1, approximately 15,946.0 m² of existing non-heritage structures within the Fatmawati Hospital site will be demolished. This includes 10,519.2 m² designated for AIIB building development and 5,426.8 m² for associated facilities. The structures confirmed for demolition are Griya Husada (5,629.0 m²), MM Juice or Ex-BPJS Building (197 m²), the Outpatient Installation building (IRJ/Anyelir, 6,246.0 m²), Building Azalea (3,035.0m²), Amarilis Building (392.0 m²), pharmacy (1,728.0 m²), Genset House (48.0 m²), Pump House (24.8 m²) and Mosque (76 m²). Since all activities take place on the Ministry of Health's land within the Fatmawati Hospital site, there is no need for land acquisition, physical displacement, or involuntary resettlement.

ESIA approach and methodology. The assessment methodology integrates key stakeholder interviews on the most recent data for Phase I redevelopment; a desk review of relevant project data; triangulation of secondary data from the South Jakarta Meteorological Station for climate data; the Statistics Agency of DKI Jakarta Province and the South Jakarta municipality for demographic data; and the Environmental Agency for DKI Jakarta and South Jakarta for environmental permit data. Operational environmental data are drawn from ten RKL-RPL Implementation Reports for Semesters I and II of 2021 to 2025. Primary baseline campaigns (in the second and third weeks of June 2026), together with a single-phase stakeholder consultation program, to complete the methodological approach.

Environmental and Social Permits. Principal regulatory permits are being prepared in parallel, including the DELH[4], AMDAL (KA-ANDAL, ANDAL, RKL-RPL), Technical Approval for Wastewater Discharge to Water Bodies (Pertek BMAL), Technical Approval for Air Emissions (Pertek BMUE), Hazardous Waste Technical Requirements (Rintek B3), and Traffic Impact Analysis (Andalalin).

Existing permits already received include NIB 8120003972112 (KBLI 86101, issued 14 July 2022), KKPR DKI Jakarta No. 11062410113174492 (issued 11 June 2024, approved area 172,333 m², zoning SPU-1, RTH-8, and K-1), Land Use Right Certificate No. 198-2 of 2011 and No. 82.HP/Cilandak Barat of 1990 – confirming a total area of 135,740 m² –, Bed Capacity Decree No. HK.02.03/D.XXI/11087/2025 (851 beds), and 12 existing IMBs to be replaced by a new Building Approval (PBG), and Environmental Approval Decree (SK Persetujuan Lingkungan) No. 6/DPL/-1.774.151, and the Groundwater Extraction Permit (SIPA) for borehole wells No. 43/7.15/31/1.774.1/2016 dated October 11, 2016.

Key Findings from Operational Data Analysis. *Clinical Service Trends* - Fatmawati Hospital demonstrates strong patient volume trends with full post-pandemic recovery. Outpatient visits reached 869,338 in 2023, approaching the pre-pandemic peak of 883,682 in 2019 following a COVID-19-related decline to 621,553 in 2020 (this needs verification: not covered by the attached dataset). Surgical procedures increased sharply by 25% from 10,517 in 2022 to 13,135 in 2023 (this needs verification: not covered by the attached dataset). In Quarter 1 of 2026 (January to March), regular outpatient clinic and emergency visits together reached 92,420 (86,184 regular outpatient plus 6,236

[4] a retrospective environmental impact document required in Indonesia. It is used for existing or operational business activities that has not updated its AMDAL document to the existing development but already hold a valid operational/business license

emergency), exceeding 90,000; including the executive (Griya Husada) and 24-hour (Griya Cattleya) clinics, the total reaches 105,593. The leading service was Internal Medicine with 12,570 visits, well ahead of Orthopedic Surgery at 7,722 and Pediatrics at 7,715, which were essentially tied for second place. Emergency services recorded 8,069 visits in the first four months of 2026. The bed occupancy rate (BOR) over the same four months ranged from 66.1% to 80.3% (January 80.3%, February 77.5%, March 66.1%, April 80.3%).

Workforce Profile - As of 31 December 2023, Fatmawati Hospital operated with 2,398 workers comprising 52 general practitioners, 239 specialist physicians, 1,031 nurses (43%), 45 midwives (2%), 447 other health professionals, and 584 non-medical and administrative staff, of whom 1,774 are civil service personnel (ASN) and 624 are non-ASN staff. By 30 June 2024, the total workforce had increased to 2,457. The female-to-male ratio is 3:1, with 68.9% of nursing staff and 100% of midwives being female.

Operational Environmental and Social Data - The centralized WWTP (IPAL Sentral) with a combined installed capacity of 510 m^3/day demonstrated 100% compliance with MOEF Regulation 68/2016 standards based on 60 monthly laboratory results from KAN-accredited laboratory for the 2021–2025 period, with average BOD_5 of 4.93 mg/L, COD of 19.62 mg/L, TSS of 4.23 mg/L, and ammonia of 0.48 mg/L, all substantially below applicable standards. Actual WWTP flow averaged 351 m^3/day during January to March 2026 internal self-monitoring, providing more than 30% capacity headroom. Medical infectious waste volume is approximately 30,000 kg/month, per the 2022 RKL-RPL logbooks, and is managed through the licensed vendor PT PPLI (Pertek S.55/2024).

Air emissions from 11 gensets between 2022 and 2025 generally complied with national standards, with the exception of Carbon monoxide. While emissions from two boilers were generally lower than the national standards. In addition to air quality, Fatmawati Hospital has a good indoor air quality compared to national standards. Noise levels were generally higher than the nighttime and daytime noise standards, with background noise typically contributed by Jl. Raya TB Simatupang and Jl. Raya Fatmawati, MRT activities at the nearby Fatmawati Station, and the broader urban soundscape.

Given the dense traffic in the vicinity of Fatmawati Hospital, the community reported and recorded a high number of traffic accidents during the public consultation (June 11, 2026). Baseline monitoring in June 2026 recorded high traffic density, with motorcycles as the dominant vehicle type. Detailed traffic data will be provided in the next ESIA version.

The capacity of existing waste management systems—including domestic, solid, wastewater, hazardous, and radioactive waste—is adequate to meet current operational demands. Monitoring data confirmed that the treated wastewater met the required standards prior to being released into the municipal water system. Additionally, the management of hazardous, infectious, and radioactive wastes is liaised with a third licensed party that adheres to national regulations and procedures.

Although there is no tangible cultural heritage within the project area, there is a suspected heritage building – built in 1954 – that may be used as a relocated area for JKN and executive health services once all the above-mentioned buildings are demolished.

According to the survey results, all 24 tenants (100%) expressed support for the proposed hospital facility development. To maintain business continuity during the Fatmawati Hospital Redevelopment Project, affected commercial tenants within the demolition footprint will be temporarily relocated to alternative locations within the hospital complex. The relocation strategy is designed to minimize

economic disruption, maintain access to customers, and ensure the continued provision of services to patients, visitors, caregivers, and hospital staff throughout the construction period.

Key Potential Impacts and Mitigation Strategies. Pre-construction includes demolishing nine buildings - Griya Husada Building, Ex-BPJS Building, the General Outpatient Clinic (IRJ), Azalea Building, Amarilis Building, Pharmacy, the Genset House, Pump House, and Mosque - to facilitate development of the AIIB tower, podium, and utility building, along with the demolition of the Griya Husada, MM Juice, and prayer room, which are considered to facilitate the construction of Tower and Podium 1B. This also includes preparing relocated areas and the relocation process. The demolition potentially generates additional $PM_{2.5}$ of 1.45 μg/Nm^3 and 8.58 μg/Nm^3 of PM_{10} at a radius 100 from the residential area. This meets the adopted standards (GR. No. 22/2021, and IFC General EHS Guideline 2007). While noise level is expected to increase of 8 – 27 dBA from the baseline levels. The mitigation measures are proposed to reduce particulate and noise generation, including implementation of demolition management procedures, hazardous material management plans, dust suppression measures, traffic management, and occupational health and safety protocols.

Given the intended use of the potential heritage building for the relocated health clinic area, a precautionary approach will be maintained until clearance is obtained from the relevant authorities. Any modifications will be minimal and non-invasive, while ensuring continuity of outpatient services.

The economic displacement of tenants due to the demolition of the commercial area to facilitate the Phase 1 redevelopment could disrupt business continuity and potentially reduce tenant income during the transition period. Affected tenants include those operating in facilities scheduled for demolition, whose livelihoods depend on the number of visitors and visibility within the hospital complex. Fatmawati Hospital continues to strive to provide space for tenants to continue their businesses around the Fatmawati Hospital area. To manage this impact, the Hospital has conducted an initial outreach to tenant owners to inform them of the relocation site and implementation plan on April 9, 2026, and a second public consultation was conducted on June 29, 2026. Fatmawati Hospital has prepared temporary relocation sites for all tenants.

Construction-phase risks center on six principal impact pathways across the combined scope of AIIB-financed and Associated Facility projects.

First, *dust and particulate emissions* are potentially generated during the combined earthwork and construction activities within a footprint of approximately .0 m², comprising 10,519.2 m² under the AIIB-financed scope and approximately 5,029 m² under the other funded Associated Facility scope, along with vehicle movement for the concurrent construction of Buildings 1A, Podium, 1B, and utilities. This may affect vulnerable receptors within the same site throughout the construction period.

Second, *noise and vibration* from mobilization, piling and excavation activities across the combined construction footprint affect the healing environment across 851 currently operational beds (SK No. HK.02.03/D.XXI/11087/2025). The concurrent construction of three buildings (Tower 1A-JKN, podium, and 1B as well as structure for utilities) within the active hospital campus extends the duration and spatial extent of noise and vibration impacts, with particular sensitivity at operating theatres, ICU/ICCU/NICU/PICU, and the Cancer Centre.

Third, *risk concerns traffic and accessibility disruption* along the already congested Jalan TB Simatupang and Jalan Fatmawati corridor. Key risks include road accidents caused by mud and construction debris carried onto public roads by heavy vehicle tires, increased traffic density from

construction vehicle mobilization, and disruption to emergency ambulance access. These risks will be further intensified by the concurrent construction of three buildings under both the AIIB-financed and other-funded scopes, which will significantly amplify construction vehicle movements along this corridor.

Fourth, *hospital service continuity* during construction generate moderate significant impact given the relocation of clinical services from multiple buildings across the combined demolition footprint, and continuous 24-hour emergency services throughout the combined construction period for Tower 1A-JKN, Podium (1A-JKN and 1B), and Tower 1B. Within four year (2027 – 2030), the temporary clinical services are conducted in Gedung Induk.

Fifth, managing asbestos-containing materials that may be present in legacy buildings scheduled for demolition. An asbestos inspection will be conducted prior to demolition, and its management plan will be integrated into this ESMP, asbestos management plan, and C-ESMP before any demolition activities begin.

Sixth, the *concurrent construction of Building 1B and its Podium 1B* as an Associated Facility within the same active hospital campus further amplifies cumulative construction-phase impacts across all five pathways above, reinforcing the need for a single, integrated construction management and safeguards approach that covers the entire Phase 1 multibuilding footprint.

Key mitigation measures include a phased construction schedule to ensure continuous clinical operations; relocating all services from demolished buildings services to temporary sites in Gedung Induk, (see **Error! Reference source not found.**), implementing dust control through wet suppression, wheel-washing, and real-time PM_{10} and $PM_{2.5}$ monitoring at sensitive locations; limiting noisy and high-vibration work hours near inpatient wards; conducting continuous vibration monitoring at all critical clinical points during demolition; utilizing bored piles instead of driven piles for all piling within the active hospital campus; managing traffic with designated truck routes, scheduling for loading and unloading, as well as coordination with Transportation Agency and Traffic Police; performing pre-demolition visual inspections and preparing an Asbestos Management Plan (AMP) before starting demolition activities and implementing AMP during construction activities; and enforcing a Contractor Code of Conduct with a zero-tolerance policy on GBV/SEAH across all construction workforce in Buildings 1A-JKN, Podum, and 1B.

For the operational phase, dominant risks include nosocomial infection control across the expanded clinical facilities of Buildings 1A-JKN, Podium, and 1B upon commissioning of the full 1,352-bed Phase 1 capacity; WWTP effluent quality compliance, requiring upgrading the existing IPAL Sentral from its current installed capacity of 510 m^3/day to approximately 1,455.49 m^3/day to accommodate projected wastewater generation from 1,352 beds, with the upgraded WWTP to be installed in the basement of Tower 1A-JKN; management of increased hazardous waste volumes from expanded surgical, chemotherapy, radiology, and laboratory activities across all three buildings; and radiation safety management for Tier-1 medical equipment, including PET Scan, Hybrid Catheterisation Laboratory, and Digital X-Ray, within 1A-JKN and Podium. Mitigation strategies follow the AIIB ESF mitigation hierarchy of avoid, minimize, restore, and offset, as established in Section 8.1 of this document..

Five Priority Actions. The following five priority actions reflect the remaining material data gaps and institutional engagements that must be initiated to lock in the safeguards approach prior to the AIIB submission target of September 2026.

Action 1 —Completion of AMDAL Process. It is anticipated that the environmental approval of DELH, AMDAL, and technical approvals for hazardous waste, air emissions, and wastewater, will be potentially issued by end of December 2026.

Action 2 — Completion of Traffic Impact Analysis (Andalalin). The Fatmawati Hospital team is to complete level-of-service analysis at Jalan Raya TB Simatupang, Jalan Raya Fatmawati Raya, Jalan Lingkar Fatmawati, and the Jakarta Outer Ring Toll Road interchange access points, covering both construction-phase truck movements and operational-phase patient and visitor flows.

Action 3 — Implementation of Phase 1 Stakeholder Engagement Programme. The Phase 1 engagement program (June to August 2026) is to be mobilized, covering Camat Cilandak, Lurah Cilandak Barat, relevant DKI Jakarta government agencies, neighboring institutional stakeholders, and the Cilandak Barat Sub-district residential community, including women's groups and MSME representatives.

Action 4 — Completion of Workforce Plan. Annex G Workforce Plan is to be completed with gender-disaggregated workforce targets for the new buildings, including specifications for female-friendly facilities led by Fatmawati Hospital, together with projected workforce requirements for 1,352-bed operational capacity.

Action 5 involves completing the Detailed Engineering Design (DED) for AIIB-funded buildings and related facilities. The PIU (i.e., Fatmawati Hospital), shall identify which buildings and utilities will be financed by AIIB and clearly define the project boundary in accordance with the updated DED. Additionally, the DED should incorporate waste management plan, resource and energy efficiency measures, climate-resilience features, a gender action plan, GHG reduction initiatives, and protocols for SEAH/VAC/GBV prevention.

1. INTRODUCTION

Indonesia's public health infrastructure faces challenges in meeting the growing demands of its population. Government-owned teaching hospitals, which serve as critical referral and medical education centers, continue to engage with limited physical capacity, aging facilities, and uneven distribution of high-quality services across provinces. These conditions have constrained the public health system's ability to deliver equitable, high-quality care, particularly in regions where access to specialist and tertiary services remains inadequate.

In response to these gaps, the Government of Indonesia, through the Ministry of Health, has initiated the Construction and Development of Hospitals to Improve Access and Quality of Services, known as the TRUST Project, to increase the capacity of government-owned teaching hospitals. This flagship program is designed to systematically address infrastructure deficiencies by expanding physical capacity, modernizing facilities, and improving the overall quality of services at strategically selected government-owned teaching hospitals nationwide.

To accelerate the TRUST Project, the Ministry of Health has sought financial support from the Asian Infrastructure Investment Bank (AIIB). AIIB has committed to financing this initiative, which is included in its Multi-Year Rolling Pipeline (MYRP) for Indonesia's health sector. The proposed financing will support investments in eight hospitals across six provinces: Jakarta (two hospitals), West Java (two hospitals), Banten (one hospital), Central Java (one hospital), East Java (one hospital), and West Sumatra (one hospital). Fatmawati Hospital, located in South Jakarta, DKI Jakarta Province, is one of the hospitals in Jakarta selected for this initiative (see **Figure 1-1)**.

According to the updated Fatmawati Hospital Master Plan, the hospital is scheduled for redevelopment and expansion through four development phases spanning 2027 to 2041. The redevelopment will be implemented within the existing 135,740 m² site (approximately 13 hectares) owned by the Ministry of Health, which comprises 19 existing building units across a total built-up area and open yard.



Figure 1-1. Fatmawati Hospital

Phase 1 of the masterplan (2027 – 2041) covers a total gross floor area of 164,032.35 m², encompassing four buildings: Building 1A-JKN (Hospital Service Block, 22 storeys above grade and 2 basement levels), Podium (5 storeys above grade and 2 basement levels), Building 1B (Executive Service Block, 22 storeys above grade and 2 basement levels), and utility building (3,725 m²). Phase 2 (2030 to 2034) will develop a Commercial Block, Training Centre, and Research Centre. Phase 3 (2034 to 2038) involves construction of a Mortuary. Phase 4 (2038 to 2041) will add an Apartment, Hotel, Parking Building, and Convention Hall. The overall masterplan layout is illustrated in Figure 1-2.

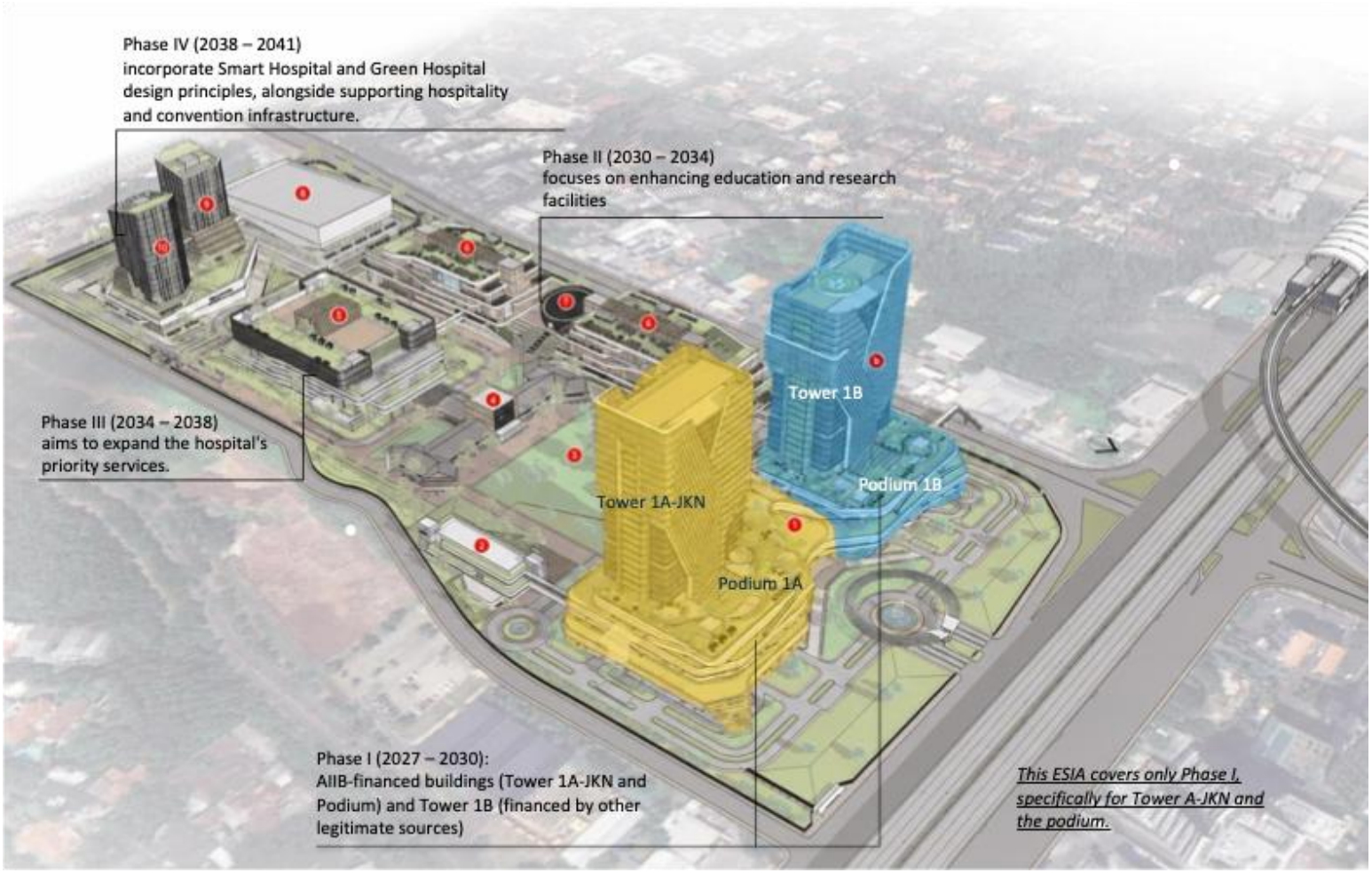


Figure 1-2. Master Plan of Fatmawati Hospital



Figure 1-3. Phase I Masterdesign – Tower 1A-JKN, Podium, and Tower 1B

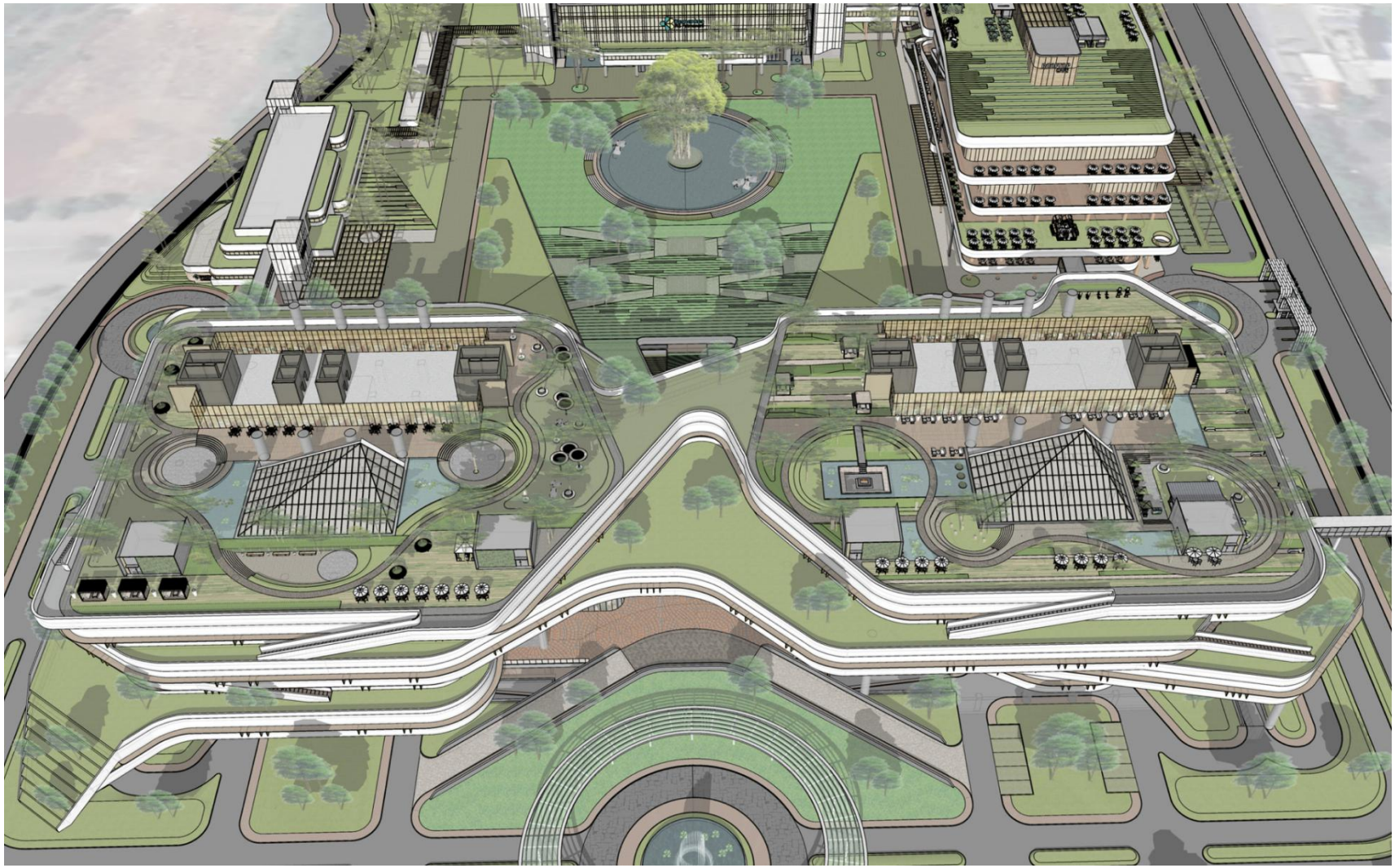


Figure 1-4. Master Design of Roof Podium B

AIIB financing for the TRUST Project covers Tower 1A-JKN (22 floors, 2 basement levels) and Podium 1A-JKN (5 floors, 2 basement levels) together with the Phase I utilities building, totaling 73,445 m² of gross floor area as confirmed by the PIU on June 28, 2026. The utilities building will support the installation of the WWTP - serving both 22-storey towers and their podiums -, STPs, a delay tank for nuclear waste, and other related facilities. Tower 1B (22 floors, 2 basement levels, 873 beds) and Podium 1B (5 floors, 2 basement levels, including the 396-bed Executive Service Block), along with the installation of WWTP, STP, delay tank for nuclear waste, and related facilities, are classified as Associated Facilities under AIIB ESS1 and will be funded through other legitimate sources — BLU revenue, investment partnerships, or future state budget allocations — commencing only after Phase I is complete; no demolition will occur during Phases II–IV while Phase I is underway.

AIIB financing for the TRUST Project covers Tower 1A-JKN (22 floors, 2 basement levels), Podium 1A-JKN (5 floors, 2 basement levels), and the Phase I utilities building, totaling 73,445 m² of gross floor area, as confirmed by the PIU on June 28, 2026. These utility structures will support the wastewater treatment plant (WWTP) for Phase I facilities, which will also be financed by AIIB, while WWTP installation itself will be supported by another financing sources. Tower and Podium 1B (22 floors, 2 basement levels, with 873 beds) and Podium 1B (5 floors, 2 basement levels), including the Executive Service Block with 396 beds, are classified as Associated Facilities under AIIB ESS1. They will be funded through other sources, such as Public Service Agency (BLU) revenue, investment partnerships, or future state budget allocations. Funding for later phases will come from other legitimate sources and will commence only after completion of Phase I. Notably, there will be no demolition during the development of Phases II–IV while Phase I is in progress.

The implementation of overall Phase 1 requires the demolition of .0 m² of existing non-heritage structures, including the Griya Husada (5,629.0 m²), MM Juice or Ex-BPJS Building (197 m²), the Outpatient Installation building (IRJ/Anyelir, 6,246.0 m²), Building Azalea (3,035.0m²), Amarilis Building (392.0 m²), pharmacy (1,728.0 m²), Genset House (48.0 m²), Pump House (24.8 m²) and Mosque (76 m²); see Figure 1-5.

This master plan emphasizes the urgent need to enhance the hospital's capacity to address nine key national priority disease groups, comprising heart disease, cancer, diabetes mellitus, kidney failure, liver disease, stroke, maternal and child health, tuberculosis, and infectious diseases. The redevelopment aims to increase the hospital's total inpatient capacity from the current 851 operational beds to 1,352 beds upon completion of Phase 1. Under the AIIB-financed scope, Tower and 1A-JKN will provide 873 beds for BPJS inpatient services and general intensive care, while Podium and Tower 1B will provide 531 beds.

As a multilateral development bank, AIIB is committed to ensuring that all projects it finances are implemented in accordance with the AIIB Environmental and Social Framework (ESF) and Good International Industry Practice (GIIP). Accordingly, Environmental and Social Impact Assessments and Environmental and Social Management Plans (hereinafter collectively referred to as ESIA-ESMPs) are required for each hospital subproject under the TRUST Project. These requirements reflect AIIB's responsibility to identify potential environmental and social risks associated with project activities and to ensure that appropriate mitigation and management measures are in place prior to project implementation.

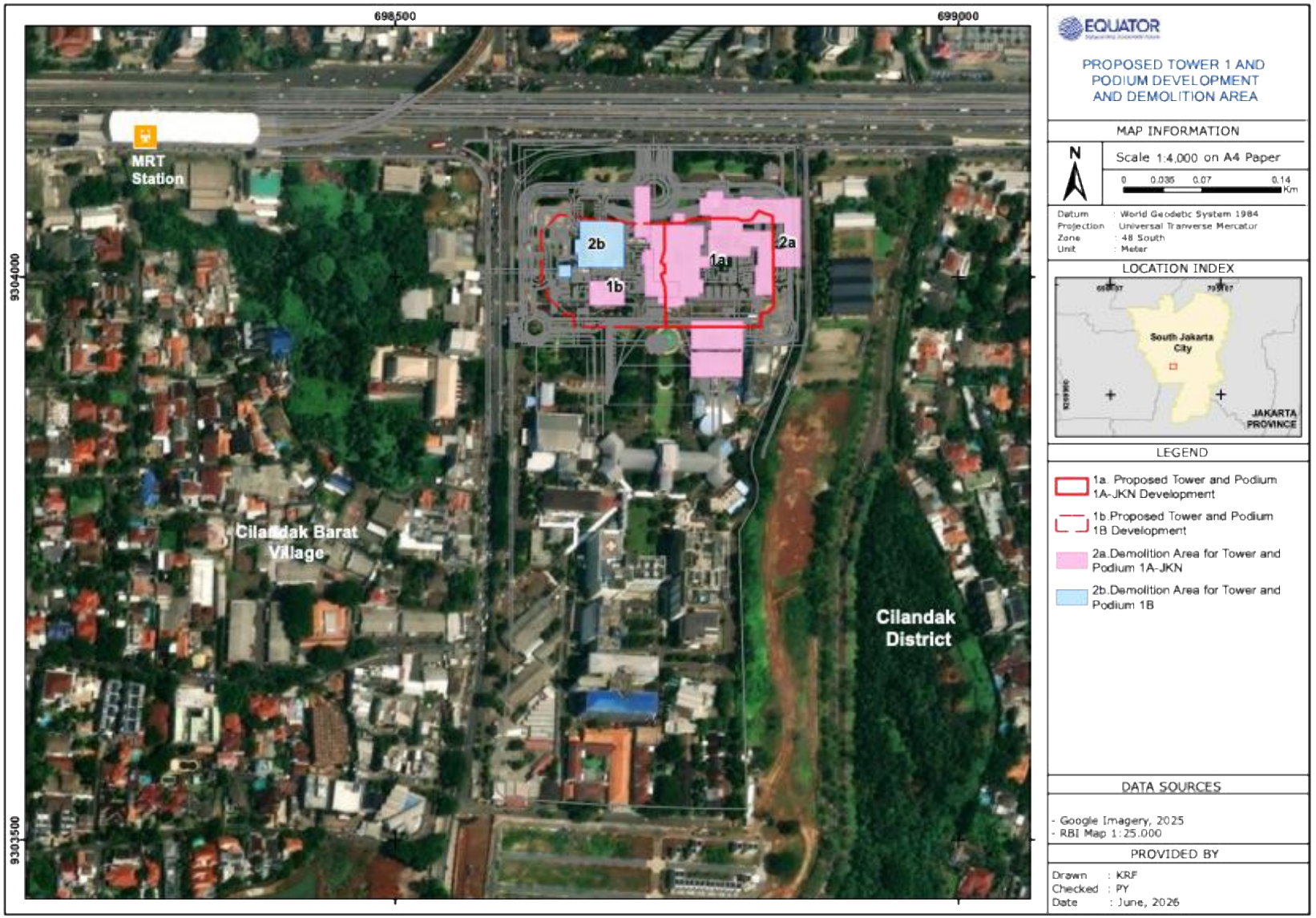


Figure 1-5. Demolition Area for AIIB-Financed Buildings

The primary objectives of this ESIA-ESMP are to: (i) describe the existing environmental and social baseline conditions at and surrounding the project site; (ii) identify and evaluate potential environmental and social impacts arising from planned construction and development activities; (iii) propose financially and technically feasible mitigation measures and management plans to avoid, minimize, restore, or offset adverse impacts; and (iv) establish a monitoring framework to track the effectiveness of implemented measures throughout the project lifecycle. The findings and recommendations of this ESIA are intended to inform project design, guide implementation, and support informed decision-making by both the Government of Indonesia and AIIB as the financing institution

To support the ESIA study for Tower and Podium 1A-JKN, and utility building, as well as relevant associated facilities (see Section 1.7), this document integrates data and information from the existing operations of Fatmawati Hospital, comprising the current environmental and social documents, regulatory frameworks and permits, and other relevant references, together with a set of development plans including the updated masterplan, the previous masterplan, Pre-Feasibility Study (March 2026), interviews, baseline surveys, and engineering input. This approach ensures that the assessment reflects the most current understanding of environmental and social conditions, project design, and the stakeholder context.

This ESIA-ESMP has been prepared to meet the environmental and social requirements of the AIIB Environmental and Social Framework, specifically the Environmental and Social Policy (ESP), the Environmental and Social Exclusion List (ESEL), and Environmental and Social Standards 1 and 2 (ESS1: Environmental and Social Assessment and Management; and ESS2: Land Acquisition and Involuntary Resettlement), as well as the national regulatory framework, including the Environmental Protection and Management Law (Law No. 32 of 2009) and its implementing regulations comprising Government Regulation No. 22 of 2021, Minister of Environment and Forestry Regulation No. 4 of 2021, and Minister of Environment Regulation No. 22 of 2025.

In parallel with ESIA preparation, Fatmawati Hospital is also preparing the national Environmental Impact Assessment (AMDAL) and its subsequent environmental technical documents and approvals in accordance with Government Regulation No. 22 of 2021 on Environmental Protection and Management, while finalizing the Feasibility Study, Detailed Engineering Design (DED), and other supporting technical studies and permitting processes required for project development. As these technical and regulatory processes are being undertaken concurrently, certain project parameters, engineering layouts, utility configurations, construction methodologies, operational arrangements, and safeguard measures may continue to be refined during subsequent stages of project preparation and detailed design.

Accordingly, this ESIA-ESMP should be regarded as a living document reflecting the best available project information at the time of preparation, and may be updated periodically to incorporate refinements arising from AMDAL review, DED finalization, permitting outcomes, stakeholder consultation, and lender due diligence processes. Further alignment between the AMDAL documentation, DED outputs, permitting processes, and ESIA-ESMP commitments will continue throughout project implementation to ensure consistency with both Indonesian regulatory requirements and AIIB Environmental and Social Framework obligations.

1.1. Institutional Profile

Fatmawati Hospital, established as a Class A General and Teaching Hospital, was founded in 1954 as a pediatric tuberculosis hospital under the name Rumah Sakit Ibu Soekarno. Formal transfer to the Department of Health took place on 15 April 1961. Since then, the hospital has undergone continuous transformation to its present standing as a National Referral Center with aspirations towards regional prominence in Asia. A summary of key institutional milestones is presented in **Table 1.1.**

Table 1.1. Key Institutional Milestones of Fatmawati Hospital

Year	Event
15 April 1961	Formal transfer to the Department of Health; designated as the hospital's founding anniversary.
23 May 1967	Renamed Fatmawati Hospital by decree of Governor of Jakarta Province - Ali Sadikin.
1984	Designated as a Class B Teaching Hospital and regional referral centre for South Jakarta (Minister of Health Decree No. 294/Menkes/SK/V/1984).
1992–1997	Transition to Self-Financing Unit status, subsequently to Non-Tax State Revenue framework (Law No. 20/1997).
2000	Designated as a State Enterprise Hospital (Government Regulation No. 117/2000)
2005	Establishment of PPK-BLU status (Minister of Health Decree No. 1243/Menkes/VIII/2005); applicable to the present day.
2010	Designated as a Primary Teaching Hospital Organizer (RSPPU).
2024	Adoption of the 2026–2036 Redevelopment Masterplan through Minister of Health Decree No. HK.01.07/MENKES/1673/2024.

Following Minister of Health (MOH) Regulation No. 26 of 2022, as amended by MOH Regulation No. 9 of 2024, this hospital has been operated under a Public Service Agency Financial Management framework (BLU) since 2005 (Minister of Health Decree No. 1243/Menkes/VIII/2005). This hospital is directed by an Executive Director and its Board of Directors **(Table 1.2)**. The Executive Director holds full authority over clinical operations, human resource management, finance, assets, and procurement (MOH Decree No. 41/2020).

Table 1.2. Directorate structure of Fatmawati Hospital

Directorate	Primary Functions
Medical and Nursing Services	Clinical services, nursing, and medical support across 11 clinical installation units
Human Resources, Education, and Research	Organizational development, training, innovation and intellectual property units, functional education units, and clinical research units
Planning and Finance	Planning and evaluation, budgeting, financial execution, accounting, state asset management, and the Medical Records Installation
Operational Services	Legal affairs and public relations, health promotion and marketing, general administration, Environmental Health and Safety Installation (IKLK3), hospital information systems, facility maintenance, and Central Sterilization and Laundry Installation

1.2. Project Location and Applicable Permits

Fatmawati Hospital is situated at Jalan RS Fatmawati Raya No. 4, Cilandak Barat sub-district, Cilandak district, South Jakarta Municipality, DKI Jakarta Province. The hospital occupies a site of 135,740 m²

(approximately 13 hectares) set within a fully developed metropolitan environment. The site is bounded to the north by Jalan Raya TB Simatupang and the Jakarta Outer Ring Toll Road (*Tol Lingkar Luar Jakarta*), to the east and south by Jalan Lingkar Fatmawati and Fatmawati City Center, and to the west by Jalan Raya RS Fatmawati Raya, Fatmawati MRT Station and the South Jakarta Post Office. The hospital is accessible via multiple public transport modes, including the Fatmawati MRT Station, TransJakarta bus routes, taxis, ride-hailing services, and intercity buses. Land ownership is registered under the Ministry of Health under Right-of-Use Certificate No. 198-2 of 2011. The spatial extent and immediate surroundings of the Fatmawati Hospital site are illustrated in **Figure 1-6**.

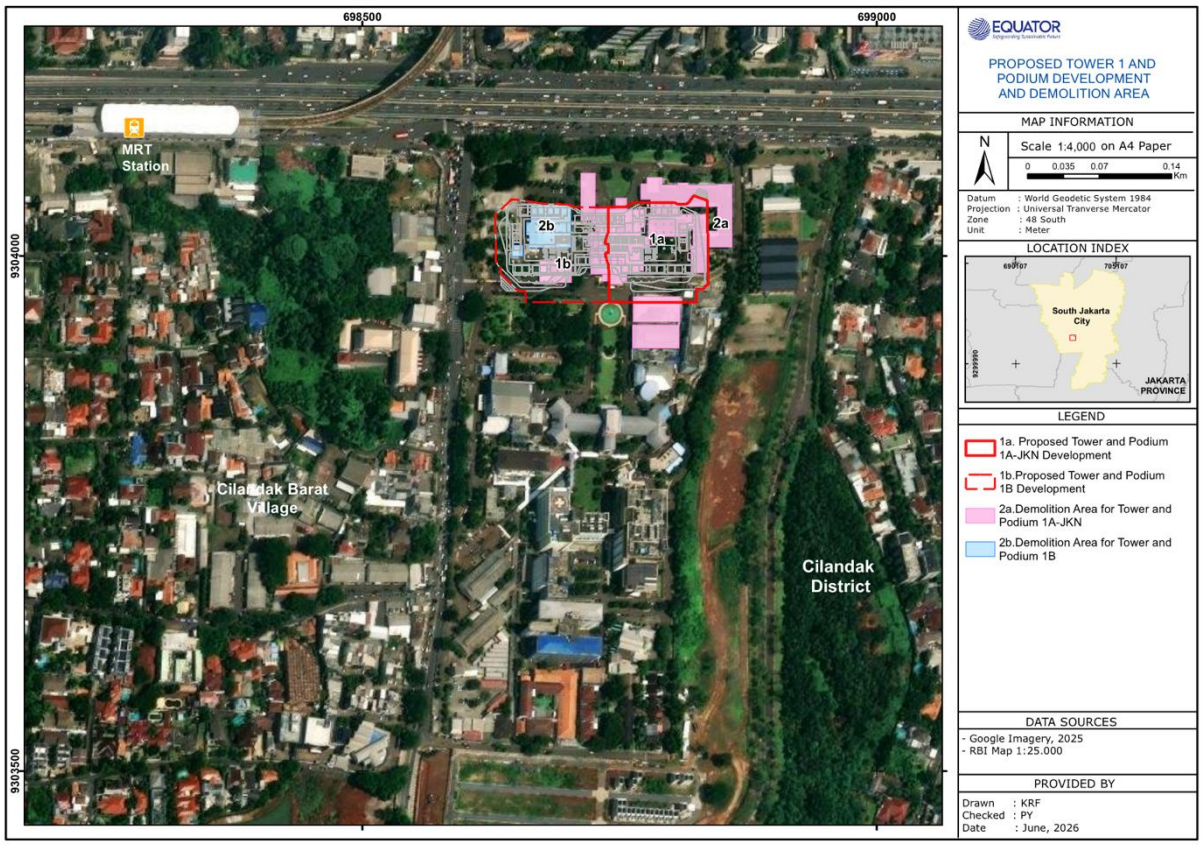


Figure 1-6. Project Footprint of Fatmawati Hospital

With the exception of the environmental approval (including DELH[5], AMDAL, Andalalin, Technical Approval for Air Emissions and Wastewater, and Hazardous Waste Technical Requirements) for the hospital redevelopment, which is currently being prepared in parallel through the AMDAL process and is anticipated to be completed by the end of 2026, all legal instruments supporting both the hospital's existing operations and the planned redevelopment activities are generally in place, as summarized in **Table 1.3**.

Table 1.3. Applicable permits and legal instruments

Permit / Document	Details
Business Identification Number (NIB)	8120003972112, issued 14 July 2022 (KBLI 86101, domestic investment), replacing Operational Permit No. 9/1/10/KES/PMDN/2017

[5] a retrospective environmental impact document required in Indonesia. It is used for existing or operational business activities that has not updated its AMDAL document to the existing development but already hold a valid operational/business license.

Permit / Document	Details
Spatial Utilisation Conformity Approval (KKPR)	DKI Jakarta No. 11062410113174492, issued 11 June 2024; approved area 172,333.65 m²; zoning SPU-1 + RTH-8 + K-1; legal basis Provincial Regulation No. 31/2022 on Detailed Spatial Plan (RDTR)
Tax Identification Number (NPWP)	00.144.676.4-016.000
Bed Capacity Decree	No. HK.02.03/D.XXI/11087/2025 — 851 operational beds
Organisational Structure Decree (SOTK)	Executive Director Decree No. HK.02.03/D.XXI/10447/2025
Right-of-Use Certificate	No. 198-2 of 2011, registered under the Ministry of Health No. 82.HP/Cilandak Barat dated September 9, 1990
Urban Planning Statement (KRK)	Issued 2021
Building Construction Permits (IMB)	12 individual permits covering Building Bougenville, GPS, IRJ, Teratai/RSF Awal, Anggrek, IGH, and the Cancer Centre Bunker
Hospital Business Licence	Issued 2022
PPK-BLU Status	In effect since 2005

1.3. Project Rationale

As a primary national referral center, Fatmawati Hospital plays a vital role in providing tertiary health services to the population of DKI Jakarta and the broader national catchment area. From 2018 to 2023, the overwhelming majority of patients at the hospital were covered by the national health security program (*Jaminan Kesehatan Nasional*, JKN), with coverage in Jakarta reaching 99.9% by 2023, according to the 2021 National Survey. The hospital's average bed occupancy rate ranged from 70% to 80%, increasing by approximately 4.2% annually. Annual outpatient visits have followed a broadly upward trajectory, recovering from a pandemic-related decline in 2020 to reach 869,338 visits in 2023, approaching the pre-pandemic peak of 883,682 recorded in 2019. Surgical procedures increased sharply by 25% from 10,517 in 2022 to 13,135. These trends are illustrated in Error! Reference source not found.Error! Reference source not found..

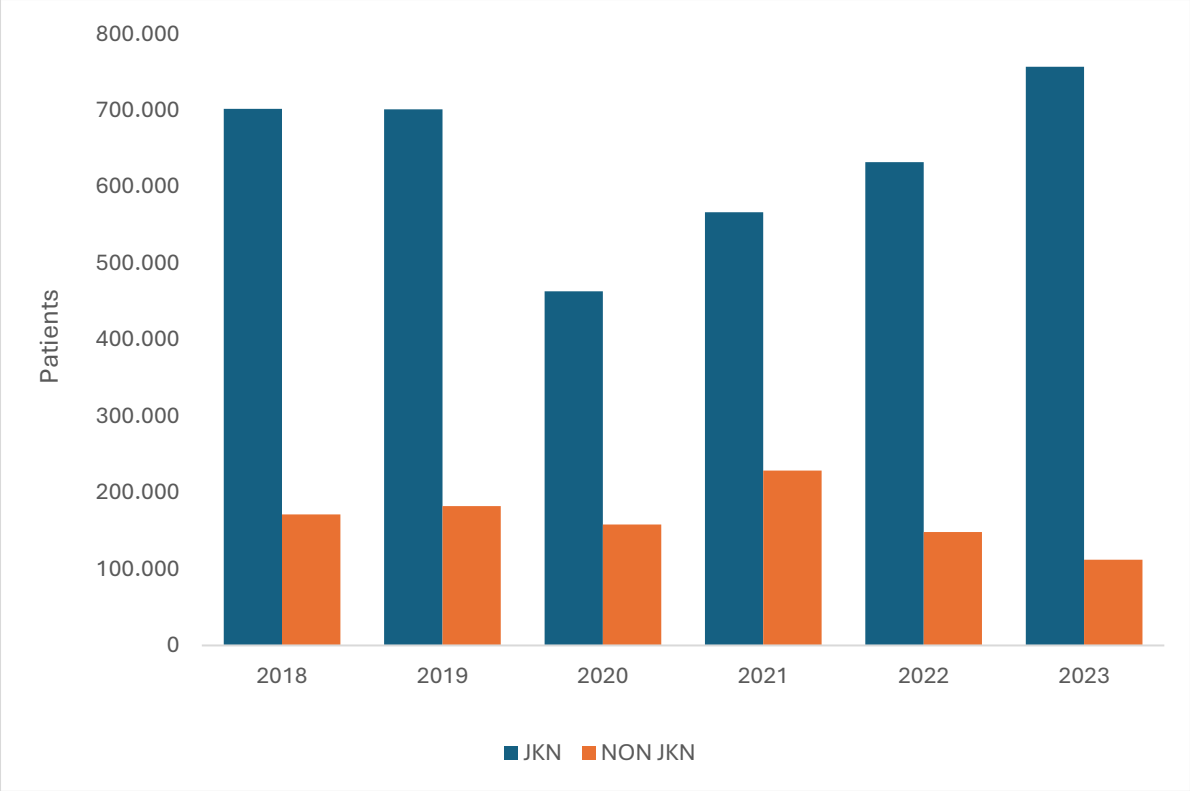


Figure 1-7. Annual Patient Trends at Fatmawati Hospital

Not with standing the demand for this service, Fatmawati Hospital's existing infrastructure presents several constraints that limit its capacity to meet current and projected needs. These constraints include limited inpatient bed capacity relative to demand, inadequate parking facilities, outdated building stock with limited functional integration across campuses, and disconnected clinical circulation pathways that reduce operational efficiency. The nine buildings designated for demolition under Phase 1, comprising Griya Husada Building, Ex-BPJS Building, the General Outpatient Clinic (IRJ), Azalea Building, Amarilis Building, Pharmacy, the Genset House, Pump House, and Mosque , no longer satisfy the technical and functional standards required for contemporary hospital services. Under current conditions, inpatient bed demand at Fatmawati Hospital is projected to reach 1,352 beds by 2029.

At the national level, Indonesia continues to face the challenge of 600,000 to 1,000,000 citizens seeking medical care abroad annually, representing an estimated outflow of approximately USD 11.5 billion per year, with Singapore, Malaysia, and Thailand as the principal destinations. Without sustained investment in tertiary infrastructure, Fatmawati Hospital would be unable to fulfill the Ministry of Health's objective of establishing an Asia-standard national referral center capable of retaining Indonesian patients within the country.

Considering these circumstances, the redevelopment of Fatmawati Hospital is necessary. The redevelopment will be carried out from 2027 to 2041 and encompasses the following principal objectives.

First, the *expansion and modernization of clinical service capacity* through the construction of 73,445 m^2 buildings, including Tower 1A-JKN of 31,076 m^2 (Hospital Service Block: 22 storeys above grade, 2 basement levels) and its associated Podium 1A-JKN of 23,108 m^2 (5 storeys above grade, 2 basement levels), two-level basement of 15,536 m^2, together with utility building of 3,725 m^2. This component

constitutes the scope financed by AIIB under the TRUST Project and will be implemented during Phase I (2027–2030).

Utility building aims to support a wastewater treatment plant (750 m^3/day), an additional power supply of 21.0 MW — comprising a 10 MVA generator, a 2 MVA UPS, and solar panels of 10.8 MWp (at 98% AC conversion efficiency) — a water supply system (2,200 m^3), a rainwater harvesting tank (150 m^3), and a pump house (364 m^3).

Tower 1B (Executive Service Block: 5 storeys above grade, 2 basement levels) and its associated Podium 1B will be developed as an Associated Facility financed from other sources (see Section 1.7). Further, the project timeline is provided in **Table 1.4**.

Second, the *expansion of education and research capacity* through the construction of a Training Center and Research Center under Phase 2 in the period 2030 to 2034.

Third, the *expansion of the hospital's priority services* under Phase 3 (2034 to 2038), including the Fatmawati Orthopedic Center, oncology services through the Cancer Center, uro-nephrology, including organ transplantation, maternal and child health, and minimally invasive surgery.

Fourth, the *implementation of Smart and Green Hospital design principles* and supporting hospitality and convention infrastructure under Phase 4 (2034 to 2038) aims to maximize resource efficiency, occupant well-being, and lifecycle cost-effectiveness.

These four development phases collectively seek to strengthen Fatmawati Hospital's role as a primary teaching hospital for general practitioners, specialists, and subspecialists, and to address nine key national priority disease groups mandated under Law No. 17 of 2023 on Health, comprising heart disease, cancer, diabetes mellitus, kidney failure, liver disease, stroke, maternal and child health, tuberculosis, and infectious diseases.

The expansion of physical capacity to support these objectives will generate environmental and social risks during the construction phase, including the demolition of existing buildings and the continuation of active hospital operations throughout the construction period. The increase in operational volume following completion, including additional inpatient beds, operating theatres, and transplantation services, will also have implications for medical waste loads, energy and water consumption, and hazardous waste management requirements. Both dimensions of risk are systematically identified and assessed in Chapter 7 of this document.

Table 1.4. Project Timeline for Phase I (2026 – 2030)

No.	Activity	Responsibility (From → To)	Procurement Method	Schedule	Status
1	Bluebook	MoH → Bappenas	–	Apr 2026	Completed
2	Lender Commitment	Bappenas → AIIB	–	Apr 2026	Completed
3	Greenbook	Bappenas → MoH	–	May 2026	Completed
4	AMDAL – ESIA (living document)	Consultant → 8 Hospitals; disclosure by MoH & AIIB	–	Consultant contract: May 2026; ESIA preparation: May 2026 – Mar 2027; ESIA disclosure (EA & AIIB): Jun 2026; soil test and KKOP permit (if any): Jul 2026	Ongoing; ESIA 100% submitted
5	Readiness Criteria (consolidated, Chapters I–VII and annexes)	MoH → Bappenas	–	May – Jul 2026	Completed; awaiting consolidation of 8 hospitals
6	Project Timeline – 8 Hospitals	8-Hospital Project	–	May 2026	Completed
7	FY 2027 DIPA Pipeline Proposal	MoH	–	Desk review & submission: May – Jun 2026; budget ceiling meeting: Jun 2026; budget allocation: Oct 2026	Ongoing
8	Appraisal Mission (site visit of 4 hospitals & appraisal)	AIIB / MoH	–	Jun 2026	Completed
9	List of Activities (Daftar Kegiatan)	MoH → Bappenas	–	Aug 2026	Planned
10	Loan Negotiation	MoF → AIIB	–	Sep 2026	Planned
11	AIIB Board Approval	AIIB	–	Oct 2026	Planned
12	Advance Procurement	MoH → LKPP	–	Oct 2026	Planned
13	Loan Agreement	MoF → AIIB	–	Oct – Nov 2026	Planned
14	Declaration of Effectiveness	MoH → MoL, AIIB, MoF	–	Dec 2026 – Jan 2027	Planned
15	DIPA Revision	MoH	–	Feb – Mar 2027	Planned
16	Start-up Workshop / Mid-Term Review	PMU / AIIB	–	Start-up: Mar 2027; Mid-Term Review: Nov 2029	Planned
17	Detailed Engineering Design Consultant (DEDC, by BLU)	Hospital (BLU)	NCT	Procurement (min. 2 months): Jun – Aug 2026; building design (min. 6 months): Sep 2026 – Feb 2027; construction tender support: Mar – Jul 2027	Planned
18	Construction Management Consultant (CMC, by loan)	PMU / PIU	IOCS	Procurement (min. 6 months): Sep 2026 – Feb 2027; design review & construction tender support: Mar – Jul 2027; services: Mar 2027 – Jan 2030	Planned
19	Demolition – permitting and demolition of existing buildings affected by the Twin Tower	Hospital / Contractor	–	Aug 2026 – Jul 2027	Planned
20	Construction	MoH / Hospital / Contractor	NCT	Design approval by Minister of Health: Jan – Feb 2027; BoQ approval: Feb 2027; construction tender (2 buildings): Mar – Jul 2027; construction works: Aug 2027 – Jan 2030 (Tower 1A JKN – TRUST Project AIIB: Aug 2027 – Jul 2029); defects liability/maintenance: Aug 2029 – Jul 2030; soft opening: Dec 2029; grand opening: Apr 2030	Planned
21	Equipment Quality Consultant (EQC)	PMU / PIU	IOCS	Medical equipment list by hospital: Sep – Oct 2026; procurement: Nov 2026 – Apr 2027; equipment list approval: May – Jul 2027; tender support: Aug 2027 – Jan 2028; services: Sep 2027 – Jan 2030	Planned
22	Medical Equipment	Hospital / Supplier	IOCT	Tender: Jun – Nov 2027; implementation: Dec 2027 – Apr 2029	Planned

No.	Activity	Responsibility (From → To)	Procurement Method	Schedule	Status
23	Non-Medical & Supporting Equipment (IT & furniture)	Hospital / Supplier	NCT	Non-medical: tender Aug 2028 – Jan 2029, implementation Feb – Sep 2029; furniture: tender Dec 2028 – Jan 2029, implementation Feb – Sep 2029; IT: tender Feb – Jul 2028, implementation Aug 2028 – May 2029	Planned
24	Human Capital Investment & Research (teaching hospital & RSPPU, clinical & technical services, research)	MoH / Hospital	–	May 2027 – Dec 2030	Planned
25	Project Management (PMU & PIU, financial audit, annual reports, project completion)	PMU / PIU	–	PMU/PIU operation: May 2027 – Mar 2032; annual reports: Apr 2028 – Jun 2031; project completion: 2031	Planned

Notes: IOCS = International Open Competitive Selection; IOCT = International Open Competitive Tendering; NCT = National Competitive Tendering; MoH = Ministry of Health; MoF = Ministry of Finance; MoL = Ministry of Law; DIPA = Budget Implementation Document; BoQ = Bill of Quantities; BLU = Public Service Agency; KKOP = Aviation Operation Safety Area permit. Source: Twin Tower RSUP Fatmawati progress schedule, 28 June 2026.

1.4. Project Activities and Expected Results

The redevelopment of Fatmawati Hospital (hereinafter referred to as the Project) includes pre-construction, construction, and operational stages across a four-phase implementation period from 2027 to 2030; see **Table 1.5** Error! Reference source not found.. The scope of this ESIA is limited to Phase 1 at Tower 1A-JKN, which is committed to being financed by AIIB. Accordingly, the further E&S impact assessment will be consistent with the AIIB ESF result framework and relevant national regulations, including the Ministry of Health's policy directives under Law No. 17 of 2023 on Health, Government Regulation No. 28 of 2024, and other applicable regulations.

Table 1.5. Project Activities and Expected Results by Implementation Phase

Activity Cluster	Indicative Outputs	Expected Outcome
Pre-construction	Finalization of Detailed Engineering Design (DED) of Phase 1; demolition planning for non-heritage existing buildings comprising the Griya Husada Building, Ex-BPJS Building, the General Outpatient Clinic (IRJ), Azalea Building, Amarilis Building, Pharmacy, the Genset House, Pump House, and Mosque ; laydown construction and contractor basecamp establishment; and completion of baseline survey	Construction-ready site with environmental and social baseline established
Construction Phase 1 (2026–2029)	Tower 1A-JKN (22 storeys above grade and 2 basement levels), Podium (5 storeys above grade and 2 basement levels) under co-financing mechanisms combining AIIB and other funding sources, and Tower 1B (22 storeys above grade and 2 basement levels), along with utility building to support facilities (WWTP and additional power supply, cover a total area of 127,609.72 m². This includes outdoor spaces, landscaping, gross floor areas, fencing, gates, and drainage works. In Phase I, demolition is limited to 0 m² of existing buildings (Griya Husada Building, Ex-BPJS Building, the General Outpatient Clinic (IRJ), Azalea Building, Amarilis Building, Pharmacy, the Genset House, Pump House, and Mosque), with no further demolitions planned until Phase I is complete. The AIIB financing scope covers Building 1A-JKN, its podium, and their supporting facilities.	Clinical capacity expanded to 1,352 operational beds upon commissioning of Phase 1
Construction Phase 2 (2029–2030)	Commercial Block (Business Centre); Training Centre; Research Centre. This will be financed by other legitimate sources.	Education, research, and supporting commercial infrastructure operational
Construction Phase 3 (2031–2032)	Mortuary (i.e., funeral home and parking areas). This will be supported by other legitimate sources.	Mortuary services upgraded
Construction Phase 4 (2038–2041)	Apartment; Hotel; Parking Building (9 floors, capacity 1,185 car and 636 motorcycle spaces. This will be financed by other legitimate sources.	Hospitality, parking, and convention infrastructure operational
Operational	Transition of service portfolio to an expanded Class A General Hospital with five priority excellence services comprising orthopedics through the FOC, oncology, uro-nephrology including organ transplantation, maternal and child health, and minimally invasive surgery continuation as national referral hub	Improved access to and quality of tertiary care for DKI Jakarta and the national catchment

Phase 1 for building A & B constitutes the unit to be financed by the Asian Infrastructure Investment Bank (AIIB) under the TRUST Project. Whilst the integrated system, medical, non-medical equipment and furniture, including human capital and IT system for training and monitoring, as well as evaluation for this initial development, will be supported by co-financing between AIIB and BLU budget allocation. In addition, Building 1B (i.e., Tower 1B and Podium 1B) in Phase 1, Phases 2 through 4 remain within the Hospital's long-term development plan and will be financed from other sources, comprising Public Service Agency (BLU) revenue, investment partnerships, or subsequent state budget allocations.

1.5. Purposes of the ESIA/ESMP

This ESIA-ESMP fulfills four interlocking purposes that align the AIIB ESF requirements and the institutional commitments of Fatmawati Hospital and the Ministry of Health.

- **Policy and Regulatory compliance**: to meet the requirements as per AIIB ESF, specifically ESS1, together with the screening outcomes for ESS2 and ESS3, as well as the Government of Indonesia AMDAL process requirements under Government Regulation No. 22 of 2021, Minister of Environment and Forestry Regulation No. 4 of 2021, and Minister of Environment Regulation No. 22/2025.
- **Risk identification and management**: to identify, characterize, and prioritize environmental and social risks across the project lifecycle, and to specify mitigation, monitoring, and reporting commitments capable of being audited.
- **Stakeholder accountability**: to provide the basis for transparent disclosure to affected and interested parties, and to serve as the foundation for the Stakeholder Engagement Plan and Grievance Redress Mechanism.
- **Living document discipline**: to serve as the evolving safeguards record over the project lifecycle, with explicit version control and a defined update cadence.

1.6. Methodology for Preparing ESIA

This ESIA methodology combines six simultaneous approaches: secondary data triangulation, operational environmental monitoring data, environmental and social baseline surveys undertaken in the second and third week of June 2026, key stakeholders interview, and stakeholder consultation. The environmental and social baseline data in this document are based on the Hospital's existing semiannual environmental monitoring program, which includes ten RKL-RPL Implementation Reports submitted to the South Jakarta Sub-District Environmental Agency from 2021 to 2025. This record, supported by primary data, provides a comprehensive and representative baseline within the available timeframe. These five methodological components align with both the AIIB ESF expectations and the structure of the Indonesian AMDAL system, as outlined in Minister of Environment and Forestry Regulation No. 4 of 2021, detailed in **Table 1.6**.

Table 1.6. Methodological dimensions for ESIA preparation

Dimension	Methodological Approach	Key Sources & Timing
Desk review	Systematic review of the primary planning, design, and regulatory documents underpinning the Fatmawati Hospital redevelopment	Updated Masterplan as per June 30, 2026, Masterplan KMK 1673/2024; Pre-FS (March 2026); Hospital Profile; Schematic Design; OSS permits corpus. Schematic

Dimension	Methodological Approach	Key Sources & Timing
		Design and remaining permits to be incorporated prior to the subsequent version of this document
Secondary data triangulation	Cross-referencing of government agency datasets across four domains: climate/meteorology, demographics/socio-economics, environmental permits/monitoring, and spatial planning.	BMKG DKI Jakarta (climate); BPS DKI Jakarta Province and South Jakarta Municipality (demographics); DLH DKI Jakarta and Sudin LH South Jakarta (environmental); Bappeda and DPMPTSP DKI Jakarta (RTRW/RDTR).
Operational environmental monitoring data	Compilation and analysis of the Hospital's routine semi-annual environmental monitoring outputs covering ambient air quality, noise, water quality (supply, groundwater, and WWTP effluent), and B3 waste management. Trends, exceedances, and data gaps are characterized against applicable national standards (PP 22/2021, MOEF Regulation 6/2021) to establish the operational baseline.	Ten semester RKL-RPL Implementation Reports submitted to the South Jakarta Sub-district Environmental Agency (Semesters I and II, 2021–2025).
Environmental and social baseline surveys	The environmental baseline data are examined for trends, exceedances, and gaps, and are compared with national standards (PP 22/2021, MOEF Regulation 6/2021) and IFC General EHS Guidelines (2007). Social baseline surveys are undertaken using purposive sampling to include potentially affected communities involved in public consultation, as well as the wider community within the Area of Interest (AoI).	Primary environmental and social baseline data generated from monitoring activities in the second week of June 2026, including ambient air quality[6], air emissions, noise levels, wastewater quality, surface water quality in drainage channels and receiving water bodies, as well as groundwater quality. Social baseline surveys were conducted in the third week of June 2026.
Key stakeholders interview	Close coordination and engagement with the hospital representative and the pre-Detailed Engineering Design (DED) consultant provide key information on any changes from Masterplan KMK 1673/2024, including changes to the project area, utility components, the scope of the AIIB project, associated facilities, and schematic design.	During the revision of the ESIA first draft, close engagement and interviews are conducted to identify any changed components from Masterplan KMK 1673/2024, as the updated Masterplan has not yet been enacted.
Stakeholder consultation	Two-phase engagement: institutional interviews and community FGDs during ESIA preparation; formal public disclosure and consultation after draft issuance.	Phase 1: during ESIA preparation (institutional interviews, focus group discussion at Cilandak Barat Village). Phase 2: following formal disclosure through public consultation of the subsequent version of this document

6

Keys stakeholder interview from the Hospital representative, and pre-DED consultant provides the principal planning reference, Hospital Profile, Schematic Design, environmental monitoring reports, and supporting permits and institutional documents. Where documents remain under acquisition or finalization, this is noted in the Status column of table below. The table will be updated as new sources become available over the course of the assessment.

Table 1.7. Data Sources Underpinning the ESIA

No.	Document / Data Source	Description	Status
1	A set of data from working group discussion	**30 June 2026**. Hospital representatives provided the principal information regarding the hospital profile, master design, zoning area of Phase I redevelopment, spatial plans, delineation of AIIB scope of finance, and upgraded waste management, including the upgraded WWTP, temporary hazardous waste, infectious waste, domestic waste, nuclear waste, and non-hazardous waste.	Received — principal planning reference.
2	Masterplan Fatmawati Hospital (KMK 1673/2024)	**28 October 2024**, 279 pp. covers vision, existing conditions analysis, policy framework, demographics, master programme, spatial plans, and block building concepts.	Received
3	Pre-Feasibility Study (Pre-FS)	**March 2026**, 194 pp., 8 chapters (Introduction; General Overview; Methodology; Situation Analysis; Demand Analysis; Needs Analysis; Financial Analysis; Conclusions and Recommendations). Consolidates scope into Integrated Building of 24 storeys.	Received.
4	Hospital Profile	Latest edition: institutional profile, annual operational data, organizational structure, accreditation register, and service catalogue.	Receive d as per MOH Decree No. 41/2020
5	Readiness Criteria Document Version 3.0	**March 2026**. Self-assessment of technical, regulatory, financial, and organizational readiness. References Pre-FS pp. 165–168 for medical equipment specifications (13 Integrated OT systems, PET Scan, Hybrid Cath Lab, 480 SIMRS workstations, 240 indoor access points).	Received.
6	OSS-Confirmed Permits Corpus	NIB 8120003972112 / Operational Permit No. 81200039721120002 (14 July 2022, KBLI 86101); KKPR DKI Jakarta No. 11062410113174492 (11 June 2024); NPWP 00.144.676.4-016.000; SK Bed Capacity No. HK.02.03/D.XXI/11087/2025 (851 beds).	Received.
7	SK SOTK Fatmawati Hospital (No. HK_10447_2025)	Organizational Structure and Procedures per MOH Regulation No. 26/2022 jo MOH Regulation No. 9/2024. Defines 12-chapter governance structure, PPK-BLU functions, and reporting lines to the Directorate General of Tertiary Health Services.	Received.
8	Environmental Documents	Environmental Approval (2006, parent environmental approval); 10 semester RKL-RPL Implementation Reports (Semester I and II, 2021–2025) have been submitted to the South Jakarta Environmental Agency. A new environmental document, either a revised RKL-RPL or ANDAL as per MOEF Regulation 4/2021, for the Multibuilding Planscope, is currently being prepared concurrently.	Received (10 reports). Revised RKL-RPL/ANDAL in preparation.

No.	Document / Data Source	Description	Status
9	Hazardous Waste and Domestic Waste Management - MoUs	PT PPLI — primary medical B3 vendor (contract March–June 2026; Bogor Technical Integrated Approval No. S.55/2024, SLO No. S.330, MOEF Recommendation No. S.62/2026, SK HUBDAR No. 8120). PT WPLI — supplementary medical B3 vendor (MoU January–February 2026). PT SGR — domestic waste and cleaning services.	Received.
10	AIIB Environmental and Social Framework (2024)	ESF and supporting guidance notes (healthcare sector guidance, stakeholder engagement, GRM, climate change risk).	Received.
11	National Legislation Register	Per Masterplan pp. 1–2: Law 17/2023 (Health), GR 28/2024, MOH Regulation 5/2022, MOH Regulation 26/2022 jo MOH Regulation 9/2024, MOH Regulation 40/2022, MOH Regulation 13/2022, MOH Regulation 14/2021, MOH Regulation 25/2022 jo MOH Regulation 45/2019, Law 11/2020 (Job Creation) and GR 5/2021, Law 40/2004 (SJSN), MOH Regulation 2/2023, MOPW Regulation 26/PRT/M/2008; supplemented by Law 32/2009 (PPLH), PP 22/2021, MOEF Regulation 4/2021, and MOE Regulation No. 22/2025 for environmental safeguards.	Compiled.

1.7. Screening for Associated Facilities

Associated Facilities are defined under AIIB ESS1 as facilities or activities that are not part of the project but are essential for it to function, are constructed or expanded exclusively or essentially because of the project, and would not be constructed or expanded if the project did not exist. The screening below applies that test to the third-party facilities and activities that intersect with the Fatmawati Hospital redevelopment, as presented in Table 1.8.

The associated facility screening (see **Table 1.8**) indicates that the construction activities for Tower and Podium 1B and its supporting activities are considered part of the Associated Facility scope for the purposes of this ESIA-ESMP. Since the AFs are managed by the PIU, the PIU shall ensure that the impact assessments in this ESIA and the subsequent ESMP are implemented for AFs. This includes, but is not limited to, protocols for demolition, gender and SEAH/VAC/GBV action plans for construction workers, waste management procedures, livelihood restoration plans, and other applicable mitigation measures and sub-plans.

Table 1.8. Associated Facilities Screening Results

No	Activity	Financial Source	Directly and Materially Related to Project	Carried Out Contemporaneously	Necessary for Project Viability	Conclusion
1	Construction of Tower 1B (Executive Service Block, 22 storeys above grade and 2 basement levels, 396 beds for executive inpatient and intensive care services), and Podium 1B (5-storey, 135 beds)	GoI BLU and/or investment partnership	Yes — Tower 1B forms an integral component of the Phase 1 multibuilding plan and shares the same site, utility infrastructure, access routes, and construction management framework as Tower 1A-JKN and Podium	Yes — Building 1B construction will be implemented contemporaneously with Building 1A-JKN and Podium 1A-JKN under the Phase 1 programme (2025–2028).	Yes — the combined 1,352-bed target cannot be achieved without Tower 1B.	**Associated Facility**
2	Demolition of existing structures for Tower 1A-JKN, Tower 1B and its associated podiums, including building for subsequent utilities. The structures confirmed for demolition are Griya Husada (5,629.0 m^2), MM Juice or Ex-BPJS Building (197 m^2), the Outpatient Installation building (IRJ/Anyelir, 6,246.0 m^2), Building Azalea (3,035.0m^2), Amarilis Building (392.0 m^2), pharmacy (1,728.0 m^2), Genset House (48.0 m^2), Pump House (24.8 m^2) and Mosque (76 m^2).	GoI BLU and/or investment partnership	Yes — demolition of these structures within the same site is directly and materially related to clearing the footprint for Tower 1B and enabling Phase 1 site works.	Yes — BLU-funded demolition will be carried out to facilitate the construction of BLU and AIIB buildings.	Yes — the site cannot be prepared for Phase 1 construction without removing these structures.	**Associated Facility**
3	Healthcare service relocation comprising cascading relocation of clinical services from buildings scheduled for	GoI BLU	Yes — relocation is directly and materially required to maintain hospital operations during demolition and	Yes — relocation will be implemented prior to and throughout the construction phase	Yes — without service relocation, demolition cannot proceed and the	**Associated Facility**

No	Activity	Financial Source	Directly and Materially Related to Project	Carried Out Contemporaneously	Necessary for Project Viability	Conclusion
	demolition to temporary locations within the hospital campus, funded from BLU operational budget.		construction of Tower 1A-JKN, Podium, and Tower 1B	(2027–2030) per Relocation Map.	project cannot be implemented.	
4	Tenant relocation involves the phased relocation of commercial services from buildings scheduled for demolition to temporary locations within the hospital campus, funded by the BLU budget allocation.	Investment partnership	Yes — relocation is directly and materially required to maintain hospital operations during demolition and construction of Tower 1A-JKN, Podium, and Tower 1B	Yes — relocation will be implemented prior to and throughout the construction phase (2027–2030) per Relocation Map.	Yes — without service relocation, demolition cannot proceed and the project cannot be implemented.	**Associated Facility**
5	Construction laydown area, contractor base camp, and construction waste management facilities for Tower 1B within the existing hospital campus.	GoI BLU and/or investment partnership	Yes — provision of laydown area and contractor base camp within the hospital campus is directly and materially related to the construction of all three buildings.	Yes — laydown area and base camp will be established prior to and maintained throughout the construction phase	Yes — construction cannot proceed without a designated laydown area and base camp within the campus.	**Associated Facility**
6	Upgrading of IPAL Sentral wastewater treatment system beyond existing 510 m^3/day capacity to accommodate expanded hospital operations upon Phase 1 completion (projected capacity requirement approximately 1,455.49 m^3/day based on Permenkes 7/2019 and SNI 03-7065-2005 for 1,352-bed operation).	Cofinancing mechanisms: the installation of new IPAL will be financed by GoI BLU and/or operational budget; whilst the structure will be supported by AIIB-financed.	Yes — IPAL upgrade is directly required to manage increased wastewater generation from expanded 1,352-bed operations.	Yes — upgrade will be designed during DED and implemented before or concurrent with Building 1A-JKN and Podium 1A-JKN commissioning.	Yes — without IPAL upgrade, expanded hospital operations cannot comply with Pertek BMAL environmental permit standards.	**Associated Facility**

No	Activity	Financial Source	Directly and Materially Related to Project	Carried Out Contemporaneously	Necessary for Project Viability	Conclusion
7	MRT Fatmawati Station (Stasiun MRT Fatmawati) and TransJakarta bus corridor.	JICA and DKI Jakarta Provincial Budget	The MRT station construction is not directly or materially related to the hospital redevelopment, although there is a transport interface during construction material and equipment movement.	The MRT Fatmawati Station was already constructed and in operation prior to the identification of the TRUST Project; the TransJakarta corridor is an established public transport route	The MRT station and TransJakarta corridor are independent metropolitan public transport infrastructures serving the entire Jakarta corridor and are not exclusively or primarily associated with the Fatmawati Hospital project. However, they constitute part of the broader environmental and social setting, particularly with background noise, vibration, and air quality generated by these facilities.	**Not an Associated Facility** — transport interface addressed through Traffic Impact Assessment (Andalalin) and Stakeholder Engagement Plan.
8	Existing access roads comprising Jalan Raya TB Simatupang, Jakarta Outer Ring Toll Road, Jalan Raya Fatmawati Raya, and Jalan Lingkar Fatmawati.	Government of DKI Jakarta and central government	The roads directly connect Fatmawati Hospital to the national road network, but were constructed before the TRUST Project was identified and serve the surrounding community, commercial facilities, and institutional uses independently of the hospital.	The roads are existing operational infrastructure; any maintenance or minor upgrading would proceed regardless of the hospital project.	The roads serve not only Fatmawati Hospital but also Cilandak Town Square, BBPK Cilandak, TB Simatupang office corridor, and surrounding residential communities.	**Not an Associated Facility** — traffic impacts addressed through Andalalin

No	Activity	Financial Source	Directly and Materially Related to Project	Carried Out Contemporaneously	Necessary for Project Viability	Conclusion
9	PLN electricity supply upgrade and connection works.	PT PLN (state utility)	The PLN power supply serves the entire TB Simatupang corridor and surrounding area and is not constructed exclusively or essentially because of the hospital project.	Any PLN network upgrades in the area serve multiple consumers and would proceed under PLN's own network development programme.	The viability of the hospital project does not depend on a specific PLN infrastructure investment; standard grid connection procedures apply.	**Not an Associated Facility** — Scope 2 greenhouse gas emissions from grid electricity consumption are reported in Chapter 9 (Climate Change Assessment)

2. PROJECT DESCRIPTION

This chapter outlines the physical and institutional aspects of the Fatmawati Hospital redevelopment program, which collectively establish the project's scope for safeguards assessment. It details the types and scope of work, the parties involved and their official roles, the project location and site capacity, the cultural heritage context, and the construction lifecycle, including pre-construction, construction, operation, and decommissioning. This is complemented by the Smart and Green Hospital strategy applied throughout all phases.

2.1. Project Type and Scope

Tower and Podium 1B (Executive Service Block), which will be constructed concurrently under the Phase 1 master plan, is classified as an Associated Facility and assessed in this document in accordance with AIIB ESS1 requirements. The assessment also includes project-associated facilities and activities, such as the demolition of non-heritage buildings, the relocation of healthcare services and tenants, the construction of a laydown area and a contractor base camp, and construction waste management facilities. The construction footprint for Tower and Podium 1A-JKN and the utility building is approximately 54,006 m², while footprint for Tower and Podium 1B is 5,426.8 m². The total construction footprint for Phase I is approximately 59,908 m² within the 135,740 m² Fatmawati Hospital site.

Tower 1A-JKN will function as a 22-storey inpatient care unit with 786 beds for BPJS inpatient services and general intensive care, including inpatient wards, critical care, operating rooms, outpatient clinics, and emergency rooms. The two basement levels will support catering and kitchen facilities, laundry, pharmacy, and parking areas. Podium 1A-JKN and 1B will serve as a 5-storey facility with 170 beds dedicated to support laboratories, diagnostic centers, organ transplantation, radiology, thalassemia, hemodialysis, endoscopy, and medical checkups, as well as infectious clinics, and medical rehabilitation for BPJS and executive patients, pharmacy for JKN and executive patients, CITO cathlab, radiology, wellness center, ICU, PICU, HCU, Emergency Instalation Unit, and infectious clinics. Tower 1B will serve as a 22-storey inpatient care unit with 396 beds for executive inpatient services and general intensive care.

Construction is scheduled from 2026 to 2029 and will include the demolition of approximately 10,519.2 m² of existing non-heritage structures, confirmed as the Outpatient Installation building (IRJ), Pharmacy, Amarilis Building, and Building Azalea. Following demolition, Griya Husada (5,629.0 m²), MM Juice or Ex-BPJS Building (197 m²), Genset House (48.0 m²), Pump House (24.8 m²) and Mosque (76 m²) will also be demolished to support construction of Tower and Podium 1B. Since the Phase 1 redevelopment will be confined to the existing Fatmawati Hospital site, land acquisition is not required. However, tenant relocation is within the scope of this ESIA-ESMP. The technical specifications of Tower 1A-JKN and Podium are presented in Table 2.1.

Table 2.1.Technical specifications of the Multi-building Plan

Parameter	Specification
Building configuration	Tower 1A-JKN: 22 storeys above grade + 2 basement levels Podium: 5 storey + 2 basement levels
Gross floor area + Roof Garden	164,032.35 m²

Parameter	Specification
Open outdoor space	6,686.35 m²
Landscape components	Garden, softscape, hardscape, street furniture, and pedestrian areas at 1.5% of building value
External works	Roads, fencing, gates, and drainage at 3% of building value
Primary zoning (SPU-1, Public Service Facility, City Scale)	Building coverage (KDB) 60%; floor-area ratio (KLB) 5%; green coverage (KDH) 20%; basement coverage (KTB) 60%; height limit 30 m (KKOP up to 150 m)
Green belt zoning (RTH-8)	Green coverage ratio of 20%
Commercial zoning (K-1, City Scale Trade and Services)	KDB 55%; KLB 6.84%; KTB 60%
Permit reconciliation	Final KLB design against the 22-storey building to be confirmed in DED; subject to issuance of a new Building Permit (PBG) replacing the existing IMB.

2.2. Initiator and Parties Involved

The redevelopment of Fatmawati Hospital involves several key stakeholders, including the initiator, executing and implementing agencies, consultants, and regulatory authorities. The parties and their respective roles are set out in **Table 2.2**.

Table 2.2. Initiator and Parties Involved in the Project

Party	Role / Identifying Reference
Initiator	▪ BLU Rumah Sakit Umum Pusat Fatmawati Jakarta — Technical Implementation Unit of the Ministry of Health, Class A Teaching Hospital and National Referral Centre with Public Service Agency (PPK-BLU) status since 2005.NIB: 8120003972112 (KBLI 86101: Government Hospital Activity, PMDN status) ▪ NPWP: 00.144.676.4-016.000 ▪ Operational Permit: issued via NIB on 14 July 2022 (renewing No. 9/1/10/KES/PMDN/2017) ▪ Telephone: (021) 7660552 ▪ Environmental Health and OHS Installation: sanitasifatmawati@gmail.com
President Director (Direktur Utama), Fatmawati Hospital	Statutory head of the Hospital under Executive Director Decree No. HK.02.03/D.XXI/10447/2025.
Designated Environmental Officer	Environmental Health and OHS Installation (IKLK3) under the Operational Services Directorate (SK SOTK Chapter VIII C.1).
Executing Agency	Ministry of Health of the Republic of Indonesia.
Implementing Agency	Directorate General of Tertiary Health Services, Ministry of Health.
Lender	Asian Infrastructure Investment Bank (AIIB) — TRUST Project.
Project Implementation Unit (PIU)	TRUST Project PIU, Directorate General of Tertiary Health Services.
Safeguards Consultant	PT Equator Global Internasional (EGI) — selected safeguards consultant for the TRUST Project Fatmawati Hospital.
Detailed Engineering Design Consultant (DEDC)	Procurement at the planning stage

Party	Role / Identifying Reference
Construction Management / Project Management Supervision Consultant (CMC/PMSC)	Procurement at the planning stage
Equipment Consultant (EQC)	Procurement at the planning stage
AMDAL Assessment Commission (KPA)	AMDAL committee of DKI Jakarta Province — environmental document review and approval authority.
Environmental Agency of DKI Jakarta and South Jakarta Environment Agency	Provincial and municipal environmental authorities — review and approval of the revised Pertek BMAL (if required for post-expansion WWTP capacity to 1,352 beds), new Pertek BMUE, and new Rintek B3.
Investment and One-Stop Integrated Services Department (DPMPTSP) DKI Jakarta Province	One-stop investment service authority — issued KKPR (Spatial Conformity) No. 11062410113174492 (11 June 2024); will receive applications for the new PBG (Building Permit) and SLF (Certificate of Functional Worthiness) for the Multibuilding Plan via OSS-RBA.

2.3. Project Location, Site Capacity Analysis

Fatmawati Hospital is located at Jalan Fatmawati Hospital Raya No. 4, Cilandak Barat Village, Cilandak District, South Jakarta Administrative City, DKI Jakarta Province. The surrounding traffic environment is moderately to heavily congested, posing a significant constraint on construction-phase truck movement scheduling and operational-phase patient and visitor flows.

The physical characteristics and land tenure of the site are as follows:

- **Land area**: 135,740 m² (approximately 13 hectares); owned by the Ministry of Health under right of use title (per Certificate of Fatmawati Hospital Right of Use Ref. 198-2 of 2011). No additional land acquisition is required for the project.
- **Site boundary**: bounded to the north by Jalan Raya TB Simatupang and the Jakarta Outer Ring Toll Road; to the east and south by Jalan Lingkar Fatmawati and Fatmawati City Center; and to the west by Jalan Raya Fatmawati Hospital Raya and the South Jakarta Post Office.
- **Existing built-up area**: 89,252 m² across 19 building units, with 46,488 m² of open yard area; total site area 135,740 m². Post-development built-up area will be confirmed against the final Detailed Engineering Design for each phase.
- **Topography and geotechnical profile**: The site is located in lowland metropolitan South Jakarta, with terrain slopes ranging from 0 to 3%. The subsurface profile includes four layers. Layer 1 comprises high-plasticity reddish-brown clay (CH) at depths of 7 to 9.5 meters, with N-SPT values of 2 to 5. Layer 2 consists of medium-plasticity brown to grayish-brown clayey silt (MH) at depths of 11.5 to 14.5 meters, with N-SPT values from 4 to 60. Layer 3 is made up of very dense black silty sand (SM), with N-SPT values of 60, while Layer 4 features hard MH/CH at greater depths, with N-SPT values ranging from 37 to 42. Drainage and stormwater management are especially important due to the recorded maximum annual rainfall of 1,650 mm.
- **Adjacent land uses**: the National Health Training Center (BBPK Cilandak) to the west as an institutional and educational facility; residential neighborhoods; commercial uses, including Cilandak Town Square; and the TB Simatupang office and commercial corridor.
- **Spatial conformity**: the site is designated as a Public Service Facility at City Scale (sub-zone SPU-1) according to the DKI Jakarta Governor Regulation on the Detailed Spatial Plan (RDTR). It has building intensity limits of KDB 60%, KLB 5, KDH 20%, KTB 60%, and a maximum building height of 30 meters, with a KKOP ceiling of up to 150 meters. The activity is classified as KBLI

86101 (Government Hospital Activity). Confirmation of the applicable Spatial Utilization Conformity Approval (KKPR) and Urban Planning Statement (KRK) will be provided by DPMPTSP DKI Jakarta.

- **Water supply**: The existing hospital has an operational water demand of approximately 1,174.7 m^3/day. Following the proposed expansion, the total operational water demand is projected to increase to approximately 1,455.5 m^3/day. The operational total water demand will continue to be sourced from a combination of groundwater abstraction (approximately 20–30%) and municipal water supply (PDAM/PAM Jaya - approximately 70–80%), and a small portion of rainwater harvest.
- **Temporary hazardous and non-hazardous waste management facility**: The hospital currently has a 60 m^2 hazardous waste storage facility (TPS B3) with an operational storage capacity of up to 600 kg/day of hazardous waste, and a 96 m^2 non-hazardous waste storage facility (TPS Non- Medis) with an operational capacity of up to 4 tonnes/day of solid waste. The proposed expansion includes additional storage facilities at Basement Level 2 of the Twin Tower, with about 100 m^2 for hazardous waste and 150 m^2 for non-hazardous waste, addressing the expected increase in waste generation. The hazardous facility will handle various types of healthcare-related hazardous waste, while the non-hazardous facility will temporarily store municipal solid waste before collection.
- **Radioactive waste management facility:** Radioactive waste generated primarily from the Cancer Centre will be managed through dedicated liquid and solid radioactive waste management facilities. The existing liquid radioactive waste management system comprises dedicated retention tanks for non-radioactive wastewater, I-131 therapeutic wastewater, and Tc-99m diagnostic wastewater, with a total storage volume of approximately 93.98 m^3, allowing radioactive decay prior to discharge in accordance with BAPETEN requirements. Existing radioactive solid waste is temporarily stored in a dedicated facility on the third floor of the Cancer Center Building, comprising three storage rooms with a total floor area of approximately 22.8 m^2. The proposed expansion includes a new Cancer Center within the Twin Tower. Radioactive liquid waste from the new facility will be managed through dedicated delay/decay tanks located adjacent to the new WWTP system, while radioactive solid waste will be temporary stored in a dedicated storage facility located on Basement Level 2 within the Cancer Center area, appying the same radioactive waste management principles and radiation protection requirements as the existing facility.
- **Wastewater Treatment Plant**: The existing hospital generates approximately 351 m^3/day of wastewater, which is currently managed by the Central IPAL. To accommodate the projected wastewater generation of approximately 1,455.5 m^3/day, the Project will construct a new 945.5 m^3/day WWTP, which will operate in parallel with the existing IPAL (capacity 510 m^3/day)
- **Energy supply**: Electricity will continue to be supplied through the PLN Java–Madura–Bali (Jamali) Grid (current rate at 20,116,152 kWh/y), supported by upgraded standby diesel generators comprising 11 units with a combined installed capacity of approximately 8,547 kVA, ensuring continuity of critical hospital operations during power interruptions. To facilitate the increasing energy demand of the project of approximately 7 GWh/y, additional power supply has been planned which consists of 10 MVA generator, 2 MVA of UPS and 10 MWp solar panel under 98% AC efficiency.

The site's area is within the Fatmawati Hospital land as state asset. Its land tenure is documented through four complementary sources. First, the Spatial Utilization Conformity Approval (KKPR) DKI Jakarta No. 11062410113174492 records an applied area of 193,963.52 m^2 and an approved area of

172,333.65 m², defined by a five-vertex polygon **(Table 2.3)**. Second, The Pre-FS mentions a site area of approximately 13.9 hectares, based on information from the Hospital's Public Relations Unit. Third, the legal tenure is established through Sertipikat Hak Pakai No. 198/HP/Cilandak Barat dated May 27, 2011; and No. 82.HP/Cilandak Barat dated September 9, 1990, with a total area of 135,740 m².

These figures reflect different extents: the broader KKPR polygon includes the RTH-8 green belt and K-1 commercial sub-zones outside the hospital's built-up footprint, whereas the hospital's actual operational area is smaller. The entire site is owned by the Ministry of Health under a Right-of-Use Certificate, so no land acquisition is needed for the 22-storey Multibuilding Plan, which will be built within the existing site boundary after demolishing non-heritage buildings in Phase 1.

Table 2.3. Site Boundary Coordinates of Fatmawati Hospital (WGS84)

Vertex	Longitude (BT)	Latitude (LS)
1.	106.7949259556268°	-6.297812862350482°
2.	106.7953535001541°	-6.292590757497297°
3.	106.7985899734193°	-6.292599559994607°
4.	106.7979363807845°	-6.295468228008179°
5.	106.797897382761°	-6.297859517569031°

**KKPR DKI Jakarta No. 11062410113174492 in the WGS84 coordinate system*

2.4. Cultural Heritage Designation

Established in 1954 as a pediatric tuberculosis hospital, Fatmawati Hospital, formerly Rumah Sakit Ibu Soekarno, may contain structures over 50 years old, representing tangible and intangible cultural heritage. Under the relocation plan, in which Gedung Induk — established in 1954 by Indonesia's first President — will be designated as the relocation area for health services, the Hospital submitted a confirmation letter to the relevant authorities (i.e., the Ministry of Culture, the South Jakarta Cultural and Tourism Agency, and the Provincial Office of Culture and Tourism) to clarify its status.

Prior to formal clarification of the building's cultural heritage status, precautionary measures will be implemented. These include refraining from structural modifications and renovations and limiting structural interventions for installing temporary structures to support healthcare facilities during the four-year construction period. Additionally, a general chance-find procedure for the construction phase will be included in the contractor bidding document.

Annex I (Cultural Heritage Management Plan) has not yet been formally drafted. However, a general chance-find procedure for the construction phase will be included in the contractor bidding document. This procedure will be part of the Environmental and Social Management Plan (C-ESMP) prepared by the contractor.

2.5. Project Cycles

The project lifecycle of the Fatmawati Hospital redevelopment encompasses four sequential phases comprising pre-construction, construction, operational, and decommissioning considerations, complemented by a Smart and Green Hospital strategy applied across all phases. The four Masterplan phases aggregate into these lifecycle elements, with distinct safeguards risk profiles for each phase, as described in the subsections below.

2.5.1. Pre-construction Phase

Pre-construction activities for the Multibuilding Plan include finalizing the Detailed Engineering Design, demolishing three non-heritage structures, compiling the environmental baseline, submitting regulatory documents, and mobilizing the contractor. The relevance of key activities and their safeguards is set out in **Table 2.4**.

Table 2.4. Pre-construction Activities and Safeguards Relevance

Activity	Key Parameters	Safeguards Relevance
DED finalization	DED contains the detailed design of Buildings 1A&1B, including utility building supporting facilities and dimensions.	Design-stage integration of environmental and social mitigation measures.
Demolition of existing structures	Non- heritage buildings, including Griya Husada (5,629.0 m²), MM Juice or Ex-BPJS Building (197 m²), the Outpatient Installation building (IRJ/Anyelir, 6,246.0 m²), Building Azalea (3,035.0m²), Amarilis Building (392.0 m²), pharmacy (1,728.0 m²), Genset House (48.0 m²), Pump House (24.8 m²) and Mosque (76 m²).	Demolition waste management; heritage confirmation to the central and local authorities, verification, and assessment by/in consultation with cultural heritage authorities and expert (see Section 2.4); dust, noise, and vibration control; service continuity during phased demolition
Contractor procurement	Through the Goods and Services Procurement Working Team under the Procurement Service Unit (Organisational Structure Decree Chapter IX)	Inclusion of ESMP obligations in bid documents and contracts.
Environmental baseline compilation	Ten semester RKL-RPL Implementation Reports (2021–2025) from the South Jakarta Sub-district Environmental Agency; supplementary spot measurements where data gaps are identified	Establishment of pre-construction baseline for monitoring benchmarks (see Chapter 4)
Regulatory submissions	Revised RKL-RPL or ANDAL; revised Technical Approval for Wastewater Discharge to Water Bodies (Pertek BMAL) where required for post-expansion wastewater treatment plant capacity; new Technical Approval for Air Emissions (Pertek BMUE); new Hazardous Waste Technical Requirements (Rintek B3) to the Sub-district Environmental Agency. New Building Permit (PBG) replacing 12 existing IMBs to the Sub-district Public Works Agency	Regulatory compliance gate; construction may not commence until the environmental approval and Building Permit are issued
Contractor mobilisation	Basecamp within the existing site; laydown area to be defined in the DED	Site traffic management plan; noise and dust from setup activities; worker accommodation and occupational health and safety protocols

The demolition phase requires a dedicated hospital team responsible for overseeing, coordinating, and ensuring safety and compliance throughout the process. The appointed demolition supervision team is established through an official decree of the Executive Director of Fatmawati Hospital and consists of representatives from medical services, non-medical services, technical staff, K3RS, environmental health, finance, legal, IT, and procurement to ensure smooth execution. The composition of the demolition supervision team is presented in **Table 2.5**.

*Table 2.5. Project Demolition Supervision Team, RSUP Fatmawati Phase 1**

No	Position	Name	Organisational Unit
1	Patron (Pembina)	Executive Director of RSUP Fatmawati	Board of Directors
2	Steering (Pengarah) 1	Director of Human Resources, Education and Research	Board of Directors
3	Steering (Pengarah) 2	Director of Medical and Nursing Services	Board of Directors
4	Steering (Pengarah) 3	Director of Planning and Finance	Board of Directors
5	Team Leader (Ketua Tim)	dr. Aldrin Neilwan P, Sp.AK(K), MARS, M.Biomed, M.Kes	—
6	Secretary 1	Dr. Ahmad Subhan, Apt, M.Si	—
7	Secretary 2	Ns. Nurhidayatun, S.Kep, M.Kep, Sp.Kep.A	—
8	Coordinator for Service Relocation Management	dr. Sarwanti, Sp.PA, MARS	—
9	Coordinator for BMN Asset Deletion	dr. Windu Kusumo, MPH	—

** Established under Official Decree of the Executive Director of RSUP Fatmawati No. HK.02.03/D.XXI/[number to be assigned]/2026, dated May 2026.*
Source: Official Decree of the Executive Director of RSUP Fatmawati No. HK.02.03/D.XXI/2026, May 2026.

The demolition of existing structures will be carried out in four sequential steps, as presented **in Table 2.6**. The demolition process is estimated to take 3 to 5 months and will be managed by a designated third-party demolition contractor under the supervision of the Demolition Supervision Team. Throughout the demolition process, the contractor is required to strictly comply with occupational health and safety regulations (SMK3 per GR 50/2012) and all environmental controls specified in the C-ESMP.

Table 2.6. Demolition Process Steps, RSUP Fatmawati Phase 1

Step	Description	Key Actions	Environmental and Social Controls
Step 1: Pre-Demolition Preparation	Preparatory activities required before physical demolition commences	Designate separate entry and exit points for construction vehicles and workers; install temporary access roads for cranes, dump trucks, and excavators; install speed limit and restricted access signage; deploy traffic personnel (flaggers); erect protective fencing with minimum height 2.5 m surrounding the entire demolition site; install warning signs comprising "**DANGER: DEMOLITION IN PROGRESS**" and "**AUTHORISED PERSONNEL ONLY**"; conduct pre-demolition structural stability assessment; remove all flammable materials including gas cylinders and oxygen tanks; secure electricity, gas, and water lines	Pre-demolition Asbestos Containing Material (ACM) survey to be completed before any physical work commences through visual inspection and building history review per Section 7.2.1, when visual inspection and building history review indicates potential presence of ACM, further laboratory testing may be warranted to confirm ACM; radiological clearance to be obtained from Nuclear Medicine Unit for areas adjacent to controlled zones; install dust-suppression water-spraying systems at demolition perimeter
Step 2: Dismantling of	Systematic removal of non-	Remove non-structural elements comprising ceiling panels,	Continuous noise and vibration monitoring at sensitive clinical

Step	Description	Key Actions	Environmental and Social Controls
Upper Floors and Structural Elements	structural and structural elements from upper floors downward	partitions, and lightweight materials; cut reinforced concrete slabs into smaller sections using hydraulic saws and jackhammers; remove secondary beams first, followed by main structural beams; lower cut beams using mobile crane; remove columns while intact to allow safe rebar extraction; leave foundation and footing slabs in place temporarily until all upper structures are dismantled	receptor points during all heavy demolition activities; restricted working hours for heavy demolition comprising 08:00 to 17:00 on working days only, not during clinical shift handover periods; wet suppression active at all times
Step 3: Debris Removal and Material Segregation	Systematic handling and segregation of demolition waste	Lower debris through core holes for safe collection and removal; separate recyclable materials comprising steel beams, rebar, and aluminium for reuse or recycling; load non-recyclable debris onto covered dump trucks for disposal; transport demolition waste to authorised disposal sites	All demolition waste transport using covered vehicles; haulage routes restricted to designated corridors per Construction Traffic Management Plan; ACM waste segregated and stored separately in sealed containers pending licensed disposal through B3 vendors; B3 waste manifests maintained for all hazardous demolition waste
Step 4: Site Cleanup and Preparation for New Construction	Removal of all residual materials and preparation of site for Building 1A-JKN and Podium 1A-JKN construction	Categorise residual materials into recyclable and non-recyclable waste; handle hazardous materials including ACM in accordance with the project Asbestos Management Plan (Annex A); demolish remaining pile caps and footing slabs using hydraulic breakers and excavators; level ground surface to meet engineering specifications; conduct soil compaction and stabilisation; conduct final inspection confirming no hazardous waste remains on-site	Final site clearance inspection to be conducted jointly by Contractor, Fatmawati Hospital IKLK3, and Environmental Specialist before construction mobilisation commences; photographic documentation of pre and post-demolition condition maintained in project repository

Source: Adapted from Good International Industry Practice for demolition in active healthcare settings. Specific volumes and timelines to be confirmed by DEDC during DED finalisation.

All demolition workers are required to use appropriate personal protective equipment throughout demolition activities, as specified in Table 2.7.

Table 2.7. Worker Safety Equipment Requirements During Demolition

Equipment	Specification	Application
Hard hats	Class E minimum, impact-resistant	Mandatory for all demolition workers at all times within demolition zone
High-visibility vests	Class 2 minimum	Mandatory for all workers and supervisors

Equipment	Specification	Application
Steel-toed safety boots	EN ISO 20345 or equivalent	Mandatory at all times within demolition zone
Cut-resistant gloves	Level 5 cut resistance minimum	For handling sharp objects, rebar, and structural steel
Respirator and dust mask	N95 minimum for general dust; full-face respirator with P100 filter for ACM work	Mandatory during demolition activities; N95 standard throughout; P100 mandatory during any ACM identification, handling, or removal
Goggles and face shield	ANSI Z87.1 or equivalent	Required during jackhammering, cutting, and debris removal activities
Hearing protection	Earplugs (NRR 29 minimum) or earmuffs (NRR 25 minimum)	Required during all heavy demolition, jackhammering, and compaction activities
Full PPE suit with HEPA respirator	Disposable coverall Type 5/6 with full-face HEPA respirator	Mandatory for all ACM identification, handling, removal, and disposal activities; zero exceptions

An emergency response and evacuation plan is required to be established and communicated to all demolition workers prior to commencement of demolition activities, covering the situations summarised in Table 2.8.

Table 2.8. Emergency Response Plan During Demolition

Emergency Type	Trigger	Immediate Response	Follow-up
Structural collapse or partial collapse	Unplanned structural failure during demolition	Immediate work stoppage and evacuation of all personnel from the collapse zone; activate emergency response team; administer first aid; notify Fatmawati Hospital K3RS, Construction Liaison Officer, and Environmental Specialist; do not re-enter until structural assessment completed	Structural engineer assessment before any resumption of work; incident report to PIU within 24 hours
Fire or hazardous material release	Smoke, flame, or chemical odour detected in demolition zone	Activate site fire alarm and hospital fire response; deploy fire extinguisher and suppression equipment; evacuate personnel; notify Fatmawati Hospital security and fire brigade; isolate affected area	Investigation and incident report; review of flammable material storage and removal procedures
Medical emergency	Worker injury or acute illness on-site	Administer first aid by designated first-aider; contact Fatmawati Hospital IGD; transfer to IGD via designated emergency access route free of construction traffic	Incident report and LTIFR update; review of PPE compliance if injury is PPE-related
ACM disturbance or accidental release	Visual identification of suspected ACM disturbed or released during demolition	Immediate work stoppage within 10-metre radius; isolate area with barrier tape; all workers within area to remain until decontamination check; notify Environmental Specialist and Fatmawati Hospital IKLK3 immediately	ACM response team to assess in full PPE; IKLK3 to determine if air monitoring is required; resume work only after written clearance
Radiological incident near Nuclear Medicine Unit	Unusual reading on radiation monitor or visual disturbance to shielded zone near	Immediate work stoppage; notify Fatmawati Hospital Radiation Protection Officer (PPR) and K3RS;	Assessment and containment per BAPETEN requirements;

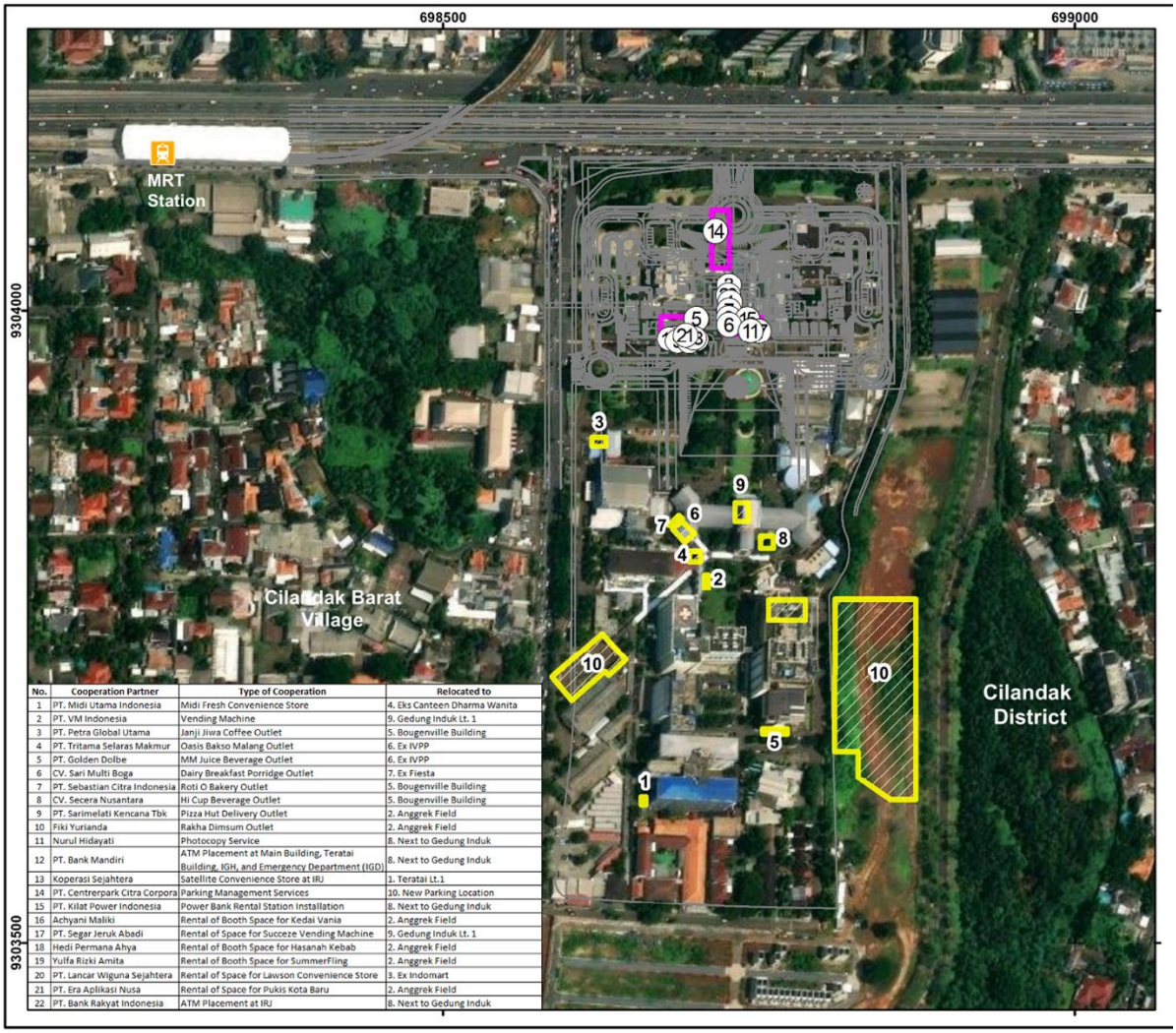
Emergency Type	Trigger	Immediate Response	Follow-up
	Nuclear Medicine Unit	evacuate personnel from affected zone; cordon off area minimum 20 metres	written clearance before resumption
Evacuation assembly	Any emergency requiring site-wide evacuation	Proceed to designated assembly points outside demolition zone, located at [To be confirmed and marked on site plan before mobilisation]; roll call by supervisor within 5 minutes	Report to PIU within 2 hours; incident investigation

2.5.2. Construction Phase

The Multibuilding Plan is planned as part of the 2027–2041 program. Operational continuity of the current 851 operational beds for inpatient and emergency services will be maintained throughout construction, including the temporary relocation of clinical services from Griya Husada Building, Ex-BPJS Building, the General Outpatient Clinic (IRJ), Azalea Building, Amarilis Building, Pharmacy, the Genset House, Pump House, and Mosque to other campus spaces before demolition begins (see **Table 2.9**). The construction and commissioning phase is part of a 15-year project timeline, which includes the construction period plus 12 years of operation. The key activities and their safeguards relevance are detailed in **Table 2.9.**

Table 2.9. Construction Activities and Safeguards Relevance

Activity	Key Parameters	Safeguards Relevance
High-rise building	22-storey twin towers, 5-storey podium, and utility building with total gross floor area of 164,032.35 m², combining AIIB building of 73.445 m², Associated Facility of 90,587.35 m².	Groundwater management; waste generation; particulate generation; noise and vibration from piling; adjacent-structure monitoring
Earthworks and basement excavation	Two basement levels beneath the 15,536 m² combined gross floor area of Tower & Podium 1A-JKN; detailed cut volume to be quantified by DEDC.	Groundwater management; soil disposal; noise and vibration from piling; adjacent-structure monitoring
Structural works	Tower 1A-JKN and 1B: 22 storeys above grade; Podium:5 storeys above grade; Utility building; seismic-resistant per SNI 1726:2019.	Construction OHS; crane and heavy-lift safety; community safety comprising exclusion zones and falling-object protection
Mechanical-electrical installation	Specialized HVAC for Cancer Center (HEPA-filtered chemotherapy), 13 Integrated OT Systems + 13 Anesthesia Workstations, ICU/ICCU/NICU/PICU/HCU complex (185 intensive beds), Organ Transplantation Unit (positive-pressure isolation).	Indoor air quality design; medical gas safety; commissioning testing for infection-control ventilation.
Tier-1 medical equipment	Hybrid Cath Lab, Hybrid MOT, PET Scan, Digital X-Ray, Robotic Aseptic Dispensing.	Radiation safety (PET Scan, X-Ray, Cath Lab); shielding design; regulatory licensing for radiation sources.
SIMRS and IT infrastructure	SIMRS; 2 servers; 480 workstations; 40 Gb backbone switch; 240 indoor + 10 outdoor access points; UPS.	E-waste management planning; data centre cooling energy demand; UPS battery storage (B3 classification).
Commissioning and phased hand-over	Progressive commissioning by building zone; testing of life-safety systems (fire, MEP, medical gas, vertical conveyance).	Operational readiness verification; transition-period dual-occupancy risk management; service continuity plan.



No.	Cooperation Partner	Type of Cooperation	Relocated to
1	PT. Midi Utama Indonesia	Midi Fresh Convenience Store	4. Eks Canteen Dharma Wanita
2	PT. VM Indonesia	Vending Machine	9. Gedung Induk Lt. 1
3	PT. Petra Global Utama	Janji Jiwa Coffee Outlet	5. Bougenville Building
4	PT. Tritama Selaras Makmur	Oasis Bakso Malang Outlet	6. Ex IVPP
5	PT. Golden Dolbe	MM Juice Beverage Outlet	6. Ex IVPP
6	CV. Sari Multi Boga	Dairy Breakfast Porridge Outlet	7. Ex Fiesta
7	PT. Sebastian Citra Indonesia	Roti O Bakery Outlet	5. Bougenville Building
8	CV. Secera Nusantara	Hi Cup Beverage Outlet	5. Bougenville Building
9	PT. Sarimelati Kencana Tbk	Pizza Hut Delivery Outlet	2. Anggrek Field
10	Fiki Yurianda	Rakha Dimsum Outlet	2. Anggrek Field
11	Nurul Hidayati	Photocopy Service	8. Next to Gedung Induk
12	PT. Bank Mandiri	ATM Placement at Main Building, Teratai Building, IGH, and Emergency Department (IGD)	8. Next to Gedung Induk
13	Koperasi Sejahtera	Satellite Convenience Store at IRJ	1. Teratai Lt.1
14	PT. Centrerpark Citra Corpora	Parking Management Services	10. New Parking Location
15	PT. Kilat Power Indonesia	Power Bank Rental Station Installation	8. Next to Gedung Induk
16	Achyani Maliki	Rental of Booth Space for Kedai Vania	2. Anggrek Field
17	PT. Segar Jeruk Abadi	Rental of Space for Succeze Vending Machine	9. Gedung Induk Lt. 1
18	Hedi Permana Ahya	Rental of Booth Space for Hasanah Kebab	2. Anggrek Field
19	Yulfa Rizki Amita	Rental of Booth Space for SummerFling	2. Anggrek Field
20	PT. Lancar Wiguna Sejahtera	Rental of Space for Lawson Convenience Store	3. Ex Indomart
21	PT. Era Aplikasi Nusa	Rental of Space for Pukis Kota Baru	2. Anggrek Field
22	PT. Bank Rakyat Indonesia	ATM Placement at IRJ	8. Next to Gedung Induk

Figure 2-1. Relocation Plan - Tenants

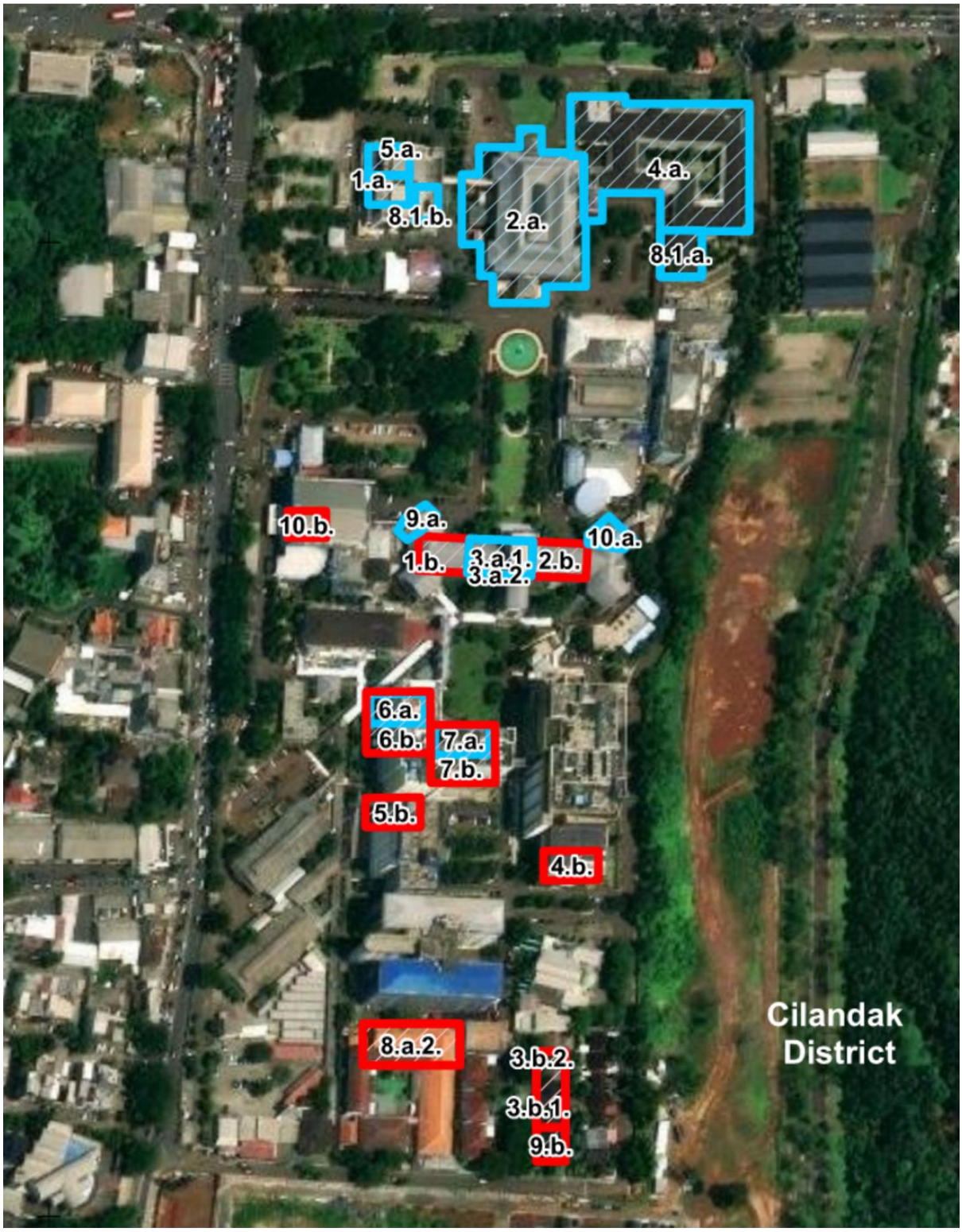


Figure 2-2. Relocation Plan - Hospital Continuity

2.6. Operational Phase

The operational phase commences following the commissioning of each phase in a graduated sequence. In 2028, Hospital expects to operate as an expanded 1,352-bed Class A General Hospital (786 beds in Tower 1A-JKN, 170 in Podium, and 396 in Tower 1B) with five priority excellence services. By 2036, it will be supported by the Phase 2 through Phase 4 infrastructure, comprising the Commercial Block, Training Center, Research Center, Mortuary, Apartment, Hotel, Parking Building, and Convention Hall. Key operational-phase risk areas include the following:

- **Infectious disease transmission control** across an expanded clinical footprint, including airborne, droplet, and contact pathways.
- **Wastewater quality compliance**, involving increased hydraulic and pollutant loads on the Central Wastewater Treatment Plant (IPAL Sentral) from a capacity serving 750 beds to one serving 1,352 beds, with a projected increase in wastewater generation from approximately 510 m^3/day to approximately 1,455.49 m^3/day m^3/day).
- **Hazardous waste management** involves increased volumes from expanded surgical, chemotherapy, radiology, and laboratory activities.
- **Indoor air quality**, covering HVAC performance in high-risk zones, including the Cancer Center, operating theater complex, ICU/NICU, and Organ Transplantation Unit.
- **Occupational health and safety** encompasses radiation exposure from PET Scan, Catheterization Laboratory, and X-Ray equipment, sharps and needlestick risks, chemical handling, and ergonomic risks.
- **Traffic and parking management** covering 3,123 car and 2,461 motorcycle spaces across structured, on-street, and basement zones.

Post-development workforce projections indicate that the expansion from 851 to 1,352 operational beds will require significant workforce additions, concentrated in the following areas. Specialist physicians will be needed for the Cancer Centre (Oncology), Uro-Nephrology (Organ and Tissue Transplantation), and the Fatmawati Orthopaedic Centre. Certified specialist nurses will be required for operating theatres across the 13 integrated operating theatre systems, intensive care across 50 additional ICU beds, oncology nursing with cytotoxic-handling certification, and transplant nursing. Radiographers and radiotherapy technicians will be needed for the PET Scan, Hybrid MOT, and Hybrid Catheterisation Laboratory facilities. Additional support professionals required include cytotoxic-handling-certified pharmacists, laboratory analysts, and blood-bank analysts. Given the existing gender profile of the workforce, this recruitment is expected to sustain, and potentially reinforce, the predominance of women in the hospital's clinical cadres, which should be reflected in the human resource planning and gender-responsive facility provisions (such as sanitation, changing, and lactation facilities) of the developed hospital.

2.7. Decommissioning Considerations

The project does not contemplate decommissioning Fatmawati Hospital as an institution, given its status as a permanent national health asset. Decommissioning considerations therefore apply only to the eventual end-of-life of the new buildings, anticipated beyond a 50-year horizon, at which point building components, mechanical and electrical equipment, and hazardous materials such as refrigerants, mercury-containing devices, and batteries would need to be managed under the

regulatory regime applicable at that future date. No special end-of-life provisions are required at this stage beyond conventional building lifecycle planning.

2.8. Smart and Green Hospital Strategy

Fatmawati Hospital will adopt a Smart and Green Hospital design principles across all implementation phases. These commitments align with Government Regulation No. 16 of 2021 on Buildings, Ministerial Regulation No. 2 of 2023 on Drinking Water Quality, and the AIIB ESS1 expectation of Good International Industry Practice, including the WHO Safe Hospitals in Emergencies and Disasters guidance and the World Bank Group Environmental Health and Safety Guidelines for Healthcare Facilities. The principal design commitments are as follows:

- Integrated hospital information system (SIMRS) and digital infrastructure supporting clinical, administrative, and environmental monitoring functions.
- Water efficiency through Reverse Osmosis treatment and potential rainwater harvesting.
- Solar water heating where compatible with building orientation and roof loading.
- Energy-efficient building envelope with natural daylighting and ventilation.
- Integration of gender perspective into the engineering design.
- Central utility integration, including upgrades to the existing 510 m^3/day anaerobic-aerobic biofilter Central WWTP to approximately 1,455.49 m^3/day m^3/day.
- Upgrade temporary hazardous, infectious, and radioactive waste.
- Upgrade nuclear delay tank capacity.

2.9. Project Alternatives

The assessment of project alternatives is a mandatory requirement under AIIB ESS1, which requires the project initiator to demonstrate that the selected solution represents the most appropriate approach relative to the available options. All alternatives are evaluated against five criteria applied consistently: technical feasibility, financial viability, environmental and social impact, regulatory compliance, and alignment with national health policy objectives. Four categories of alternatives are examined below, comprising the no-project scenario, the location alternative, the design configuration alternative, and the construction technology alternative. The design configuration alternative is examined across two sub-options. A summary comparison of all alternatives is presented in Error! Reference source not found. at the end of this section.

2.9.1. Alternative 1: No-Project Scenario

The no-project scenario assumes that no new construction is undertaken and that Fatmawati Hospital continues to operate with its existing capacity and infrastructure.

Against the five evaluation criteria, this scenario performs poorly across all dimensions.

Technical feasibility. The existing building stock presents several constraints that limit the hospital's capacity to meet current and projected healthcare needs. These include limited inpatient bed capacity relative to demand, insufficient parking facilities, outdated building stock with limited functional integration across campuses, and disconnected clinical circulation pathways that reduce operational efficiency. The nine buildings designated for demolition under Phase 1, comprising Griya Husada Building, Ex-BPJS Building, the General Outpatient Clinic (IRJ), Azalea Building, Amarilis Building, Pharmacy, the Genset House, Pump House, and Mosque, no longer satisfy the technical and functional

standards required for contemporary hospital services. Most existing structures are more than 10 years old, with dispersed layouts that have resulted in disorganized medical and non-medical circulation and inadequate parking capacity.

Financial viability. Continuation without investment would perpetuate the existing revenue constraint associated with limited bed capacity. Annual outpatient visits reached 869,338 in 2023, approaching the pre-pandemic peak of 883,682 in 2019, while surgical procedures increased sharply by 25% from 10,517 in 2022 to 13,135 in 2023. The current inpatient capacity is 851 beds, as established in the Masterplan planning baseline, noting that the current operational bed capacity is no longer sufficient to accommodate this growing service volume. Without capacity expansion, revenue potential from the expanded BPJS referral network and priority excellence services cannot be realized.

Environmental and social impact. The no-project scenario generates no construction-phase impacts, but it sustains the pre-existing condition of inadequate and aging healthcare infrastructure, perpetuating risk to patients from outdated clinical facilities.

Regulatory compliance. The no-project scenario is directly incompatible with Masterplan KMK 1673/2024, which has been formalized as a Ministerial Decree and constitutes a binding planning instrument.

National health policy alignment. The no-project scenario directly contradicts Law No. 17 of 2023 on Health and Government Regulation No. 28 of 2024, which mandate the development of national referral center capacity for nine priority disease categories comprising heart disease, cancer, diabetes mellitus, kidney failure, liver disease, stroke, maternal and child health, tuberculosis, and infectious diseases. Additionally, Indonesia faces the ongoing challenge of 600,000 to 1,000,000 citizens seeking medical care abroad annually, representing an estimated outflow of approximately USD 11.5 billion per year to Singapore, Malaysia, and Thailand. Without redevelopment, Fatmawati Hospital cannot fulfil the Ministry of Health's objective of becoming an Asia-standard national referral centre capable of retaining Indonesian patients within the country.

2.9.2. Alternative 2: Location Alternative

Site selection is not a free variable in this project. Fatmawati Hospital is a Technical Implementation Unit of the Ministry of Health that has been in continuous operation since 1954 on a 135,740 m² site owned by the Ministry of Health under Right-of-Use Certificate No. 198-2 of 2011.

Against the five evaluation criteria, an alternative location performs poorly across all dimensions.

Technical feasibility. Relocation would require finding a comparable site of approximately 13 hectares in South Jakarta's fully developed metropolitan context, where no suitable land is available. The existing site is already served by established utility infrastructure, public transport access, including the Fatmawati MRT Station and TransJakarta corridors, and a well-developed referral network with primary and secondary health facilities in the surrounding area.

Financial viability. Land acquisition in South Jakarta would impose costs that are not included in the AIIB loan envelope and cannot be absorbed by the BLU operational budget.

Environmental and social impact. Relocation would require full decommissioning of the existing facility and construction of a new facility on a previously undeveloped site, generating far greater environmental disturbance than redevelopment within the existing footprint. Critically, relocation

would sever service continuity for the millions of patients who depend on Fatmawati Hospital as a National Referral Center.

Regulatory compliance. The future update of Masterplan KMK 1673/2024 explicitly establishes the within-site development program at Jalan RS Fatmawati Raya No. 4 as the planning basis, grounded in land-use optimization and the readiness of existing infrastructure. Any relocation would require a new Ministerial Decree.

National health policy. The hospital's position within the DKI Jakarta referral network and its direct connection to the Fatmawati MRT Station and TransJakarta corridors are integral to its function as a national referral centre. These advantages cannot be replicated at an alternative location in South Jakarta.

2.9.3. Alternative 3: Design Configuration Alternative

Two design configurations were examined for Phase 1: the Multibuilding Plan as established in Masterplan KMK 1673/2024, and the consolidation into a single Integrated Building as proposed in the Pre-Feasibility Study of March 2026. Each sub-option is evaluated below against the five criteria.

Sub-option 3A. Multibuilding Plan. The updated master plan defines Phase 1 as the construction of Tower 1A-JKN (BPJS Service Block, 22 storeys above grade and 2 basement levels, 786 beds), Podium (5 storeys above grade and 2 basement levels, 170 beds for), and Building 1B (Executive Service Block, 22 storeys above grade and 2 basement levels, 396 beds), supported by a 2-level of Basement and a Mosque.

Technical feasibility. This configuration provides explicit separation of BPJS public-service and executive patient flows into dedicated building blocks, consistent with the hospital service standards for patient flow management and the Ministry of Health's mandate for a minimum 60% standard-class bed allocation per Ministerial Regulation No. 14 of 2021. The distributed layout allows individual buildings to remain operational during maintenance, retrofits, or emergencies affecting other structures, providing greater operational resilience across the 15-year project lifecycle.

Financial viability. The multibuilding approach allows staged commissioning and phased operational transition, reducing the financial risk of a single all-or-nothing commissioning event.

Environmental and social impact. The distributed construction approach reduces the concentration of construction disturbance. Demolition of non-heritage structures, comprising the confirmed area of 10,519.2 m² designated for AIIB and BLU buildings, is distributed across a broader footprint, reducing the peak concentration of dust, noise, and vibration impacts on active clinical facilities compared to a single-tower approach.

Regulatory compliance. This configuration is fully consistent with the future amended Ministerial Decree No. HK.01.07/MENKES/1673/2024 on the updated Masterplan of Fatmawati Hospital redevelopment. On national health policy, the multibuilding plan directly implements the five identified priority excellence services, comprising orthopedics through the Fatmawati Orthopedic Center, oncology, uronephrology (including organ transplantation), maternal and child health, and minimally invasive surgery.

Sub-option 3B. Single Integrated Building. The Pre-FS of March 2026 proposed consolidating the entire Phase 1 scope into a single 24-storey Integrated Building with a total gross floor area of approximately 73,445 m².

Technical feasibility. Merging the BPJS public-service and executive service streams into a single building would have compromised the necessary separation of patient flows, clinical areas, and service access points mandated by hospital standards. This configuration also faces challenges in functional integration, given that one of the principal problems identified in the Masterplan was the disorganized medical and non-medical circulation throughout the campus; consolidating into one building would not resolve this structural issue.

Financial viability. While the unit construction cost of the Integrated Building was competitive, the single-building approach concentrates structural and operational risk into one package and reduces flexibility for phased commissioning.

Environmental and social impact. Concentrating the full Phase 1 scope into a single construction package intensifies peak construction disruption, including dust, noise, vibration, and traffic, compared to the multibuilding approach, which allows sequencing across multiple structures.

Regulatory compliance. Consolidating the entire Masterplan's multibuilding program into a single building requires a flexible reinterpretation of the updated master plan, which explicitly defines Phase 1 as a multibuilding program. Subsequent review by the Ministry of Health and AIIB confirmed the multibuilding plan as the appropriate configuration.

National health policy. The separation of BPJS and executive service streams into dedicated buildings is more closely aligned with the national JKN service delivery model and the minimum 60% standard-class bed requirement.

The Multibuilding Plan configuration was therefore selected as the most appropriate option and constitutes the project scope assessed in this ESIA-ESMP.

2.9.4. Alternative 4: Construction Technology Alternative

Two principal construction technology approaches were considered for the foundation and structural works of Building 1A-JKN (Tower and Podium 1A-JKN), Building 1B (Tower and Podium 1A-JKN), and utility building: conventional bored pile construction with open-cut basement excavation, and a top-down approach utilizing diaphragm walls for the two-level basement.

The selection of foundation technology is directly informed by the site-specific geotechnical profile established in the Masterplan site investigation, comprising high-plasticity reddish-brown clay at 7 to 9.5 metres depth with N-SPT values of 2 to 5, medium-plasticity brown to greyish-brown clayey silt at 11.5 to 14.5 metres depth with N-SPT values of 4 to 60, very dense silty sand with N-SPT values of 60 at greater depth, and hard MH/CH at depth with N-SPT values of 37 to 42.

Technical feasibility. Conventional bored pile construction is the established practice for the Jakarta lowland soil profile and eliminates the high dynamic forces associated with driven piles that could damage the surrounding active clinical facilities. The top-down/diaphragm wall approach offers a lower settlement risk to adjacent structures and allows basement construction to proceed concurrently with above-grade works, potentially reducing overall program duration. However, it requires more complex execution in an active hospital setting.

Environmental and social impact. The use of bored piles rather than driven piles is the critical mitigation measure for vibration-sensitive receptors, including operating theatres, ICU/ICCU/NICU/PICU, and the Cancer Centre, which must remain operational throughout the construction period. This preference is reflected in the mitigation measures in Section 7.2.3. The top-

down approach, while reducing settlement risk to adjacent structures, introduces greater complexity in maintaining hospital utility services during construction.

The final foundation approach will be confirmed by the Detailed Engineering Design Consultant (DEDC) during DED finalisation, subject to detailed geotechnical investigation results. The primary constraint that must govern this decision is the lowest practicable vibration and settlement impact on active clinical facilities, consistent with the mitigation hierarchy. Regardless of the approach selected, bored piles are preferred over driven piles for all pile works within the active hospital campus.

Table 2.10. Summary Comparison of Project Alternatives

Alternative	Technical Feasibility	Financial Viability	Environmental and Social Impact	Regulatory Compliance	National Regulation and Policy Alignment
1. No-project	Poor — building stock obsolete; disorganised circulation; outdated facilities	Poor — revenue constrained; surgical volume growing 25% YoY	Neutral construction impact / poor social — sustains inadequate healthcare infrastructure	Non-compliant — contradicts the updated masterpla as binding Ministerial Decree	Directly contradicts Law 17/2023 and nine priority disease mandate
2. Alternative location	Poor — no suitable 13-hectare land in metropolitan South Jakarta; existing MRT and TransJakarta access cannot be replicated	Very poor — land acquisition cost not included in AIIB loan envelope or BLU budget	High disruption — full decommissioning of existing facility; service continuity severed for 869,338 annual outpatients	Non-compliant — requires integration to the amended master plan	Non-aligned — referral network and transport connectivity dissolved
3A. Multibuilding Plan	Good — dedicated BPJS/executive separation per MOH Regulation 14/2021; distributed layout provides operational resilience	Good — staged commissioning reduces financial risk; infrastructure cost Rp 998,996,919,869 confirmed	Moderate — distributed construction reduces peak disturbance concentration	Fully compliant with the updated master plan	Directly realizes five priority excellence services
3B. Single Integrated Building	Moderate — patient flow separation compromised; disorganized circulation problem not resolved	Moderate — competitive unit cost but concentrated risk; less flexible commissioning	Moderate — concentrated construction peak; full Phase 1 disturbance in one package	Requires re-interpretation of updated master plan	Partial — JKN/executive separation compromised; minimum 60% standard-class requirement harder to operationalize
4. Construction technology (bored pile preferred; top-down under consideration)	Good — bored pile established practice for Jakarta lowland soil profile; top-down reduces settlement risk	Moderate — top-down carries cost premium over conventional bored pile	Bored pile: lower vibration at sensitive clinical receptors per Section 7.2.3; top-down: lower settlement risk to adjacent structures	Both options compliant; final selection subject to DEDC geotechnical verification during DED	

Selected building and technology options. Based on a comparison of four alternatives for Fatmawati Hospital redevelopment, the Project team concludes that Alternative 3A – Multibuilding Plan with bored pile technology for construction is the preferred option and has some advantages in E&S aspects compared to the other options.

2.10. Area of Influence

The Bank's ESS 1 on Environmental and Social Assessment and Management requires that both direct and indirect impacts on environmental and social (E&S) aspects be identified not only within the Project's physical footprint, but also across the wider area likely to be indirectly affected by the Project, including its ancillary facilities such as drainage channel, access road, laydown area, and worker basecamp. This wider area is collectively referred to as the Project's Area of Influence (AoI), which covers the following:

- **Project footprint** — the area required to construct the Buildings A and B, relocation areas, laydown area, worker basecamp, and waste management.
- **Airshed** — the atmospheric zone anticipated to receive dispersion of air pollutants and dust within and beyond the project area due to local topography and meteorological conditions. The airshed likely to be impacted by the Project is therefore considered part of the AoI.
- **Water bodies** — stream or channels may discharge wastewater and runoff.
- **Settlement areas and other areas used for livelihood, economic, and cultural or customary activities** — some of these areas may be located in proximity to the Project footprint and access roads used during construction and are therefore considered part of the AoI, given the likelihood of Project-related impacts.
- **Potential cumulative impacts** – The proposed MRT station development could generate cumulative impacts during Phase 1 construction, including increased noise, reduced ambient air quality, labor influx, and other potential effects as outlined in Section 7.1.5.

Delineation of the Project's AoI is fundamental as the basis for conducting an adequate assessment of direct, indirect, and cumulative E&S impacts likely to arise from the construction and operation of the Project (see **Figure 2-3**).

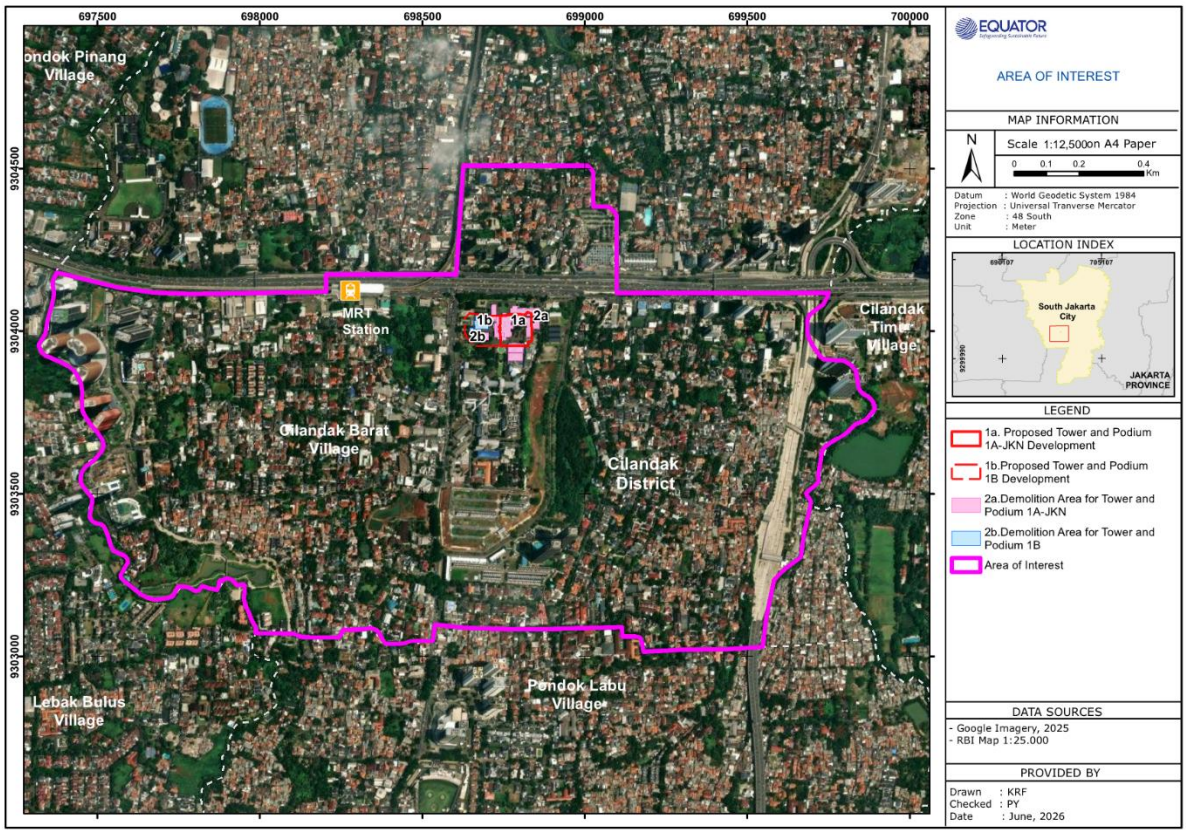


Figure 2-3. Area of Influence

3. POLICY AND LEGAL

This Chapter establishes the policy, legal, and administrative framework governing the Fatmawati Hospital redevelopment project. It presents the National Legal Framework of the Republic of Indonesia covering environmental, health, hospital, spatial, traffic, and occupational health and safety regulations applicable to the project; the AIIB Environmental and Social Framework including the Environmental and Social Policy and the three Environmental and Social Standards with their screening outcomes; the institutional framework and internal policies of Fatmawati Hospital; other international frameworks that inform Good International Industry Practice; and a structured gap analysis between the AIIB ESF requirements and Indonesian national legislation.

3.1. National Legal Framework of the Republic of Indonesia

The Indonesian regulatory framework applicable to Fatmawati Hospital comprises constitutional environmental law, the AMDAL/RKL-RPL implementing regime, sector-specific standards for wastewater, air emissions, and hazardous waste, traffic and spatial planning instruments, the hospital regulatory regime, and the labor and OHS regime. Each is summarized in the sub-sections that follow.

3.1.1. Environmental Constitution

The Indonesian environmental safeguards regime rests on Law No. 32 of 2009 on Environmental Protection and Management (Law PPLH), which establishes the principle that every person has the right to a good and healthy environment, and assigns to the central and regional governments the duty to ensure environmental protection through environmental impact assessment, permit-based pollution control, and enforcement. Law 32/2009 has been progressively amended through subsequent omnibus legislation, including Law 6/2023 on Cipta Kerja, with implementation governed by Government Regulation 22/2021 on the Implementation of Environmental Protection and Management.

3.1.2. Environmental Approval

Fatmawati Hospital holds an existing Environmental Approval (SK Persetujuan Lingkungan) issued in 2006, which serves as the base-level environmental document for hospital operations. Environmental management and monitoring have been reported on a semi-annual basis through RKL-RPL Implementation Reports; ten such reports covering Semester I and II of 2021 to 2025 have been provided by the Hospital's Environmental Health and OHS Installation (IKLK3) and are held in the project repository. The construction of Building 1A-JKN (22 storeys above grade and 2 basement levels) and Podium 1A-JKN (5 storeys above grade and 2 basement levels) under the multibuilding plan will trigger the preparation of a new environmental document, either an AMDAL Addendum based on the scale-of-change categorisation under MOEF Regulation No. 4/2021 Annex I. The new environmental document package also includes the ESIA-ESMP, technical details of wastewater, emissions, and hazardous waste, as well as traffic impact analysis (Andalalin).

3.1.3. Demolition Management

Demolition activities for the Fatmawati Hospital TRUST Project shall be implemented under a controlled demolition-management framework designed to minimise environmental, social, health,

safety, and operational risks associated with demolition of the existing structures. Demolition works shall be conducted in accordance with applicable Indonesian regulations, Good International Industry Practice (GIIP), and the Construction Environmental and Social Management Plan (C-ESMP).

The demolition-management approach shall include:

- pre-demolition structural and utility surveys to identify active services, hazardous materials, and sensitive receptors;
- phased demolition sequencing to maintain continuity of hospital operations, emergency access, and public safety;
- implementation of dust, noise, and vibration control measures, including wet suppression, acoustic barriers, and vibration monitoring at sensitive receptors;
- segregation, temporary storage, transport, and disposal of demolition waste in accordance with applicable waste-management and hazardous-waste regulations;
- asbestos-containing material screening and controlled removal procedures where required;
- establishment of exclusion zones, controlled-access areas, and traffic-management measures around demolition activities;
- implementation of occupational health and safety controls, including PPE, fall protection, emergency response procedures, and contractor safety induction;
- protection of retained buildings, utilities, and surrounding infrastructure from accidental damage during demolition works; and
- implementation of heritage precautionary measures, including archival documentation and chance-find procedures where applicable.

All demolition activities shall be undertaken by qualified contractors under supervision of Fatmawati Hospital and the supervising engineering/safeguards team, with monitoring requirements integrated into the C-ESMP and associated contractor management plans.

3.1.4. Air Emissions Management

Stack-emission management at Fatmawati Hospital covers three stationary sources: back-up generators, and a steam boiler (sterilization, laundry, and hot water).

- Source layouts: stack heights, sampling-port locations, and flue diameters; process-flow diagrams;
- Monitoring plan: manual emission monitoring plan for 2026;
- Certifications: responsible staff hold current POIPPU (2025) and PPU (2024) operator certifications; and
- Permit status: the formal Technical Approval of air emissions (Pertek BMUE) with operation feasibility standards (SLO) is being applied for.

3.1.5. Domestic Waste, Hazardous Waste, Wastewater, and Radioactive Waste Management

Fatmawati Hospital's domestic or non-medical waste is managed in accordance with the Minister of Health Regulation of the Republic of Indonesia No. 2 of 2023, which defines such waste as solid waste generated from healthcare facility activities that does not fall within the hazardous waste (B3) category and is classified as municipal solid waste in accordance with the applicable laws and regulations. The management of domestic solid waste in healthcare facilities is further regulated under Minister of Health Regulation No. 7 of 2019 and Minister of Environment and Forestry Regulation No. 56 of 2015, which establish requirements for waste segregation, collection, storage, transportation, and handling to prevent cross-contamination and minimize environmental impacts.

Fatmawati Hospital's existing hazardous waste management systems align with national requirements under Government Regulation No. 22 of 2021, Minister of Health Regulation of the Republic of Indonesia No. 2 of 2023, Minister of Environment and Forestry Regulation No. 6 of 2021, and relevant healthcare waste management regulations. Hazardous waste (B3) management is supported by established storage, handling, transportation, and monitoring. In line with the current environmental permitting framework, Fatmawati Hospital is preparing the Hazardous Waste Storage Technical Details (Rintek LB3), which will be incorporated into the Environmental Approval process as part of the planned Amdal for hospital development and expansion, rather than being processed as a standalone permit. Hospital wastewater discharge is governed by the Minister of Environment and Forestry Regulation No. 11 Year 2025 on Domestic Wastewater Quality and Technology Standards (MOEF Regulation 11/2025) together with the installation-specific Technical Approval for Wastewater Discharge to Water Bodies, which establishes discharge limits for parameters including BOD_5, COD, TSS, ammoniacal nitrogen, oil and grease, total coliform, phosphate, pH and other related parameters.

Fatmawati Hospital nuclear medicine and radiotherapy systems comply with national requirements under Government Regulation No. 61 of 2013, Minister of Health Regulation of the Republic of Indonesia No. 2 of 2023, BAPETEN Regulation No. 8 of 2016, and relevant healthcare waste management regulations.

3.1.6. Traffic and Transportation Management

Traffic impact analysis (Andalalin) is required under the Minister of Transportation Regulation No. 17/2021 on the Implementation of Andalalin and the corresponding DKI Jakarta implementing regulations. Given the project's scale and its location at the intersection of major Jakarta arterial routes, the Andalalin study is being conducted in parallel with the ESIA preparation. This Andalalin study will cover truck movements during construction, mobilization during commissioning, and operational-phase vehicle flows for patients, visitors, and staff, including the planned parking capacity of 3,123 car spaces and 2,461 motorcycle spaces. This also considers the potential projects in the vicinity of the Hospital area, including but is not limited to MRT station development. During construction phase, the parking area located within and near the demolished area will be relocated by leasing an approx. 10,538 m^2 of land.

3.1.7. Spatial Planning

Spatial compliance is established under KKPR DKI Jakarta No. 11062410113174492, issued by DPMPTSP DKI Jakarta on 11 June 2024, which approves a site area of 172,333.65 m² across three designated land uses. The legal basis is Governor Regulation No. 31/2022 on the RDTR of DKI Jakarta. The approved KBLI codes under the KKPR are 21012 (Pharmaceutical Manufacturing for Human Use) and 86104 (Government Clinic Activity, two entries). The principal operational KBLI for Fatmawati Hospital as registered under NIB 8120003972112 is 86101 (Government Hospital Activity). Zoning intensity controls are summarized in **Table 3.1**.

Table 3.1. Spatial Zoning Intensity Controls, Fatmawati Hospital Site

Zone	Sub-zone Code	KDB	KLB	KDH	KTB
Green Belt	RTH-8	0%	0	20%	0%
Public Service Facility — City Scale	SPU-1	60%	5	20%	60%
Commercial/ Trade — City Scale	K-1	55%	6.84	20%	60%

Building height is limited to 30 m under RDTR controls, subject to separate aviation safety (KKOP) clearance permitting structures up to 150 m. For the multibuilding plan, the KKPR serves as the initial spatial confirmation; a new Building Permit (PBG) and Certificate of Functional Worthiness (SLF) will be applied for to replace the 12 existing IMBs.

3.1.8. Health and Hospital Services

The hospital regulatory regime applicable to Fatmawati Hospital draws on the following principal instruments set out in Table 3.2. In addition, as Fatmawati Hospital operates as a Class A General Hospital, Teaching Hospital, and National Referral Hospital under PPK-BLU governance since 2005, subsequent regulatory framework will apply.

Table 3.2. Principal Health and Hospital Regulatory Instruments

Instrument	Subject	Project Relevance
Law 17/2023 on Health	Overarching national health law	Primary statutory framework for hospital operations and development.

Instrument	Subject	Project Relevance
Law 44/2009 on Hospitals	Hospital governance and standards	Applicable for matters not yet superseded by UU 17/2023.
PP 28/2024	Implementation of UU 17/2023	Detailed implementing provisions for the new Health Law
MOH Regulation 26/2022 jo 9/2024	Hospital Organisation and Procedures	Governs Fatmawati Hospital's organisational structure under SK SOTK.
MOH Regulation 25/2022 jo 45/2019	Hospital Classification	Defines Class A requirements; Fatmawati Hospital classified as Class A General Hospital.
MOH Regulation 40/2022	Technical Requirements for Hospital Buildings, Infrastructure, and Equipment	Design standard of 80 m^2/bed for Class A hospitals.
MOH Regulation 14/2021	Risk-Based Licensing Standards for Health Sector	Bed-class distribution: min. 250 beds (Class A), ≥60% standard-class, ≥10% intensive (6% ICU + 4% NICU/PICU), 10% isolation scalable to 30% in outbreaks (Masterplan, pp. 22–23).
MOH Regulation 13/2022	Ministry of Health Strategic Plan (Renstra)	Strategic direction for national health service transformation (Masterplan, p. 21).
MOH Regulation 5/2022	Ministry of Health Organisation	Ministry-level organisational framework.
Law 11/2020 + PP 5/2021	Job Creation and Risk-Based Licensing (NIB, permits, standard certificates)	Business licensing framework for hospital operations.
Lay 40/2004 on SJSN	National Social Security System	BPJS/national health insurance framework governing patient service tiers.
MOPW Regulation 26/PRT/M/2008	Fire Protection Systems	Fire safety design requirements for the new building
MOH Regulation 2/2023	Clean Water Quality Standards	Potable water quality benchmarks for hospital supply

3.1.9. Cultural Heritage

Cultural heritage management in Indonesia is governed by the following regulations and frameworks:

- Law No. 11 of 2010 concerning Cultural Heritage – mentions that structures older than 50 years are considered tangible cultural heritage
- Law No. 32 of 2009 concerning Environmental Protection and Management;
- Ministerial Decree of the Minister of Education and Culture No. 370/M/2017 on the Designation of National-Level Cultural Heritage;
- AIIB Environmental and Social Framework (ESF) – Environmental and Social Standard 1 ;
- AIIB guidance, Annex I (Cultural Heritage Management Plan);
- IFC Performance Standard 8 on Cultural Heritage. The scope of cultural heritage in accordance with IFC Performance Standard 8 includes both tangible and intangible forms of heritage that possess archaeological, historical, architectural, cultural, aesthetic, spiritual, or social significance; and
- Relevant regulations of the Provincial Government of DKI Jakarta concerning heritage buildings and historical areas.

This sets out the following designation criteria: (a) a minimum age of 50 years; (b) representation of a style period of at least 50 years; (c) special significance in history, science, education, religion, or culture; and (d) cultural value that strengthens national identity. Implementation is overseen by the Directorate of Cultural Protection under the Ministry of Education, Culture, Research, and Technology (Kemendikbudristek) at the national level, and by the Provincial Office of Culture and Tourism at the provincial level. At Fatmawati Hospital, it has been confirmed that there are no cultural heritage sites within the AIIB project area. However, the relocation site for hospital continuity services will be in a building that may potential cultural heritage value. This building, constructed in 1954, is currently used for meetings and office space. The hospital has implemented structure preservation procedures to keep this building is in its original 1954 form, with no significant modifications except for the addition of an elevator.

3.1.10. Employment and Occupational Health and Safety

Construction-phase OHS is governed by Law 13/2003 on Manpower (and subsequent amendments under Law 6/2023 on Cipta Kerja), GR 35/2021 on Fixed-Term Employment Agreements, Outsourcing, Working Hours and Rest Periods, and Termination of Employment, GR 50/2012 on Implementation of SMK3, MOH Regulation 27/2017 on Guidelines for Infection Prevention and Control in Health Care Facilities and MOMT Regulation 8/2010 on Personal Protective Equipment. Operational-phase OHS at hospitals is additionally governed by MOH Regulation 66/2016 on Hospital Occupational Safety and Health (K3RS) and MOH Regulation 11/2017 on Patient Safety. Infection prevention and control standards under MOH Regulation 27/2017 apply across all clinical departments, particularly relevant given the elevated infection-control needs at a 1,352-bed national referral hospital with comprehensive Cancer Center, transplantation, and intensive care services.

3.2. AIIB Environmental and Social Framework

The AIIB Environmental and Social Framework (ESF) consists of an Environmental and Social Policy (ESP) and three Environmental and Social Standards (ESS1, ESS2, ESS3), with a project-screening process that determines applicability and risk classification. The screening for Fatmawati Hospital (Section 1.6 above and re-stated below) confirms that ESS1 is the principal applicable standard, while ESS2 and ESS3 are screened-out.

3.2.1. Environmental and Social Policy (ESP)

The AIIB Environmental and Social Policy commits AIIB to applying environmental and social due diligence to all projects it finances, and requires borrowers to assess and manage environmental and social risks in accordance with the ESP and applicable ESSs across the project lifecycle.

3.2.2. ESS1 — Environmental and Social Assessment and Management

ESS1 is the principal standard for the Fatmawati Hospital project. It requires the borrower to assess and manage environmental and social risks and impacts of the project across its lifecycle, applying the mitigation hierarchy (avoid, minimize, restore, offset), engaging stakeholders meaningfully, and disclosing information transparently. ESS1 also requires the establishment of an Environmental and Social Management System (ESMS) commensurate with project risk; for Fatmawati Hospital (a **Category B project** under AIIB risk classification, anticipated), this is operationalized through the ESMP (Annex A) and supporting plans (Annexes B-J).

3.2.3. ESS2 — Involuntary Resettlement

ESS2 governs land acquisition and involuntary resettlement. Screening for the Fatmawati Hospital project confirms that no land acquisition is required: the four-phase 2027-2041 redevelopment will be constructed on the existing 135,740 m^2 site owned by the Ministry of Health. However, impacts from economic displacement due to tenant/lessee relocation will be considered.

Table 3.3. Relevant standards and regulatory frameworks on resettlement

Regulation	Remark
Law 20/2008	SME Law (Undang-Undang Usaha Mikro, Kecil, dan Menengah) — provides the national legal basis for protection and support of small-scale and micro enterprises.
GR N. 98/2021	Government Regulation on carbon-economy and broader environmental compliance requirements applicable to the project.
Presidential Regulation No. 62/2018	Presidential Regulation on social impact handling in land acquisition processes.
AIIB ESS1	Environmental and Social Assessment and Management — requires application of the mitigation hierarchy (Avoid → Minimise → Restore → Offset) and structured impact assessment for all project-affected persons.
AIIB ESS 5	Land Acquisition and Involuntary Resettlement — mandates livelihood restoration for physically and economically displaced persons, including informal or unregistered users of project-affected space.
AIIB ESS10	Stakeholder Engagement and Information Disclosure — requires meaningful consultation, accessible grievance mechanisms, and culturally appropriate disclosure.

3.2.4. Environmental and Social Exclusion List (ESEL)

The AIIB Environmental and Social Exclusion List (ESEL, 2024) lists activities that AIIB will not finance. The Fatmawati Hospital project does not include any activities listed on the ESEL. It involves constructing and modernizing public health infrastructure, which aligns with AIIB's Sustainable Cities and Inclusive Health themes.

3.3. Institutional Framework and Internal Policies

Fatmawati Hospital, as a healthcare institution that has been in continuous operation for more than 70 years, has developed and implemented a range of internal policies, procedures, and management systems to support the safe, efficient, and sustainable delivery of healthcare services. These internal frameworks form an integral part of the institutional arrangements governing the proposed redevelopment programme and are relevant to the management of environmental, social, labour, and occupational health and safety aspects associated with both the existing operations and the planned development activities.

The Hospital's medium-term strategic direction is outlined in its Strategic Business Plan (Rencana Strategis Bisnis, RSB). The 2027–2029 (First Revision) RSB articulates the goal of " A hospital that has superior orthopedic services at the Asian level with sustainable growth" through three main missions: establishing itself as Southeast Asia's leading orthopedic hospital, promoting research and development, and serving as the primary referral hospital for national priority and excellence initiatives. The RSB is supported by six strategic targets, including improving patient experience by

enhancing service quality and supporting facilities; improving service provider quality through increased productivity; improving clinical service quality through standardized care; improving hospital governance through service digitization; supporting the national hospital network to strengthen its capabilities; and providing high-quality, innovative education, training, and research. The Phase I Hospital Redevelopment (2027–2029) is incorporated into the 2025–2029 Strategic Business Plan (RSP) as a key strategic program.

At the policy level, Fatmawati Hospital manages environmental and social risks through a set of complementary internal instruments. In the area of environmental management, these include waste management procedures covering domestic waste, hazardous waste (B3 waste), radioactive waste, wastewater management, environmental monitoring and reporting, emergency preparedness and response, fire prevention and protection, and incident management. Supporting environmental management documents include periodic RKL-RPL monitoring reports submitted to the South Jakarta Environmental Agency for tracking environmental performance and regulatory compliance. The current environmental management system is considered generally adequate for existing operations. However, as part of the planned hospital expansion, relevant environmental and operational procedures should be reviewed and updated, as necessary, to ensure alignment with the final project design, increased operational capacity, and applicable regulatory requirements.

Table 3.4. Existing Operational Systems and Procedures, Fatmawati Hospital

Operational System	Existing Procedures	Key Review Area	Required Action
Waste Management	SOP for Solid Waste Management; SOP for Hazardous Waste (B3) Storage at Temporary Storage Facility (TPS); SOP for Handover of Hazardous Waste to Licensed Third Party; SOP for Wastewater Treatment System (WWTP/IPAL) Operation; SOP for Recyclable Waste Management; SOP for Handover of Recyclable Waste to Licensed Third Party; SOP for Radioactive Liquid Waste Management; SOP for Radioactive Solid Waste Management	Review waste segregation, collection, temporary storage, internal transportation, treatment, disposal, recycling, and management procedures for domestic, hazardous, recyclable, and radioactive waste to ensure they remain appropriate for the expanded hospital operations and applicable regulatory requirements.	Review and update SOPs, where necessary, to reflect the expanded hospital facilities, revised operational workflows, and applicable GIIP.
Wastewater Treatment Plant (WWTP/IPAL) Operation	SPO for Liquid Waste Management Plan, SOP for Emergency Response at the WWTP	Review operational procedures, preventive maintenance, process monitoring, sludge handling, and emergency response arrangements to ensure continued effective operation following hospital expansion.	Review operational and emergency procedures prior to commissioning of the expanded facilities.
Infection Prevention and Control (IPC)	Renovation Infection Risk Assessment (ICRA); SOP for Sharps Waste Management; SOP for Post-Exposure Management Following Infectious Waste Exposure; SOPs for Collection, Transport, Washing, Distribution, Storage,	Review infection prevention and control procedures for waste handling, linen management, isolation services, and occupational exposure to ensure consistency with	Review and update IPC-related procedures, where necessary, in accordance with current clinical practices and GIIP.

Operational System	Existing Procedures	Key Review Area	Required Action
	and Handling of Infectious Linen; SOP for Handling Soiled Linen from Isolation Wards	expanded healthcare services and updated patient flow.	
Emergency Response and Occupational Health & Safety (OHS)	Pre-Construction Risk Assessment (PCRA); Hospital Occupational Health and Safety Policy; Hospital Safety Management Plan; Fire Safety Management Plan; SOP for Clean Water Contamination Emergency; SOP For Boiler Maintenance, SOP for Fire Emergency Response; SOP for Emergency Response at Hazardous Waste Storage (TPS B3); SOP for Water Pollution Emergency Response; SOP for Emergency Response at the WWTP	Review emergency preparedness, evacuation procedures, fire protection, spill response, emergency communication, and organisational responsibilities to ensure they remain effective following hospital expansion.	Update emergency response procedures and conduct refresher training prior to operation of the expanded facilities.
Security Management	SOP for Security Patrol; Visitor Identification SOP; Escort SOP; Theft/Loss Response SOP; Riot Response SOP; Baby Abduction Prevention SOP	Review hospital security, visitor access, emergency coordination, and protection of patients and staff during expanded operations.	Review and update security procedures to reflect expanded hospital layout and patient flow.
Hazardous Materials Management	SOP for Hazardous Waste Storage; SOP for Handover of Hazardous Waste to Licensed Third Party; SOP for Emergency Response at Hazardous Waste Storage (TPS B3)	Review procedures for handling, storage, spill prevention, emergency response, and transfer of hazardous materials and hazardous waste to ensure continued compliance with regulatory requirements and GIIP.	Review and revise hazardous materials management procedures where applicable.
Patient Protection, Grievance Management, and Patient Movement	Customer Complaint Handling SOP; Customer Complaint Management Guideline; Grievance Log; Patient Protection from Violence Policy; SOP for Protection of Patients from Violence; SOP for Medical Examination of Victims of Violence; Visitor Identification SOP; Patient Attendant Rules SOP.	Review grievance handling, patient protection measures, patient transfer procedures, and patient circulation arrangements to ensure they remain effective under the expanded hospital operations and revised facility layout.	Review and update procedures where necessary to reflect the expanded hospital facilities and operational arrangements.
Support Services (Laundry and Nutrition)	SOPs for Linen Collection, Washing, Distribution, Storage, Repair, and Inventory Management; Food Receiving SOP; Food Storage SOP; Food Preparation SOP; Food Hygiene and Sanitation SOP; SOP for PPE Use in the Nutrition Unit	Review laundry and nutrition service procedures, hygiene controls, and operational workflows to ensure continued effectiveness in supporting expanded hospital services.	Review and update SOPs, where necessary, to align with expanded operational requirements and GIIP.

In the area of infection prevention and control (IPC), the IPC Policy (SK 2025) is managed by the IPC Committee's person in charge (PIC) and the IPC Installation, both under the Directorate of Medical and Nursing Services. This policy covers standard precautions, the handling and disposal of sharps and other clinical waste, and procedures to follow after exposure incidents.

For occupational health and safety, the Environmental Health and OHS Installation (IKLK3), under the Directorate of Operational Services, is responsible for implementing the Hospital OHS Program (K3RS). This implementation follows MOH Regulation No. 66 of 2016 and the hospital's incident reporting procedures.

For labor and employment matters, workforce relations are governed by the civil service employment framework for ASN personnel (PNS/CPNS and PPPK), as defined in relevant national legislation. Additional employment arrangements apply to non-ASN staff whose positions are funded from the BLU budget.

The Hospital's commitment to environmental management and service quality is reflected in a long record of certifications and awards. In 2011, Fatmawati Hospital held ISO 9001:2008 and OHSAS 18001:2007 certifications. It has maintained PROPER Blue status from the Ministry of Environment and Forestry since 2013, obtained Joint Commission International (JCI) accreditation and KARS Paripurna accreditation in 2016, and received the National First Place Green Hospital Award from the Ministry of Health in 2018. Since 2014, the Hospital has also maintained KARS accreditation, although ISO accreditation was not renewed after that time. Together, these achievements show that the Hospital's internal environmental and social management framework is not newly established for this project, but an operational system that has been externally verified for more than a decade.

Since the project involves expanding an existing operational hospital, the current institutional framework and internal policies offer a solid basis for implementing the ESMP. These policies are mainly designed for routine healthcare activities and will need review and, if needed, improvements to manage construction-related risks and accommodate new facilities. The specific areas needing reinforcement are highlighted in Chapter 7 and detailed in Annex A (ESMP) of this document.

3.4. Other International Frameworks Applicable in Indonesia

Beyond the AIIB ESF and Indonesian national legislation, the following international frameworks inform the safeguards approach for Fatmawati Hospital. These frameworks are not legally binding on the project but represent Good International Industry Practice (GIIP) that AIIB ESS1 requires projects to apply.

Table 3.5. International Reference Frameworks Applied to Fatmawati Hospital

Framework / Source	Application to Fatmawati Hospital
WHO Safe Hospitals in Emergencies and Disasters	Hospital resilience design - climate, seismic (per SNI 1726:2019 zoning for DKI Jakarta lowland), pandemic surge
WHO Guidelines on Tuberculosis (TB) Infection Prevention and Control (2019 update)	TB infection control where TB cases admitted - negative pressure isolation rooms, HEPA filtration, ventilation requirements (general national clinical context)
WHO Guidelines on Indoor Air Quality	HVAC design parameters for clinical spaces
WHO Drinking Water Quality Guidelines (4th ed.)	Potable water reference

Framework / Source	Application to Fatmawati Hospital
World Bank Group EHS Guidelines for Healthcare Facilities	Wastewater, air emissions, hazardous waste, occupational health, community health benchmarks
World Bank Group EHS Guidelines for Construction and Decommissioning	Construction-phase EHS reference
IFC Performance Standards (PS) — referenced as supplementary	PS3 (Resource Efficiency and Pollution Prevention), PS4 (Community Health, Safety and Security)
UNFCCC Paris Agreement and Government of Indonesia ENDC	Greenhouse gas inventory and adaptation framing — Section 8 and Annex E
ILO Conventions ratified by Indonesia (e.g., C087, C098, C100, C111, C138, C182, C190 GBV/SEAH)	Labour and working conditions; non-discrimination; child labour exclusion; harassment
UNDRR Sendai Framework for Disaster Risk Reduction 2015-2030	Resilience framing for the Hospital as a critical facility

3.5. Gap Analysis between AIIB ESF and Indonesian Legislation

A structured gap analysis identifies areas where the AIIB ESF sets requirements higher than the Indonesian legal baseline; in these cases, the more stringent AIIB ESF standards apply. The analysis below focuses on the main aspects of ESS1; gaps related to ESS2 and ESS3 are not significant since those standards are not applicable. The gap analysis is provided in **Table 3.6**.

Table 3.6. Gap Analysis: AIIB ESF Requirements Against Indonesian National Legislation

Aspect	National Framework	AIIB ESF Requirement	Project Approach
Stakeholder Engagement	AMDAL public consultation — limited, single-event focus	ESS1 requires meaningful, ongoing, two-way engagement with affected and interested parties across the project lifecycle	AIIB ESS1 (SEP — Annex C)
Grievance Redress Mechanism	Generic complaint mechanisms; no project-specific GRM mandated	ESS1 requires project-specific GRM accessible to all affected parties, free of charge, with clear escalation and reporting	AIIB ESS1 (GRM — Annex D)
Information Disclosure	AMDAL public availability after KPA approval	ESS1 requires draft and final ESIA disclosure before financing decision, in accessible languages and formats	AIIB ESS1 (disclosure scheduled per SEP)
Cumulative Impact Assessment	Not systematically required at project ANDAL stage	ESS1 requires consideration of cumulative impacts where material	Section 6.4 — cumulative impact assessment included
Climate Change Risk Assessment	Not required under AMDAL framework	ESS1 requires identification of physical and transition climate risks and adaptation measures	Chapter 8 + Annex E
GHG Inventory	Not required under AMDAL for this project type and scale	ESS1 requires Scope 1 and Scope 2 quantification where material; Scope 3 where significant	Chapter 8.3 + Annex E
Vulnerable Groups	Limited mention in AMDAL social baseline	ESS1 requires explicit identification of vulnerable groups and tailored mitigation	Section 5.7 + Annex H
Gender	PUG (Gender Mainstreaming - Pengarusutamaan Gender) — applied in policy framing, not consistently in project safeguards	ESS1 requires gender-disaggregated analysis and gender-sensitive mitigation, including for GBV/SEAH risk	Sections 5.3, 5.7, 6.2.7–8, Annex H
Cultural Heritage	Law 11/2010 covers designated heritage; chance-find and intangible heritage less consistently addressed	ESS1 requires chance-find procedures and consideration of intangible heritage	Section 6.2.3 + Annex I (CHMP) + chance-find procedure in C-ESMP
Labour and Working Conditions	Indonesian labour law floor	ESS1 references ILO core conventions, including grievance procedures for workers	C-ESMP labour management plan referenced (Annex E)

4. ENVIRONMENTAL BASELINE

This Chapter establishes the environmental baseline conditions of the Fatmawati Hospital site and its area of influence, covering geographic and administrative context, topography and geology, climate and meteorology, hydrology and hydrogeology, air quality and noise, waste managemnt, biodiversity and ecology, land use and spatial compliance, and the operational environmental trend captured in the existing RKL-RPL implementation reports. The baseline presented here serves as the pre-construction reference point against which project impacts are assessed in Chapter 7 and monitored through the arrangements established in Chapter 13.

4.1. Geographic and Administrative Context

Fatmawati Hospital is located on a 135,740 m² site (approximately 13 hectares) at Jalan RS Fatmawati Raya No. 4, Cilandak Barat sub-district, Cilandak district, Kota Jakarta Selatan, DKI Jakarta Province.

The site is under the regulatory authority of the DKI Jakarta Provincial Government and the South Jakarta Municipal Administration for spatial planning, environmental management, and municipal services. Functionally, however, the hospital remains under the Ministry of Health, which acts as its owner and operator.

The hospital is located approximately 15 km south of Central Jakarta and is well served by public transport, including Fatmawati MRT Station, the TransJakarta corridor, and major arterial roads (see **Figure 1-4**).

Key administrative details:

- Province: DKI Jakarta Province (DKJ — Daerah Khusus Jakarta)
- City Administration: Kota Jakarta Selatan
- District (Kecamatan): Cilandak
- Subdistrict (Kelurahan): Cilandak Barat
- Surrounding land uses and facilities include:
    - Jl. Raya TB Simatupang and the Jakarta Outer Ring Road to the north
    - Jl. Lingkar Fatmawati/Bougenville/Fatmawati City Center to the east and south
    - Jl. RS Fatmawati Raya and the South Jakarta Post Office to the west
    - BBPK Cilandak, Cilandak Town Square mall, the TB Simatupang office corridor, Fatmawati MRT Station, and residential areas of Cilandak Barat Sub-district in the broader vicinity.

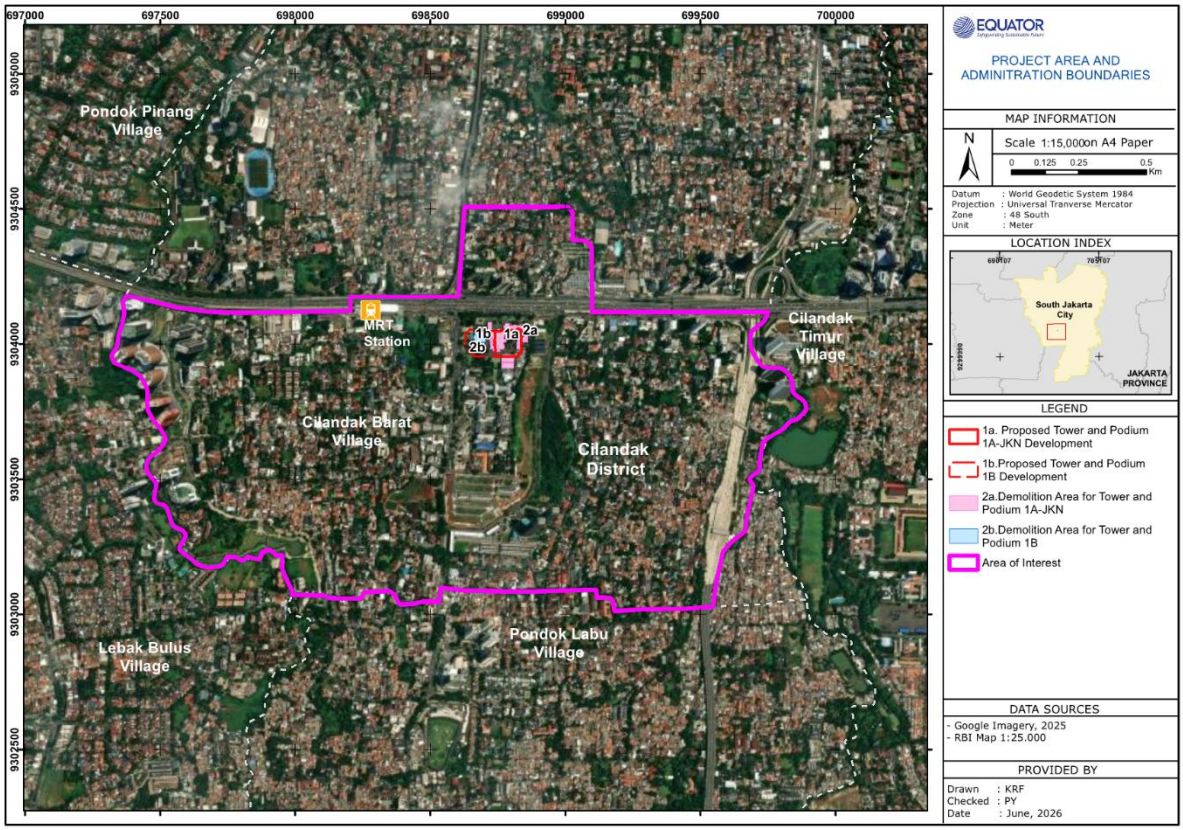


Figure 4-1. Project Area and Administration Boundaries

4.2. Topography and Geology

The site is located in lowland metropolitan South Jakarta, with flat-to-gently sloping terrain characteristic of the DKI Jakarta lowland plain. Elevation averages 7–8 m above sea level with an overall slope of 0–3%. The regional geology comprises alluvial Jakarta sediments grading into older Pleistocene deposits, with hard-rock depth ranging from 10–25 m in the north to 8–15 m in the south (see **Table 4.1**).

Table 4.1. Summary of Site-Specific Geotechnical Profile at Fatmawati Hospital

No	Classification	Description	Thickness	N-SPT
1	CH (high-plasticity clay)	Reddish brown, soft to medium stiff	7–9.5 m	2–5
2	MH (medium-plasticity clayey silt)	Brown to greyish brown, very stiff to hard at depth	11.5–14.5 m	4–60
3	SM (silty sand)	Black, very dense	—	60
4	MH/CH (hard layer at depth)	Hard stratum below 27 m	—	37–42

Seismic hazard is classified per SNI 1726:2019 for the DKI Jakarta lowland zone; site-specific design acceleration will be established by the DEDC. The flat terrain reduces landslide risk but increases flood vulnerability — approximately 40% of DKI Jakarta lies at or below sea level.

Site topography and subsurface conditions have been characterized through available geotechnical investigations, including soil classification, groundwater level measurements, and permeability testing. Existing investigations indicate generally soft alluvial soil conditions typical of the Jakarta coastal plain. Detailed geotechnical interpretation, foundation design parameters, and structural

recommendations for the proposed 22-storey multi-building plan's building will be further developed during the Detailed Engineering Design Consultant (DEDC) stage.

Flood risk constitutes an important environmental and engineering consideration for the Project Area. Site-specific flood-monitoring data collected between 2023 and 2025 provide a recent baseline for flood vulnerability within the hospital complex. At the regional scale, DKI Jakarta experiences high flood exposure due to 13 river systems discharging into Jakarta Bay, with the Ciliwung River serving as the principal drainage corridor. Approximately 40% of Jakarta lies at or below sea level. In addition, rapid runoff originating from the upstream Bogor–Ciawi–Puncak catchment contributes to downstream flooding across the relatively flat Jakarta plain. Climate change is expected to further increase the frequency and intensity of extreme rainfall events. Accordingly, site-specific flood risk assessment and integration with the Multibuilding Plan stormwater management design are addressed further in Annex E (Climate Risk Assessment).

4.3. Climate and Meteorology

The South Jakarta area exhibits a tropical lowland climate with two distinct seasons, comprising a rainy season from November to March and a dry season from May to September, typical of equatorial Indonesia. BMKG observations for DKI Jakarta recorded a temperature range of 21.2–37.2°C, mean relative humidity of 74% (range 31–100%), mean annual rainfall of 1,650 mm based on the 2015–2025 observation period (BMKG DKI Jakarta, 2025), and up to 125 rain-days per year. Design parameters for HVAC, drainage, and outdoor construction scheduling must reflect these conditions. A summary of climatic conditions is presented in **Table 4.2**, and annual and monthly rainfall data for the 2015–2025 period are illustrated in **Figure** .

Table 4.2. Summary of Climatic Conditions in South Jakarta

Parameter	Indicative Value (South Jakarta)
Mean annual temperature	21.2–37.2°C (BMKG DKI Jakarta, 2023); typical diurnal range 25–32°C.
Mean relative humidity	Approximately 74% (range 31–100%).
Maximum annual rainfall	1,650 mm/year (BMKG DKI Jakarta, 2025).
Rainfall regime	Bimodal: rainy season November–March (peak); dry season May–September; transitional shoulder months.
Number of rain-days	Up to 125 rain-days per year.
Wind speed	Generally moderate; sea-breeze and metropolitan heat-island effects.
Fog incidence	Limited in metropolitan Jakarta lowland.
Solar radiation	Moderate to high in tropical lowland setting; attenuated by metropolitan air-quality conditions.

Source: BMKG (2023), and BMKG (2025)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
2015	230	195	178	120	89	55	38	22	28	95	145	210	1,405
2016	310	285	195	130	95	48	42	35	55	125	180	240	1,740
2017	275	320	215	155	105	62	45	30	48	115	175	225	1,770
2018	290	248	195	135	88	55	40	28	42	105	165	235	1,626
2019	245	215	165	118	75	45	32	20	35	98	158	198	1,404
2020	377	210	198	145	112	68	52	38	45	118	195	265	1,823
2021	318	265	188	142	95	58	44	33	50	125	185	248	1,751
2022	295	278	220	158	110	65	48	35	55	135	198	275	1,872
2023	248	225	185	125	72	42	28	18	25	88	155	195	1,406
2024	285	255	178	132	85	50	38	25	40	108	172	235	1,603
2025	305	280	242	148	98	60	45	30	42	112	168	220	1,750
Mean (2015–2025)	289	252	196	137	93	55	41	29	42	111	172	231	1,650
Min	230	195	165	118	72	42	28	18	25	88	145	195	1,404
Max	377	320	242	158	112	68	52	38	55	135	198	275	1,872

Figure 4-2. Annual and Monthly Rainfall in South Jakarta

4.4. Hydrology and Hydrogeology

The Project is located within the DKI Jakarta alluvial drainage system, which comprises a network of rivers, canals, and drainage channels that discharge into Jakarta Bay. The principal river within the regional drainage system is the Ciliwung River, while Kali Grogol is the closest receiving watercourse to the Project site. Surface-water management within the area is coordinated by the DKI Jakarta Provincial Government through the South Jakarta Water Resources Agency (Sudin SDA Jakarta Selatan) and the Ciliwung-Cisadane River Basin Authority (BBWS Ciliwung-Cisadane).

The Project area is situated within the lowland alluvial plain of South Jakarta and is characterized by predominantly flat terrain with slopes generally ranging from 0–3%. The area experiences a tropical monsoonal climate with distinct wet and dry seasons and annual rainfall of approximately 1,581 mm. Combined with extensive urban development and high proportions of impervious surfaces, these conditions contribute to rapid stormwater runoff generation during rainfall events. South Jakarta is recognized as having elevated flood susceptibility associated with its topographic, hydrological, and land-use characteristics, and regional flood-vulnerability assessments identify parts of Cilandak District as having moderate to high flood susceptibility (Seli *et al.*, 2025). Stormwater from the Hospital is conveyed through the existing internal drainage network before discharging to the municipal drainage system and ultimately to Kali Grogol.

The Project is located within the Jakarta Groundwater Basin (*Cekungan Air Tanah Jakarta*), which supports groundwater abstraction for municipal, commercial, industrial, and institutional uses throughout the Jakarta metropolitan area. In term of hydrogeology characteristic in general, the basin comprises both unconfined and confined aquifer systems, with the shallow unconfined aquifer generally extending to depths of approximately 60 m below ground level. Regional groundwater

mapping indicates groundwater levels in the Cilandak area are generally located at depths of approximately 15–20 m below ground level, as shown in **Figure 4-3.**

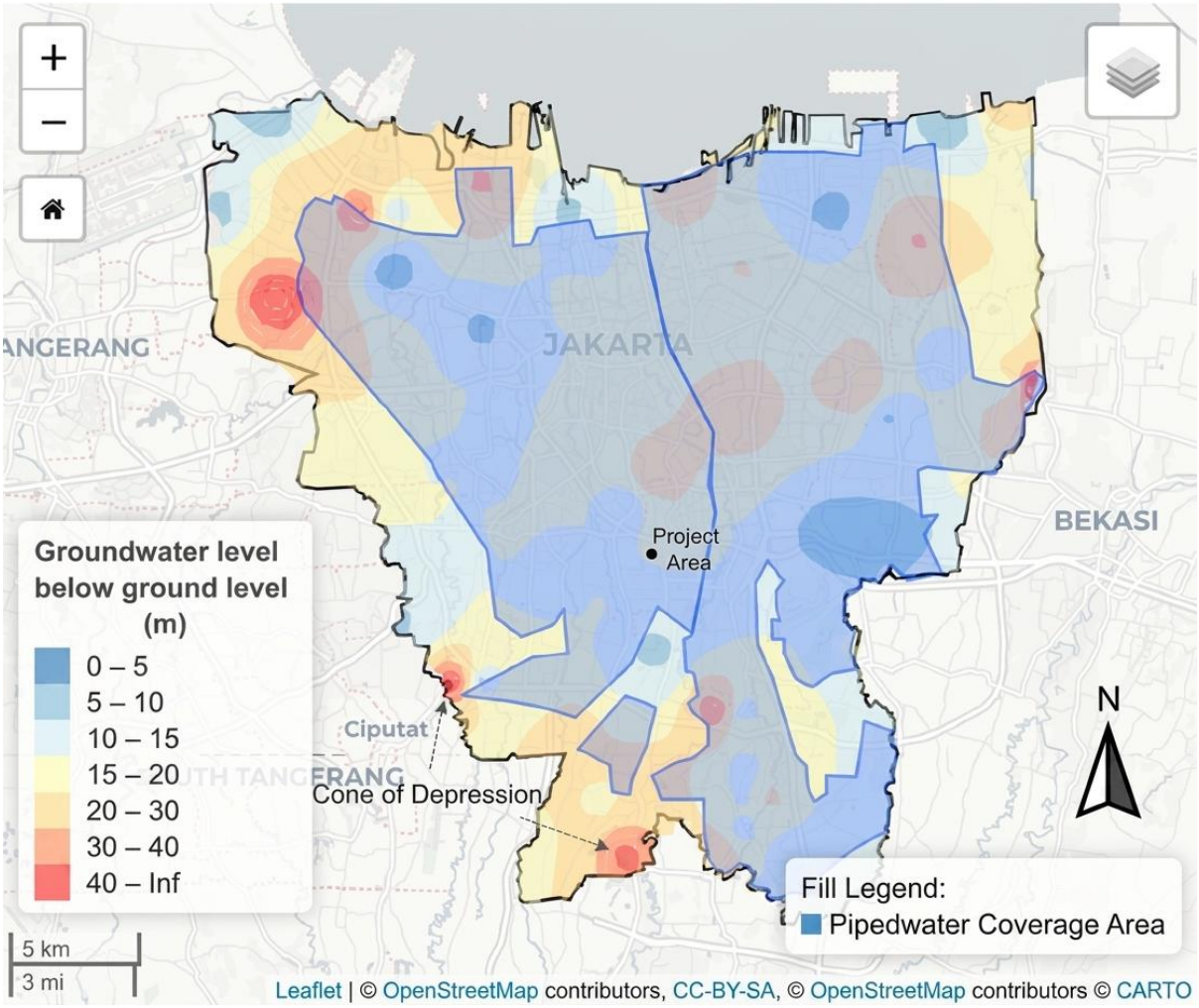


Figure 4-3. Groundwater level below ground level and piped water service area (Modified from Taftazani et al., 2022)

Groundwater abstraction remains an important component of persistent the water supply in South Jakarta, partly due to continuing gaps between water demand and piped water service coverage. Groundwater management is also a strategic issue within the Jakarta metropolitan area due to the historical relationship between groundwater abstraction and localized land subsidence.

Groundwater is utilized as a supplementary water source within the Hospital under a valid Groundwater Extraction Permit (SIPA) No. 43/7.15/31/1.774.1/2016 dated October 11, 2016, complementing the municipal PAM Jaya water supply. Given the planned basement excavation works and continued groundwater utilization, effective stormwater, groundwater, and drainage management will be important considerations during Project implementation.

4.5. Water Supply

Fatmawati Hospital currently obtains water from a combination of PAM Jaya municipal supply and groundwater abstraction wells (operating under Groundwater Extraction Permit SIPA), with total water demand of 22.710,9 m^3/month. Municipal supply provides approximately 70–75% of total water demand, while groundwater contributes approximately 25–35% as a supplementary source. Water is

stored in ground, header, and elevated tanks and distributed throughout the Hospital using booster and centrifugal pumps. Clinical services requiring high-purity water utilize reverse osmosis (RO) treatment systems. Water supply management is undertaken in accordance with Ministry of Health Regulation No. 2 of 2023.

Water quality monitoring includes groundwater quality testing associated with the Hospital's borehole supply system and routine WWTP effluent monitoring undertaken by a KAN-accredited laboratory. Groundwater-derived clean water sampled from representative service locations across the Hospital showed no detectable Escherichia coli or total coliform contamination (0 CFU/100 mL), indicating compliance with applicable requirements under Ministry of Health Regulation No. 2 of 2023 and supporting the suitability of groundwater as a supplementary raw-water source.

4.6. Groundwater Quality

Table 4.3 presents the laboratory results of groundwater quality collected from four sampling locations (AB1–AB4) within the project area in June 2026. The samples were analyzed for selected physical, chemical, and microbiological parameters to evaluate compliance with the applicable water quality standards for hygiene and sanitation purposes.

Table 4.3. Groundwater Quality Results (Baseline Survey) at Fatmawati Hospital

Parameter	Unit	Standard*	Sampling Location			
			AB-1	AB-2	AB-3	AB-4
Color	TCU	10	<0.01	<0.01	<0.01	<0.01
Odor	-	Odorless	Odorless	Odorless	Odorless	Odorless
Turbidity	NTU	<3	<0.01	<0.01	<0.01	<0.01
Total Dissolved Solids (TDS)	mg/L	<300	39	82	54	93
pH	-	6.5–8.5	7.43	8.10	7.13	6.70
Iron (Fe)	mg/L	0.2	0.068	0.064	0.062	0.073
Manganese (Mn)	mg/L	0.1	<0.020	<0.020	<0.020	<0.020
Nitrate (NO_3-N)	mg/L	20	0.03	0.04	0.06	0.08
Nitrite (NO_2-N)	mg/L	3	<0.001	<0.001	<0.001	<0.001
Hexavalent Chromium (Cr^{6+})	mg/L	0.01	<0.006	<0.006	<0.006	<0.006
E. coli	CFU/100 mL	0	0	0	0	0
Total Coliform	CFU/100 mL	0	1	0	0	1

*) Ministry of Health Regulation No. 2 of 2023

The laboratory results indicate that the physical and chemical characteristics of the groundwater at all four sampling locations comply with the applicable water quality standards for hygiene and sanitation purposes. Temperature, colour, odour, turbidity, total dissolved solids (TDS), pH, iron, manganese, nitrate, nitrite, and hexavalent chromium concentrations were all within the prescribed limits.

Microbiological analysis showed that E. coli was not detected in any of the samples, indicating the absence of faecal contamination. However, Total Coliform was detected at 1 CFU/100 mL at sampling locations AB1 and AB4, whereas the applicable standard requires no detectable Total Coliform. The presence of Total Coliform suggests minor microbiological contamination that may be associated with the water distribution system, storage facilities, or local handling practices rather than direct faecal pollution, as E. coli remained undetected. Although the exceedance is limited, periodic monitoring and inspection of the water distribution and storage systems are recommended to maintain microbiological water quality and ensure continued compliance.

4.7. Air Quality and Noise

The air quality and noise sub-section captures both the outdoor (ambient and stationary-source) dimensions and the indoor (clinical-space) dimension that is material for a Class A general hospital with a comprehensive Cancer Center, transplantation, and intensive care services. Each sub-dimension is treated separately below, with parameter standards and the data-closure plan for the M1 / M2 baseline campaigns.

4.7.1. Ambient Air Quality

Ambient air conditions in the Project area are typically characterized by a dense metropolitan urban environment with substantial contributions from vehicular and stationary sources. Background ambient concentrations of Sulphur Dioxide (SO_2), Carbon Monoxide (CO), Nitrogen Dioxide (NO_2), Photochemical Oxidant as Ozone (O_3), Hydrocarbon (HC), Total Suspended Particulates (TSP), Particulate Matter ($PM_{2.5}$ and PM_{10}), and Lead (Pb) may approach or exceed the Indonesian National Ambient Air Quality Standards during peak traffic periods on Jl. Raya TB Simatupang and Jl. Raya Fatmawati Raya.

The ambient air quality baseline is derived from data in the 2022–2025 biannual UKL–UPL Implementation Reports and Baseline Survey in June 2026. Ambient air quality monitoring was conducted at three (3) locations during the first semester of 2022, namely the Griya Husada Building Area, the Teratai Building Area, and the Laboratory Building Area. The results are evaluated against Government Regulation (PP) No. 22 of 2021, DKI Jakarta Governor Decree No. 551 of 2001, and the IFC General EHS Guideline (2007) on Ambient Air Quality Standards. These data indicate that ambient air quality in the project area is relatively good and meets all standards (see **Table 4.4**). Occasional exceedances of particulates (PM2.5 and PM10) were recorded in June and August 2025 at the Griya Husada sampling point due to proximity to the toll road.

The ambient air quality monitoring (baseline survey) results, as shown on **Table 4.5**, across six receptor locations (UA-1 through UA-6)[7] indicate that all measured parameters—including SO_2, NO_2, O_3, CO, HC, TSP, PM_{10}, $PM_{2.5}$, and Pb—remain well below the applicable National ambient air quality standards (PP 22/2021) for all parameters. When compared against the more stringent DKI Jakarta Provincial standards (Gov Reg 551/2001) and the IFC EHS Guidelines, all concentrations also fall below the respective limits, with the exception of $PM_{2.5}$ and PM_{10}, which, although still compliant with National and Provincial standards, slightly exceed the more rigorous IFC EHS Guidelines of 25 µg/m³ for $PM_{2.5}$ and 50 µg/m³ for PM_{10} at several locations, particularly UA-5 and UA-6. The highest concentrations of most pollutants were generally observed at the Kelurahan Cilandak Residential Area (UA-6),

[7] Located near Teratai Building, Griya Husada, and Laboratories.

particularly for CO (3,230 µg/m³) and SO_2 (31.55 µg/m³), while lead (Pb) concentrations remained consistently below the detection limit (<0.006 µg/m³) at all locations, indicating negligible contribution from this parameter. Overall, the monitoring results demonstrate that ambient air quality at all receptor points is generally in good condition and complies with national and provincial regulatory limits, although special attention may be required for fine particulate matter ($PM_{2.5}$ and PM_{10}) when referring to international standards.

Table 4.4. Summary of Ambient Air Quality Monitoring Results at Project Facilities (2022–2025)

Parameter	Avg. Period	Year	Measurement Period	N	Concentration (µg/m³)			Standards (µg/m³)			
					Max	Min	Mean	National (PP 22/2021)	DKI Jakarta (Gov Reg 551/2001)	IFC EHS Guidelines	IFC Avg. Period
SO_2	1-hr	**2022**	Sem. I & III 2022	6	22.07	15.05	17.66	**150**	**900**	**500**	10-min
		2023	Mar – Oct 2023	12	19.06	15.52	17.44				
		2024	Feb – Oct 2024	12	20.20	0.22	14.65				
		2025	Feb – Oct 2025	12	43.46	13.30	24.14				
CO	1-hr	**2022**	Sem. I & III 2022	6	2610.00	567.80	1256.48	**10000**	**26000**	**30000**	1-hr
		2023	Mar – Oct 2023	12	1238.10	462.80	983.55				
		2024	Feb – Oct 2024	12	1254.90	1.44	743.30				
		2025	Feb – Oct 2025	12	755.83	2.00	159.86				
NO_2	1-hr	**2022**	Sem. I & III 2022	6	13.06	9.31	10.17	**200**	**400**	**200**	1-hr
		2023	Mar – Oct 2023	12	10.10	8.78	9.56				
		2024	Feb – Oct 2024	12	10.03	2.16	7.81				
		2025	Feb – Oct 2025	12	53.20	5.70	20.30				
O_3	1-hr	**2022**	Sem. I & III 2022	6	11.99	8.72	9.70	**150**	**200**	**100**	8-hr
		2023	Mar – Oct 2023	12	9.63	8.47	9.22				
		2024	Feb – Oct 2024	12	9.78	0.22	7.15				
		2025	Feb – Oct 2025	12	65.40	14.80	44.88				
HC	3-hr	**2022**	Sem. I & III 2022	6	8.80	8.10	8.43	**160**	**160**	**N/A**	–
		2023	Mar – Oct 2023	12	8.70	7.70	8.27				
		2024	Feb – Oct 2024	12	100.00	1.03	29.34				
		2025	Feb – Oct 2025	12	116.32	2.20	40.10				
TSP	24-hr	**2022**	Sem. I & III 2022	6	100.00	63.64	80.16	**230**	**230**	**N/A**	–
		2023	Mar – Oct 2023	3	73.12	60.47	64.93				
		2024	Feb – Oct 2024	6	68.56	4.56	39.01				

Parameter	Avg. Period	Year	Measurement Period	N	Concentration (µg/m³)			Standards (µg/m³)			
					Max	Min	Mean	National (PP 22/2021)	DKI Jakarta (Gov Reg 551/2001)	IFC EHS Guidelines	IFC Avg. Period
		2025	Feb – Oct 2025	12	117.83	25.20	67.35				
PM_{10}	24-hr	**2022**	Sem. I & III 2022	–	–	–	–	**75**	**150**	**50**	24-hr
		2023	Mar – Oct 2023	12	38.39	27.11	33.68				
		2024	Feb – Oct 2024	12	39.46	2.83	28.36				
		2025	Feb – Oct 2025	12	**53.30**	12.10	35.15				
$PM_{2.5}$	24-hr	**2022**	Sem. I & III 2022	–	–	–	–	**55**	**65**	**25**	24-hr
		2023	Mar – Oct 2023	12	20.42	15.33	17.78				
		2024	Feb – Oct 2024	12	20.16	2.75	16.02				
		2025	Feb – Oct 2025	12	**54.54**	8.30	27.47				
Pb	24-hr	**2022**	Sem. I & III 2022	6	0.05	0.05	0.05	**2**	**2**	**0.5**	Annual
		2023	Mar – Oct 2023	12	0.44	0.44	0.44				
		2024	Feb – Oct 2024	12	0.20	0.03	0.16				
		2025	Feb – Oct 2025	12	0.28	0.01	0.06				

Data Source: RKL-RPL Implementation Report 2022-2025
[1] PP No. 22 Tahun 2021, Annex VII.
[2] Kepgub DKI Jakarta No. 551 Tahun 2001, Annex I.
"<" = Value is under method detection limit (MDL)
NA = Not Available

Table 4.5. Ambient Air Quality Results (Baseline Survey) at Project Facilities Area

Area/ Code	Parameter	Measurement Time	Concentration (µg/m³)	Standards (µg/m³)		
				National (PP 22/2021)	DKI Jakarta (Gov Reg 551/2001)	IFC EHS Guidelines
Car Parking Area/ UA - 1	SO_2	24-hr	28.50	75	260	500
	NO_2	24-hr	12.55	65	92.5	200
	O_3	8-hr	17.30	100	200	100
	CO	8-hr	1745	4000	N/A	30000
	HC	3-hr	23.50	160	160	N/A
	TSP	24-hr	62.70	230	230	N/A
	PM_{10}	24-hr	21.75	75	150	50
	$PM_{2.5}$	24-hr	12.3	55	65	25
	Pb	24-hr	<0.006	2	2	0.5
Laboratorium Building Area/ UA - 2	SO_2	24-hr	<23.30	75	260	500
	NO_2	24-hr	10.25	65	92.5	200
	O_3	8-hr	15.05	100	200	100
	CO	8-hr	1195	4000	N/A	30000
	HC	3-hr	19.25	160	160	N/A
	TSP	24-hr	47.80	230	230	N/A
	PM_{10}	24-hr	18.50	75	150	50
	$PM_{2.5}$	24-hr	10.25	55	65	25
	Pb	24-hr	<0.006	2	2	0.5
Motorcycle Parking Area/ UA - 3	SO_2	24-hr	27.15	75	260	500
	NO_2	24-hr	20.16	65	92.5	200
	O_3	8-hr	17.57	100	200	100
	CO	8-hr	1260	4000	N/A	30000
	HC	3-hr	17.50	160	160	N/A
	TSP	24-hr	43.80	230	230	N/A
	PM_{10}	24-hr	20.90	75	150	50
	$PM_{2.5}$	24-hr	10.25	55	65	25
	Pb	24-hr	<0.006	2	2	0.5
Food Court Area/ UA - 4	SO_2	24-hr	29.25	75	260	500
	NO_2	24-hr	23.65	65	92.5	200
	O_3	8-hr	18.75	100	200	100
	CO	8-hr	1227	4000	N/A	30000
	HC	3-hr	18.50	160	160	N/A
	TSP	24-hr	41.65	230	230	N/A
	PM_{10}	24-hr	25.70	75	150	50
	$PM_{2.5}$	24-hr	14.85	55	65	25
	Pb	24-hr	<0.006	2	2	0.5
Southern Residential Area/ UA - 5	SO_2	24-hr	29.35	75	260	500
	NO_2	24-hr	23.69	65	92.5	200
	O_3	8-hr	17.75	100	200	100
	CO	8-hr	1385	4000	N/A	30000
	HC	3-hr	19.55	160	160	N/A

Area/ Code	Parameter	Measurement Time	Concentration (µg/m³)	Standards (µg/m³)		
				National (PP 22/2021)	DKI Jakarta (Gov Reg 551/2001)	IFC EHS Guidelines
	TSP	24-hr	40.68	**230**	**230**	**N/A**
	PM_{10}	24-hr	24.95	**75**	**150**	**50**
	$PM_{2.5}$	24-hr	16.55	**55**	**65**	**25**
	Pb	24-hr	<0.006	**2**	**2**	**0.5**
Kelurahan Cilandak Residential Area/ UA - 6	**SO_2**	24-hr	31.55	**75**	**260**	**500**
	NO_2	24-hr	28.90	**65**	**92.5**	**200**
	O_3	8-hr	21.50	**100**	**200**	**100**
	CO	8-hr	3230	**4000**	**N/A**	**30000**
	HC	3-hr	28.55	**160**	**160**	**N/A**
	TSP	24-hr	47.68	**230**	**230**	**N/A**
	PM_{10}	24-hr	24.90	**75**	**150**	**50**
	$PM_{2.5}$	24-hr	18.75	**55**	**65**	**25**
	Pb	24-hr	<0.006	**2**	**2**	**0.5**

Data Source: Primary Data (Baseline Survey on June 2026)
[1] PP No. 22 Tahun 2021, Annex VII.
[2] Kepgub DKI Jakarta No. 551 Tahun 2001, Annex I.
"<" = Value is under method detection limit (MDL)
NA = Not Available

4.7.2. Stationary Source Emissions

Fatmawati Hospital has thirteen emission sources, including eleven gensets (operated intermittently as backup main power source) with a total capacity of 8,547 KVA and two steam boilers (operated continuously for sterilization, laundry, and hot water supply), see **Table 4.6**. The location of these air emission sources is shown in **Figure 4-4**. Each source is equipped with an air filter. Based on the RKL-RPL Implementation Report (2022–2025), the maintenance plan for gensets and boilers includes routine engine servicing, regular air filter replacements, and periodic emission testing to ensure compliance with applicable air quality standards.

Fatmawati Hospital has one responsible personnel who holds current certifications as Air Pollution Control Installation Operations Manager (*Penanggung Jawab Operasional Instalasi Pengendalian Pencemaran Udara*, POIPPU) and one Air Pollution Control Manager (*Penanggung Jawab Pengendalian Pencemaran Udara*, PPU). A formal Technical Approval for Air Emissions (Persetujuan Teknis Baku Mutu Emisi, Pertek BMUE) and the associated Operational Worthiness Certificate (Surat Laik Operasi, SLO) have not yet been issued, as the Pertek BMUE process is still ongoing. The Hospital expects to obtain these approvals by 2026.

Table 4.6. Air Emission Sources Dimension

Emission Source Name	Diameter (cm)	Sampling Port Position From Bottom (8D) cm	Sampling Port Position From Top (2D) cm	Height (cm)
Genset 1 (Parkins)	15	250	50	300
Genset 2 (Cummins)	20	160	50	210
Genset 3 (Cummins)	20	160	50	210
Genset 4 (Cummins)	20	185	50	235

Emission Source Name	Diameter (cm)	Sampling Port Position From Bottom (8D) cm	Sampling Port Position From Top (2D) cm	Height (cm)
Genset 5 (Parkins)	20	185	50	235
Genset 6 (Parkin)	20	185	50	235
Genset 7 (Parkins)	20	185	50	235
Genset 8 (Parkins)	20	200	60	260
Genset 9 (Parkins)	15	120	30	150
Genset 10 (Parkins)	16	128	32	160
Genset Cancer center	20	200	60	260
Boiler 1	43	344	86	430
Boiler 2	43	344	86	430

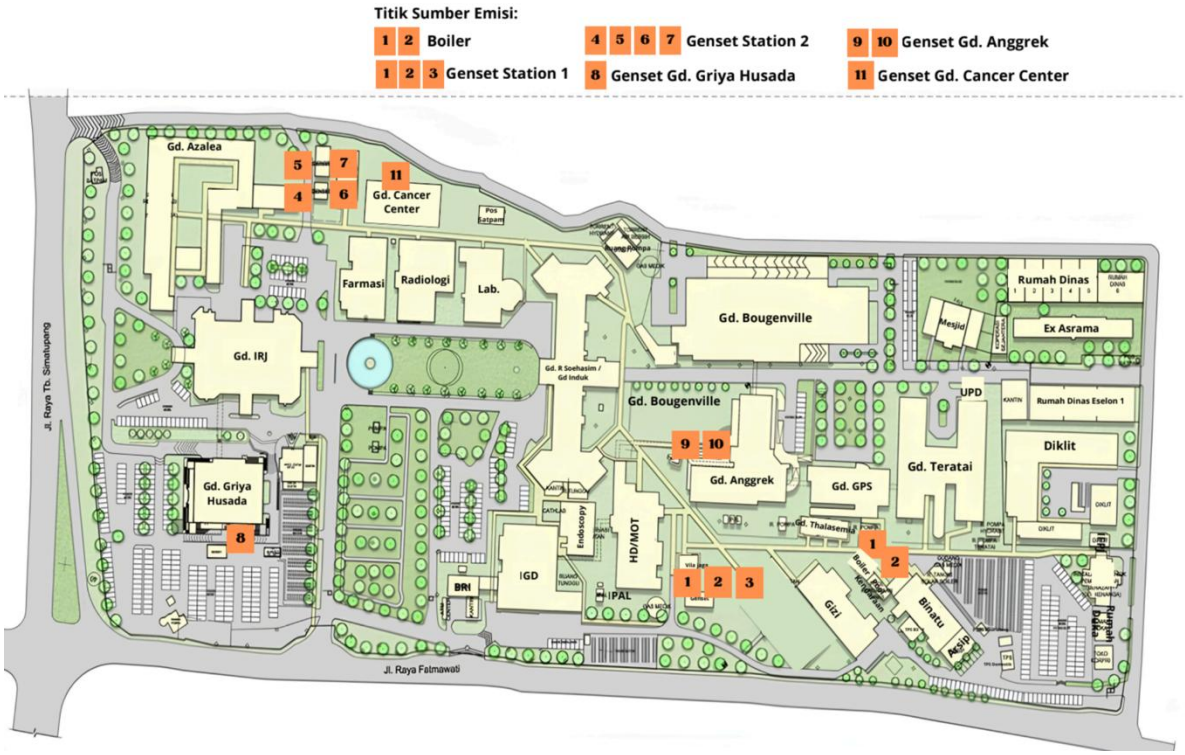


Figure 4-4. Air Emission Sources within Fatmawati Complex

The air emission monitoring for Genset units from 2022 to 2025 shows that most measured pollutant parameters — including Sulfur Dioxide (SO_2), Nitrogen Dioxide (NO_2), and Particulates — remain consistently below the applicable quality standards as stipulated in PerMen LHK No. 11 of 2021. For these parameters, both average and maximum values across all units (G1–G9) are well within the permitted limits, with SO_2 averages ranging from 3 to 11 mg/Nm³ (standard: 160 mg/Nm³) and particulate averages between 52.7 and 62.6 mg/Nm³ (standard: 95 mg/Nm³). NO_2 levels, despite some peaks such as on G4 (max 1,330 mg/Nm³ against a standard of 1,850 mg/Nm³), also remain below the thresholds for all units. However, Carbon Monoxide (CO) consistently exceeds the applicable standards, both in average and maximum values. For units with a standard of 77 mg/Nm³ (G1, G3, G4,

G5, G6, G7), average CO levels range from 251 to 424 mg/Nm³, with maximum values reaching up to 1,615 mg/Nm³ (G4). Similarly, for units with a more lenient standard of 170 mg/Nm³ (G2, G8, G9), average levels range from 275 to 321 mg/Nm³, with maximum values peaking at 597 mg/Nm³ (G9). These figures indicate that CO emissions are consistently above regulatory limits across almost all Genset units, warranting further investigation and corrective measures. Overall, while SO_2, NO_2, and particulates remain in compliance, CO is the primary parameter of concern, with all units showing exceedances that require immediate attention.

Table 4.7. Genset Emission Monitoring 2022 - 2025

Parameter		Emission **Concentration (mg/Nm³)**								
		G1	G2	G3	G4	G5	G6	G7	G8	G9
SO_2	Min	2.6	-	2.6	2.6	2.6	2.6	2.6	-	-
	Max	22	-	17	23	5	17	33	-	-
	Average	11	-	5	9	3	9	7	-	-
	Standard [1]	160	-	160	160	160	160	160	-	-
NO_2	Min	135	107	109	76.7	122	113	113	174	106
	Max	1293	1180	534	1330	532	1060	610	502	659
	Average	549	654	255	535	236	499	352	312	400
	Standard [1]	1850	3400	1850	1850	1850	1850	1850	3400	3400
CO	Min	43	49	37	53	35	21	48	113	78
	Max	576	542	521	1615	512	455	612	455	597
	Average	251	275	275	424	259	266	277	276	321
	Standard [1]	77	170	77	77	77	77	77	170	170
Particulate	Min	3.4	-	5.1	11.1	1.1	8.6	2.6	-	-
	Max	78.2	-	63.2	80.6	70.2	73.8	72.3	-	-
	Average	60.3	-	52.7	62.6	54.0	58.7	55.9	-	-
	Standard [1]	95	-	95	95	95	95	95	-	-

Data Source: RKL-RPL Implementation Report 2022-2025
[1] PerMen LHK 11 Tahun 2021 Annexl I.

Table 4.8. Boiler Emission Monitoring 2022 - 2025

Period Monitoring	Particulate (mg/Nm³)		SO_2 (mg/Nm³)		NO_2 (mg/Nm³)		Opacity (%)	
	Boiler 1	Boiler 2	Boiler 1	Boiler 2	Boiler 1	Boiler 2	Boiler 1	Boiler 2
1st Semester 2023	16	11	9	20	86	70	10	10
2nd Semester 2023	65.2	62.1	2.6	6	195	178	5	3
1st Semester 2024	69.1	70.3	2.6	2.6	293	374	-	-
2nd Semester 2024	65.2	62.1	2.6	6	195	178	5	3
1st Semester 2025	88	20.5	32.5	17.7	52.7	64.3	4	4
2nd Semester 2025	3.1	1.4	9	9	5	8	10	10
Standard [1]	200		700		700		15	

Data Source: RKL-RPL Implementation Report 2023-2025
[1] Permen LH No 7 Tahun 2007.



Figure 4-5. Air Emission Monitoring

4.7.3. Indoor Air and Ventilation

Indoor air quality in the Hospital's clinical spaces - particularly negative-pressure isolation rooms, operating theaters, and Cancer Center treatment areas - is a more significant baseline given patient acuity.

Indoor air quality and ventilation specifications are governed by MOH Regulation 7/2019 on Hospital Environmental Health and MOH Regulation 40/2022 on Technical Requirements for Hospital Buildings.

For the 33 operating theaters planned on floors 6–7, the WHO and World Bank Group EHS Guidelines for Healthcare Facilities specify dedicated air-handling design, including HEPA filtration of supply air for orthopedic and transplant theaters. Negative-pressure isolation rooms require a differential of at least −2.5 Pa, a minimum of 12 air changes per hour (ACH), and HEPA filtration of exhaust air per WHO TB IPC guidance.

Indoor air quality at Fatmawati Hospital from 2023 to 2025 generally meets the standards (MOH Regulation RI No. 2 Yr. 2023 and No. 48 Yr. 2016). However, the presence of indoor formaldehyde sources is detected in the autopsy room, the cancer center, and the radiology.

Table 4.9. Indoor Air Quality Monitoring Results at Fatmawati Hospital

Location Measurement	Measurement Date	Concentration						
		CO ($\mu g/m^3$)	CO_2 (ppm)	Pb ($\mu g/m^3$)	NO_2 ($\mu g/m^3$)	SO_2 ($\mu g/m^3$)	CH_2O ($\mu g/m^3$)	TVOC (ppm)
Yellow Zone IGD	15-May-23	1489,3	389,4	<0,44	9,2	18,4	1,0	<0,009
Pharmacy Drug Warehouse	20-Jun-23	1603,9	381,20	<0,44	9,1	18	2,0	<0,010
Atonomical Pathology	20-Jun-23	1489,3	385,4	<0,45	9,2	17,5	1,0	<0,011
Teratai 226 Room	15-Aug-23	693,1	389,40	<0,46	9,8	29,1	3,1	<0,012
Autopsy Room	14-Aug-23	687,4	385,8	<0,47	9,2	19,2	5,2	<0,013
Outpatient Registration Room	16-Aug-23	1031,2	386,90	<0,48	9,4	19,2	54	<0,014
Lobby MCU	05-Feb-24	1031,1	417,2	<0,05	9,4	19,1	1,7	<0,015
ICCU Room	06-Feb-24	916,2	326	<0,06	9,1	18,3	2	<0,016
HD Room	07-Feb-24	923,4	385	<0,07	9,2	18,2	1,8	<0,017
Pharmacy	07-Sep-24	736,2	421,6	<0,08	9,2	17,6	3,6	**<0,018**
Cancer Center	22-Aug-24	853,9	403	<0,09	9,4	18,1	4,2	**<0,019**
Radiology Room	07-Sep-24	725,9	390	<0,10	9,4	17,9	4,1	**<0,020**
Yellow Zone IGD	19-Mar-25	435,91	706,00	<0,027	12,62	<38,50	<12,16	NA
Laboratory	19-Mar-25	344,84	824	<0,028	<7,28	<38,50	<12,16	NA
WHO Standard [1]		**10.000**	**NA**	**NA**	**200**	**NA**	**100**	**NA**
National Standard [1,2]		**10.000**	**1.000**	**0,5**	**200**	**125**	**100**	**3**
Average Measurement Time		**8-Hour**	**8-Hour**	**1-Year**	**1-Hour**	**24-Hour**	**0,5-Hour**	**8-Hour**

Data Source: RKL-RPL Implementation Report 2023-2025
[1] WHO Guidline For Indoor Air Quality
[2] PerMenKes RI No 2 Tahun 2023, Table 19 (all parameter except CO_2)
[3] PerMenKes RI No 48 Tahun 2016, Table 6 (Only for CO_2)

4.7.4. Noise

The noise environment at Fatmawati Hospital is primarily influenced by traffic from Jl. Raya TB Simatupang and Jl. Raya Fatmawati, MRT activities at the nearby Fatmawati Station, and the broader urban soundscape. Inside the hospital, noise sources include generators, mechanical systems such as HVAC units and chillers, vertical transport, as well as routine clinical activities and ambulance operations. Indonesian standards specify that hospital zones should maintain noise levels of 55 dBA during the day and 45 dBA at night (MOE Regulation No. 48/1996).

The noise baseline is generated from RKL-RPL Implementation Report for 2022–2025. These measurements were taken at sensitive receptors, including Griya Husada, Teratai, and Laboratory, located near site boundaries facing Jl. Raya TB Simatupang and Jl. Raya Fatmawati Raya, and assessed according to MOE No. 48 Tahun 1996 and DKI Jakarta Governor Decree No. 551/2001.

The four-year data series allows trend analysis in relation to operational variations and external traffic changes from TB Simatupang Toll Road, Fatmawati Road, MRT Station and typical urban area. As shown in **Table 4.10** all noise levels surpass the standards during both day and night when compared to national, provincial, and IFC General EHS ambient air standards. This data is strengthened by baseline monitoring in the second week of June 2026 (see **Table 4.11**). Traffic density is the main contributor to these high noise levels, with the average noise level in the project area being 56.1 dB(A), ranging from 48.1 to 65 dB(A).

Based on the baseline noise conducted in June 2026 As shown in **Table 4.11**, all measurement points (UA-1 to UA-6) show noise levels that are generally within applicable limits, with some distinctions between standards. For the daytime period, levels range from 51.7 to 58.6 dB(A), and while the IFC guideline sets a limit of 55 dB(A), readings at UA-1 (58.4) and UA-4 (58.6) moderately exceed this threshold under IFC. For the nighttime period, levels range from 46.5 to 51.2 dB(A), all exceeding the IFC nighttime limit of 45 dB(A) to varying degrees. However, for the day-night average, all values range from 51.6 to 57.3 dB(A), which are compared against the national standard of 55 dB(A) under KepMen LH No. 48/1996, where a tolerance of up to 3 dB(A) is permitted. Under this provision, all measurement points remain compliant, as even the highest reading (UA-4 at 57.3 dB(A)) falls within the allowable limit of 58 dB(A) (55 + 3).

Table 4.10. Ambient Noise Monitoring Results at Fatmawati Hospital (2022–2025)

Location	Period	Criterion	Noise Level (dB(A))												
			1st Semester 2022	2nd Semester 2022	15-Feb-23	15-May-23	14-Aug-23	09-Oct-23	05-Feb-24	13-May-24	21-Aug-24	24-Oct-24	14-Feb-25	26-Jun-25	28-Oct-25
Griya Husada Building Area	Daytime	[1] 55	-	-	-	-	-	-	-	-	-	-	58,1	52,4	62,2
	Nighttime	[1] 45	-	-	-	-	-	-	-	-	-	-	54,8	48,6	52,9
	Day and Night	[2,3] 55	51,0	54,9	53,1	58,9	60,9	57,9	60,0	51,6	61,2	54,6	58,7	52,9	60,7
Teratai Building Area	Daytime	[1] 55	-	-	-	-	-	-	-	-	-	-	63,8	53,0	65,0
	Nighttime	[1] 45	-	-	-	-	-	-	-	-	-	-	57,1	49,2	48,1
	Day and Night	[2,3] 55	56,6	55,9	54,0	55,7	58,6	52,8	56,1	50,4	60,4	54,9	59,0	53,5	63,3
Laboratory Building Area	Daytime	[1] 55	-	-	-	-	-	-	-	-	-	-	58,2	51,9	60,1
	Nighttime	[1] 45	-	-	-	-	-	-	-	-	-	-	55,2	48,3	53,7
	Day and Night	[2,3] 55	56,0	52,2	52,8	57,8	62,8	52,7	56,8	51,5	60,8	54,5	63,3	52,4	58,9

Data Source: RKL-RPL Implementation Report 2022-2025

"-" = Data not available

[1] IFC General EHS Guidelines 2007

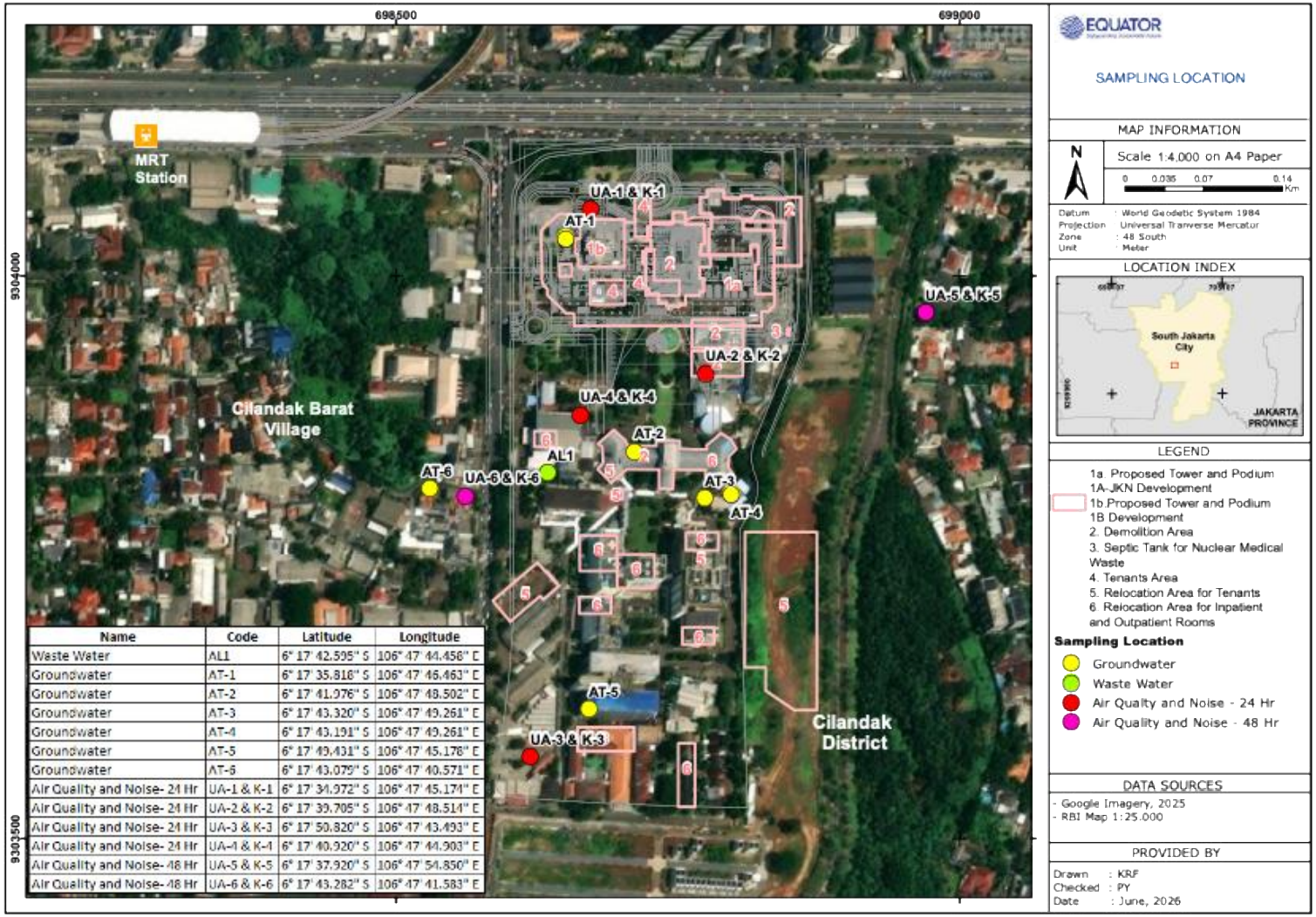
[2] KepMen LH No. 48 Tahun 1996. A tolerance of up to 3 dB(A) is permitted.

[3] Kepgub DKI Jakarta No. 551 Tahun 2001, Annex II.

Table 4.11. Ambient Noise Results (Baseline Survey) at Fatmawati Hospital Area

Period	Criterion	Noise Level (dB(A))					
		UA-1	UA-2	UA-3	UA-4	UA-5	UA-6
Daytime	[1] 55	58,4	54,8	55,4	58,6	51,7	51,9
Nighttime	[1] 45	48,7	48,4	49,2	51,2	46,5	47,7
Day and Night	[2,3] 55	56,5	54,1	54,8	57,3	51,6	52,3

Data Source: Primary Data (Baseline Survey on June 2026)
[1] IFC General EHS Guidelines 2007
[2] KepMen LH No. 48 Tahun 1996. A tolerance of up to 3 dB(A) is permitted.
[3] Kepgub DKI Jakarta No. 551 Tahun 2001, Annex II.
UA-1= Car Parkinhg Area; UA-2= Laboratory Building Area; UA-3= Motorcylce Parking Area; UA-4= Food Court Area; UA-5= Southern Residential Area; UA-6= Kelurahan Cilandak Residential Area



Name	Code	Latitude	Longitude
Waste Water	AL1	6° 17' 42.595" S	106° 47' 44.456" E
Groundwater	AT-1	6° 17' 35.816" S	106° 47' 46.463" E
Groundwater	AT-2	6° 17' 41.976" S	106° 47' 48.502" E
Groundwater	AT-3	6° 17' 43.320" S	106° 47' 49.261" E
Groundwater	AT-4	6° 17' 43.191" S	106° 47' 49.261" E
Groundwater	AT-5	6° 17' 49.431" S	106° 47' 45.176" E
Groundwater	AT-6	6° 17' 43.079" S	106° 47' 40.571" E
Air Quality and Noise- 24 Hr	UA-1 & K-1	6° 17' 34.972" S	106° 47' 45.174" E
Air Quality and Noise- 24 Hr	UA-2 & K-2	6° 17' 39.705" S	106° 47' 48.514" E
Air Quality and Noise- 24 Hr	UA-3 & K-3	6° 17' 50.820" S	106° 47' 43.493" E
Air Quality and Noise- 24 Hr	UA-4 & K-4	6° 17' 40.920" S	106° 47' 44.903" E
Air Quality and Noise- 48 Hr	UA-5 & K-5	6° 17' 37.920" S	106° 47' 54.850" E
Air Quality and Noise- 48 Hr	UA-6 & K-6	6° 17' 43.282" S	106° 47' 41.583" E

Figure 4-6 Baseline Sampling Location

4.8. Asbestos-Containing Materials

An asbestos audit was undertaken at RSUP Fatmawati in June 2026 as part of the environmental and social due diligence for the TRUST Project, given that the redevelopment involves demolition, relocation, and renovation of older hospital buildings that may historically have incorporated asbestos-based construction materials. Asbestos in all forms, including chrysotile, is classified as carcinogenic to humans, and disturbance of asbestos-containing materials (ACM) during demolition or renovation can release respirable fibres posing health risks to construction workers, hospital staff, patients, visitors, and the surrounding community. The audit establishes the pre-construction baseline on the known and potential occurrence of asbestos-containing materials (ACM), their observed condition, and their distribution within the project-affected areas, and informs the asbestos management requirements to be carried into the ESMP and C-ESMP.

The purpose of this baseline is to document: (i) the current known and suspected distribution of ACM across the project footprint; (ii) the physical condition of the materials observed; (iii) the analytical evidence available to date; and (iv) the resulting risk profile that the ESMP must address during demolition, relocation, renovation, and operational phases.

The asbestos baseline survey combined the following elements, carried out in June 2026:

- Walkover inspection of the exterior of buildings across all locations shown on the existing facility map and the relocation map, focusing on elements with a historical likelihood of asbestos use: sheet roofing, ceilings, wall panels, partitions, pipes, insulation, utility rooms, service corridors, warehouses, and old or residual construction materials.
- Visual identification and mapping of suspect ACM. On the distribution map, yellow symbols mark locations of visually suspect ACM and red symbols mark bulk sampling points. Suspect locations are distributed across the campus, including areas around the demolition zone, the Teratai Building surroundings, and buildings along the internal circulation routes. Photographic documentation of suspect areas is compiled in Annex I of the audit report and shows, among others, weathered corrugated roofing sheets and canopy structures.
- Selective bulk sampling of three samples, targeted at materials judged representative of type, location, and condition, rather than random sampling.
- Laboratory analysis using Scanning Electron Microscopy (SEM) for morphology, SEM-EDS quant maps, count maps and elemental mapping for elemental composition, and X-Ray Diffraction (XRD) for mineralogical character. Analyses were performed at UBAYA Life Science Integrated Facilities (per SEM image metadata, dated 23 June 2026).

Based on the visual inspection and laboratory analyses, including SEM morphology, SEM-EDS elemental mapping, and XRD mineralogical analysis, three representative bulk samples collected from the Azalea and Wijaya Kusuma Buildings were confirmed as asbestos-containing materials (ACM) (see **Table 4.12**). SEM-EDS and XRD were selected as the analytical methods to provide detailed morphological, elemental, and mineralogical characterization of the suspected asbestos. Compared with PLM, which identifies asbestos primarily based on its optical properties and is generally effective for bulk materials containing relatively higher asbestos concentrations, SEM provides substantially

higher resolution for the identification of very fine fibers, while SEM-EDS provides elemental characterization and can support the identification of asbestos at concentrations below 1%. XRD further supports the identification through characterization of the mineralogical phases present. The consistent results obtained from SEM-EDS and XRD therefore provide sufficient basis to confirm the presence of asbestos in the three sampled materials. No suspect ACM was identified in the inspected materials sampled from the Griya Husada, Pharmacy Building, MM Juice, and Mosque.

Table 4.12 Asbestos-containing Material Inspection and Laboratory Results

No	Sample	Sampling Date	Location	SEM Morphology	Elements Detected (EDS)	XRD Character	Baseline Status
1	Sample #1	20 June 2026	Demolition area	Elongated fine fibers, interlocking, forming thin bundles on a rough, non-homogeneous matrix; fiber bundles clearly resolved at 5,000x	C, O, Mg, Al, Si, Ca	Mixed pattern: sharp crystalline peaks plus broad amorphous/semi-crystalline background; multiple mineral phases likely	Confirmed ACM
2	Sample #2	19 June 2026	Demolition area	Dense bundles of very fine, parallel, branching fibers separating from the main bundle; strongly fibrous character	C, O, Na, Mg, Al, Si, Ca	Predominantly crystalline; one strongly dominant peak plus minor peaks; multi-phase mixture	Confirmed ACM
3	Sample #3	19 June 2026	Clinic adjacent to demolition area	Long, fine, partly curved and branching fibers forming irregular networks; tightly packed layered bundles at 3,000x; fiber fragmentation observed	C, O, Mg, Al, Si, Ca	Mixed pattern: crystalline phases plus amorphous/semi-crystalline matrix component	Confirmed ACM



Figure 4-7. ACM Inspection and Data Collections

Definitive asbestos confirmation, airborne fiber baseline data, and full-coverage survey (including interior and concealed spaces) remain outstanding. Until confirmation is obtained, all similar materials must be managed under precautionary asbestos controls to protect workers, patients, visitors, contractors, and the surrounding environment during project implementation.

4.9. Waste Management

The Fatmawati Hospital generates municipal domestic solid waste, wastewater, hazardous waste (B3), and radioactive waste from medical, diagnostic, laboratory, and supporting activities. Appropriate systems have been established for the segregation, collection, storage, treatment, recylcling, and disposal of these waste streams in accordance with applicable Indonesian regulation and internal operational procedures. The following sections describe the existing baseline conditions for each waste management system.

4.9.1. Domestic Solid Waste Management

Domestic solid waste generated from hospital activities is managed through an established collection, segregation, temporary storage, and off-site disposal system. Based on the 2025 Environmental Management and Monitoring Implementation Report (RKL-RPL report), the hospital generates approximately 30,221 kg/month of domestic solid waste. Waste is initially collected in black plastic bags at the source and transported daily to the Non-Medical Temporary Storage Facility (TPS Non-Medis) before being collected by an authorized third party for final disposal at the municipal landfill.

The hospital's implementation of the 3R programme, including the recycling of selected non-infectious medical waste following disinfection and material processing, represents a positive waste minimisation practice that contributes to reducing waste generation and the volume of waste requiring off-site treatment or disposal. Overall, the baseline conditions indicate that the hospital has established an integrated solid waste management system consistent with national healthcare waste management requirements, supported by dedicated temporary storage facilities, routine waste collection, and engagement of licensed waste management and recycling contractors.

Table 4.13. Existing Domestic Waste Management, Fatmawati Hospital

Aspect	Description
Waste Generator	Domestic solid waste is generated from non-clinical hospital activities, including administrative offices, kitchens, cafeterias, public areas, gardens, and other supporting facilities
Waste Streams	Domestic solid waste comprises recyclable materials (paper, cardboard, plastic packaging), organic waste (food waste and garden waste), and other general non-hazardous wastes generated from routine hospital operations. Selected non-infectious medical waste (e.g., uncontaminated infusion bottles and dialysis solution containers) is managed separately for recycling.
Design Capacity	The existing domestic waste temporary storage facility (TPS Domestik) has a total area of approximately 96 m² and a storage capacity of up to 4 tonnes per day.
Infection Prevention Measures	Domestic waste is segregated at the point of generation using color-coded bags and safety boxes. Non-infectious recyclable medical waste is disinfected before recycling, while infectious waste is securely stored and handled separately. Personnel involved in waste handling use appropriate personal protective equipment (PPE) and follow established infection prevention and control (IPC) procedures.
Waste Segregation and Containers	Domestic solid waste will be segregated into organic, inorganic, and recyclable waste using designed containers. Containers will be cleaned regularly and replaced when damaged. Examples of the existing waste container design at Fatmawati Hospital are presented in Figure 4-8.
Waste Collection and Internal Transportation	Domestic solid waste is collected and transported internally by PT SGR, the hospital's contracted cleaning service provider. Waste is collected from the point of generation on a daily basis using dedicated covered trolleys and transported to the Non-Medical Temporary Storage Facility (TPS Non-Medis) through designated collection routes that minimize interaction with patients, visitors, and hospital operations.
Temporary Storage (Domestic Waste TPS)	Domestic waste will be temporarily stored for a period not exceeding 48 hours (2 × 24 hours).



Figure 4-8. Existing Waste Container Design at RSUP Fatmawati

Table 4.14. Domestic Solid Waste Streams, Fatmawati Hospital

Month	Estimate Volume (kg)
January	25,370
February	22,540
March	24,949
April	24,160
May	23,535
June	27,594
July	28,569
August	9,559
September	24,149
October	49,067
November	44,638
December	58,524
Total	362,654
Average Waste Generation	30,221

4.9.2. Wastewater Management

Wastewater generated from medical and support activities is managed through the Hospital's centralized wastewater collection and treatment systems. The existing system includes internal collection networks, septic tanks for blackwater treatment, pre-treatment facilities (including grease traps where applicable), and a centralized wastewater treatment plant (WWTP) to ensure that wastewater is properly treated before reuse or discharge. Operational management is supported by established procedures, routine monitoring, and periodic regulatory reporting.

The hospital wastewater collection system comprises 16 collection tanks (BP1–BP16) that receive wastewater from hospital buildings and operational facilities. Wastewater generated from Anggrek Building and Bougenville Building undergoes preliminary treatment in the respective IPAL Anggrek and IPAL Bougenville before entering the collection system, while wastewater from all other buildings

flows directly to the designated collection tanks. From the collection tanks, wastewater is conveyed to the IPAL Central, where it undergoes equalization, biological treatment (Biodetox), sedimentation, filtration (sand and carbon filters), and chlorination prior to discharge to the drainage channel in compliance with the applicable wastewater discharge standards (Pertek BMAL).

The installed treatment capacity is approximately 510 m^3/day, while reported average wastewater generation was approximately 400 m^3/day in 2022 and 351 m^3/day during the January–March 2026 monitoring period, indicating that the existing system has available treatment capacity. Following treatment, 10% of the effluent is reused for flushing and landscape watering while 90% effluent is discharged to the municipal drainage network, which ultimately drains to Kali Grogol. The existing wastewater plant design is summarized in **Table 4.15** and the design criteria in **Table 4.16.**

Table 4.15. Existing Wastewater Design

Parameter	Details
Treatment units	One Central WWTP (IPAL Sentral) employing anaerobic–aerobic biofilter technology, septic tanks, grease traps for kitchen wastewater, and tertiary treatment units comprising sand and activated carbon filters.
Collection system	16 collection tanks (BP1–BP16) serving all principal service buildings, including inpatient wards, laboratories, kitchens, laundries, the Cancer Center, and clinical support areas. Black water from toilets is initially treated in septic tanks, while grey water from wash basins, bathrooms, kitchens, laundries, laboratories, and other service areas is conveyed through the wastewater collection system. Overflow from septic tanks and grey water streams is subsequently routed to the WWTP by gravity flow and pumping systems.
Treatment sequence	Septic tanks and grease traps (where applicable) → Collection tanks and local pre-treatment → Flotation → Sedimentation → Equalization → Two-stage Biodetox (anaerobic–aerobic biofilter technology) → Sand Filter → Activated Carbon Filter → Stabilization Pond → Discharge
Design capacity	510 m^3/day
Current flow (Jan 2026)	Average 351 m^3/day (range 327–387 m^3/day); pH 7.0 (6.9–7.2); temperature 25–29°C; TDS 133–700 mg/L.
Operational controls	WWTP operation is governed by documented SOPs covering wastewater treatment processes, operation and maintenance, emergency response, and wastewater management. Radioactive liquid waste is managed separately through dedicated decay/storage procedures and is discharged to the WWTP only after meeting the applicable release criteria. Routine operational controls include process monitoring, preventive maintenance, and compliance inspections.
Certifications	POPAL (2024) and PPPA (2024) environmental operator certifications held by responsible personnel.

Table 4.16. Wastewater Design Criteria

Parameter	Unit	Regulation Limit
TSS	mg/L	6-9
pH	mg/L	30
BOD	mg/L	30
COD	mg/L	100
Ammonia	mg/L	10
Oil and Grease	mg/L	5

Parameter	Unit	Regulation Limit
Total Coliform	MPN/100 ml	3,000

A detailed description of the wastewater effluent monitoring results from 2021 to 2025, including pH, BOD_5, COD, TSS, ammonia, total coliform, oil and grease, and discharge flow is presented in **Table 4.17**. Monitoring results indicate consistent compliance with the applicable discharge standards under Ministry of Environment and Forestry Regulation No. 68 of 2016 and Ministry of Environment Regulation No. 11 of 2025. Effluent quality remained stable throughout the monitoring period, with average BOD_5, COD, TSS, and ammonia concentrations substantially below applicable discharge limits and no reported permit exceedances. Internal monitoring conducted during January–March 2026 recorded an average effluent flow of approximately 351 m^3/day, average pH of 7.0, and average effluent temperature of 27°C.

In general, the existing management system is deemed adequate to sustain current hospital operations, with future operational procedures and treatment capacity will be assessed as part of the hospital expansion plan.

Table 4.17. WWTP Outlet Effluent Quality Trends and Compliance with Indonesian Discharge Standards (2021–2025)

Parameter	Standard (MOEF 11/2025)	Standard (MOEF 68/2016)	2021	2022	2023	2024	2025*	Year-on-year Change
pH	6-9	6–9	7.0–9.0 (7.77)	6.9–8.6 (7.97)	6.8–8.6 (7.95)	6.0–9.0 (7.32)	7.0–8.1 (7.55)	Stable (within range)
BOD_5 (mg/L)	≤250	≤30	2.0–22.8 (7.29)	1.31–4.61 (2.49)	1.08–7.0 (3.79)	2–15 (5.83)	2–12 (5.27)	–15%
COD (mg/L)	≤300	≤100	4–67 (24.19)	4–18 (7.00)	4–33 (15.83)	14–70 (27.92)	8–48 (23.17)	–17%
TSS (mg/L)	≤100	≤30	2–10 (4.50)	1–9 (3.83)	2–9 (4.17)	2–14 (4.58)	2–17 (4.09)	–11%
Ammonia (mg/L)	≤50	≤10	0.03–4.42 (0.82)	0.13–5.82 (0.89)	0.03–1.00 (0.27)	0.03–3.00 (0.32)	0.03–0.20 (0.09)	–74%
Total Coliform (MPN/100 mL)	-	≤3,000	0–2300 (192)	0–3 (0.25)	0–1.8 (0.15)	1.8–2400 (207)	1.8–40 (4.65)	Stable
Oil and Grease (mg/L)	-	-	0.54–1.80 (0.99)	0.54–0.86 (0.64)	0.54–1.80 (1.49)	1.60–1.60 (1.60)	1.60–1.60 (1.60)	Stable
Flow rate (L/person/day)	-	-	148-173 (164.67)	-	148	148.00	148-190 (151.53)	Stable

*) 2025 data based on available January-November monitoring data

4.9.3. Hazardous Waste Management

Hazardous waste generated from hospital operations is managed through an integrated system comprising waste segregation, collection, temporary storage, transportation, and off-site treatment by licensed service providers. The existing hazardous management is summarized in **Table 4.18**. The

types of hazardous waste generated from hospital activities are summarized **Table 4.18**, which includes healthcare waste generated from clinical services as well as hazardous non-medical waste produced from supporting facilities. The estimated quantities are preliminary and will be validated and updated during the the preparation of the updated Hazardous Waste Storage Technical Details (Rintek LB3) based on the comprehensive operational design and projected waste generation.

Table 4.18. Existing Hazardous Management, Fatmawati Hospital

Aspect	Description
Waste Generator	Fatmawati Hospital Temporary Hazardous Waste Storage Facility. The principal hazardous waste streams are summarised in the Hospital wastewater discharge is governed by the Minister of Environment and Forestry Regulation No. 11 Year 2025 on Domestic Wastewater Quality and Technology Standards (MOEF Regulation 11/2025) together with the installation-specific Technical Approval for Wastewater Discharge to Water Bodies, which establishes discharge limits for parameters including BOD_5, COD, TSS, ammoniacal nitrogen, oil and grease, total coliform, phosphate, pH and other related parameters.
Temporary Storage Facility	Fatmawati Hospital operates a designated facility that measures approximately 60 m^2. The facility is functionally divided into three areas: (i) an infectious waste storage, (ii) a general B3 waste storage, and (iii) a dedicated room for PPE and spill response kits.
Temporary Storage Facility Risk	B3 waste facility at Fatmawati Hospital has been assessed against available disaster hazard information: ▪ Low-flood risk (BMKG, 2023). ▪ No earthquake and tsunami risk (BNBP, 2023). ▪ No volcanic eruption risk (BNBP, 2023).
Infection Prevention Measures	Management of infectious and sharps waste follows PPI Policy (2025), SOP for Sharps Waste Management (2022), and SOP for Post-Exposure to Sharps (2022). Oversight provided by PPI Committee and IKLK3.
Licensed Transporters	PT Jalan Hijau and PT WSLI, operating under valid Directorate General of Land Transportation permits (SK HUBDAR).
Licensed Treatment Facility	Infectious healthcare waste: PT PPLI integrasi Bogor, holding operational approval under SLO No. S.330 issued by the Ministry of Environment and Forestry (KLHK). Other hazardous wastes: PT WPLI, holding operational under SLO No. S.471 issued by the Ministry of Environment and Forestry (KLHK)
Monitoring & Reporting	Waste generation, storage, transport, and disposal are periodically recorded. Monthly hazardous waste logbooks are available continuously, following the recording format and reporting requirements stipulated under Appendix IX of Minister of Environment and Forestry Regulation No. 6/2021.
Manifest System	Hazardous waste generated by Fatmawati Hospital is temporarily stored at the TPS B3 facility, transported by licensed transporters (PT Jalan Hijau and PT WSLI), and subsequently treated at PPLI Integrasi Bogor and PT WPLI. The manifest system ensures traceability from waste generation to final treatment and disposal.

Table 4.19. Principal Hazardous Waste Streams, Fatmawati Hospital

B3 Code	Waste Category	Source / Stream	Estimated Volume (Kg/month)
A102d	1	Used batteries – generated from maintenance activities of utilities, facilities, and infrastructure units	15

B3 Code	Waste Category	Source / Stream	Estimated Volume (Kg/month)
A337-1	1	Sharps — needles, ampoules, broken glass Infectious waste - blood-soaked materials, microbiological cultures, sputum specimens (general clinical context for Class A general hospital); contaminated PPE/tubing/syringes from cytotoxic/chemotherapy. Pathological waste — tissues, organs, body parts, body fluids	21,500
A337-2	1	Pharmaceutical waste — expired or unused medications	120
B101d	1	Used rags and similar	5
B104d	2	Contaminated B3 packaging waste	25
B105d	2	Used / waste oil from genset and HVAC equipment	6
B107d	2	Electronic waste – damaged electronic equipment, expired TL lamps	19
B337-1	1	Pharmaceutical packaging waste	50
B337-2	1	WWTP sludge	30

4.9.4. Radioactive Waste Management

Radioactive waste from hospital activities is managed through a dedicated system to ensure safe handling, storage, and disposal of radioactive materials, safeguarding workers, patients, communities, and environment. This waste arises primarily from nuclear medicine services, especially diagnostic and therapeutic procedures involving unsealed radionuclides.

Waste Type	Waste Form	Waste Classification	Indicative Volume	Temporary Storage Method
Potentially contaminated domestic waste	Patient daily activity waste: - Wet waste(e.g., food waste, leftover meals, organic waste, liquid-containing disposable items) - Dry waste (e.g., food containers, drinking bottles, tissues, disposable items)	Non-radioactive unless contamination is detected	- Wet waste: 360 L/Week - Dry waste: 600 L/week	Waste is collected in black plastic bags. After collection, the bags are labelled and temporarily stored in the domestic waste storage room (Level 3). The waste is periodically monitored by Medical Physics personnel/Radiation Protection Officer (RPO/PPR) once every week to measure radiation exposure levels.
Medical waste	Used PPE, sharps, gauze, vials, radio-pharmaceutical residues, and materials directly contacting patients (A337-1 – infectious waste)	Low Level Radioactive Waste (LLW) if contaminated	69,3 kg/week	Waste is collected in yellow plastic bags or safety boxes (for sharps). After collection, the bags are labelled and stored in lead (Pb)-shielded cabinets located within the radioactive waste room. The cabinets are equipped with multiple compartments to allow delay-decay storage of radioactive

Waste Type	Waste Form	Waste Classification	Indicative Volume	Temporary Storage Method
				solid waste until activity levels decrease. The waste is periodically monitored by Medical Physics personnel/Radiation Protection Officer (RPO/PPR) once every week to measure radiation exposure levels.
Packaging waste	Radioactive pharmaceutical package, including I-131, SM-153	Low Level Radioactive Waste	I-131 packaging: 8 items/week; Sm-153 packaging: 1 item/month	Waste is collected in dedicated radioactive waste containers and labelled/identified after collection. The waste is stored in the radioactive waste storage room (Level 2) while awaiting collection and return by the licensed radioactive material distributor/importer authorized by BAPETEN. The waste is periodically monitored by Medical Physics personnel/Radiation Protection Officer (RPO/PPR) once every week to measure radiation exposure levels.
	Mo-99/Tc-99m generator	Low Level Radioactive Waste (LLW)	1 item/week	
Contaminated linen	Patient gowns, bed sheets, blankets, pillowcases used by radionuclide therapy patients	Low Level Radioactive Waste (LLW)	Therapy room: 45 items/week; Diagnostic room: 119 items/week	Radioactively contaminated linen is collected and placed into a dedicated dirty linen box. Personnel handling contaminated linen are required to use appropriate personal protective equipment (PPE). The dirty linen box is stored in the radioactive waste storage room within the isolation area. Linen is retained until the radiation exposure level decreases to the applicable release criteria, approximately 8 days or until the measured exposure level reaches ≤3 times the background radiation level. On the 8th day, the Radiation Protection Officer (RPO/PPR) performs radiation measurement of the linen.
Liquid waste	Radioactive wastewater containing radionuclides (Tc-99m)	Low Level Radioactive Waste (LLW)	Three radioactive wastewater storage tanks with total capacity of approximately 15,000	Liquid radioactive waste from diagnostic in-vivo procedures and hot laboratory activities is collected through a dedicated hot toilet system located in the post-injection patient waiting area and connected to a dedicated radioactive wastewater decay tank. The system consists of three sequential storage tanks.). When one tank reaches full capacity, another available tank will be used for subsequent wastewater collection while the filled tank remains in decay storage.

Waste Type	Waste Form	Waste Classification	Indicative Volume	Temporary Storage Method
				Tc-99m wastewater is managed separately from I-131 wastewater due to differences in radioactive half-life. The decay tank storage area is equipped with 25 cm thick reinforced concrete shielding structure, including top shielding, and coated with waterproof paint to prevent leakage and ensure safe containment of radioactive liquid waste.
	Radioactive wastewater containing radionuclides (I-131)	Low Level Radioactive Waste (LLW)	Two radioactive wastewater storage tanks with total capacity of approximately 3,000 L	Wastewater from isolation rooms is collected through a dedicated hot toilet system and conveyed to a dedicated radioactive wastewater decay tank. The system consists of three sequential storage tanks. When one tank reaches full capacity, another available tank will be used for subsequent wastewater collection while the filled tank remains in decay storage. The decay tank storage area is equipped with 25 cm thick reinforced concrete shielding structure, including top shielding, and coated with waterproof paint to prevent leakage and ensure safe containment of radioactive liquid waste.
Radioactive gaseous waste	Airborne radioactive contaminants (I-131 vapour/aerosol generated during radiopharmaceutical preparation)	Low Level Radioactive Waste (LLW)	Not routinely quantified. Radioactive gaseous waste generated from I-131 radiopharmaceutical preparation is managed through a Biosafety Cabinet connected to a blower and filtration system. The treated air is discharged through a dedicated exhaust stack, with monthly radiation monitoring by Medical Physics/RPO.	Radioactive gaseous waste is not stored as a separate waste stream. During I-131 preparation, activities are performed inside a Biosafety Cabinet (BSC) equipped with a dedicated exhaust system. Air containing radioactive contaminants is captured by a blower system equipped with filters to reduce radioactive contaminants before discharge

presents the types of radioactive waste generated, and **Table 4.20** summarizes the current waste management system.

Table 4.20. Existing Radioactive Management, Fatmawati Hospital

Aspect	Description
Waste Generator	Nuclear medicine and radiotherapy services
Radiation Prevention Measures	Management of radiation exposure follows SOP OT.02.02/D.XXI/5730/2023 (143/IRT), which includes liquid waste, solid waste, and contaminated linen
Type and Dimension of Temporary Plant	**a) Liquid waste** **Three decay tanks** for Technetium-99m (Tc-99m) diagnostic wastewater: ▪ total capacity of >15,000 liters ▪ minimum retention period of each tank of 10 weeks and a total decay storage period of 20 weeks, before the wastewater is dicharged to the non-radioactive wastewater holding tank. **Two decay tanks** for Iodine-131 (I-131) therapeutic wastewater: ▪ total capacity of >3,000 liters, ▪ minimum retention period of 1 week and a total decay storage period of 1 additional week, before the wastewater is discharged to the non-radioactive wastewater holding tank. **One holding tank** for non-radioactive wastewater: ▪ The non-radioactive wastewater holding tank is directly connected to the hospital's wastewater collection system leading to the WWTP. Prior to discharge into the hospital wastewater system, the wastewater is monitored to verify its radiation exposure level. **b) Solid Waste** Radioactive solid waste and contaminated linen are temporarily stored in dedicated storage facilities located on the third floor of the Cancer Center Building prior to decay, treatment, or further management in accordance with applicable regulatory requirements. The facility comprises three storage rooms with a combined floor area of approximately 22.8 m².
Treatment Facility	**Solid waste** is disposed of only where exposure levels are below the clearance limit. Solid radioactive waste is considered safe for further handling or transfer when the measured radiation dose rate is less than ≤ 1 Bq/cm² **Liquid waste** is evaluated before being discharged into the WWTP system, and it can only be released if the exposure levels are acceptable. The wastewater is considered safe for discharge when the measured radiation exposure rate does not exceed three times the background radiation level. **Contaminated linen** is stored for 8 days or until exposure levels reach ≤3 times background radiation before being evaluated by the Radiation Protection Officer (RPO/PPR) and delivered to the laundry for cleaning.
Monitoring & Reporting	Monitoring of radioactive waste management is conducted through routine documentation using the Medical/Nuclear Medicine Waste Handling Logbook (*Logbook Penanganan Limbah Pelayanan Kedokteran Nuklir*).

Table 4.21. Radioactive Waste Streams, Fatmawati Hospital

Waste Type	Waste Form	Waste Classification	Indicative Volume	Temporary Storage Method	Final Management Pathway / Disposal Route
Potentially contaminated domestic waste	Patient daily activity waste: - Wet waste(e.g., food waste, leftover meals, organic waste, liquid-containing disposable items) - Dry waste (e.g., food containers, drinking bottles, tissues, disposable items)	Non-radioactive unless contamination is detected	- Wet waste: 360 L/Week - Dry waste: 600 L/week	Waste is collected in black plastic bags. After collection, the bags are labelled and temporarily stored in the domestic waste storage room (Level 3). The waste is periodically monitored by Medical Physics personnel/Radiation Protection Officer (RPO/PPR) once every week to measure radiation exposure levels.	After decay storage and radiation measurement confirm that the waste meets clearance criteria (≤ 1 Bq/cm^2), the container is provided with a label indicating the latest radiation measurement result and the waste volume/weight waste. The domestic waste will be released from radioactive control and transferred to the domestic waste storage area (TPS Domestic) for disposal together with general domestic waste
Medical waste	Used PPE, sharps, gauze, vials, radio-pharmaceutical residues, and materials directly contacting patients (A337-1 – infectious waste)	Low Level Radioactive Waste (LLW) if contaminated	69,3 kg/week	Waste is collected in yellow plastic bags or safety boxes (for sharps). After collection, the bags are labelled and stored in lead (Pb)-shielded cabinets located within the radioactive waste room. The cabinets are equipped with multiple compartments to allow delay-decay storage of radioactive solid waste until activity levels decrease. The waste is periodically monitored by Medical Physics personnel/Radiation Protection Officer (RPO/PPR) once every week to measure radiation exposure levels.	After decay storage and confirmation through radiation measurement (≤ 1 Bq/cm^2), the safety box/container is provided with a label indicating the latest radiation measurement result and the waste volume/weight waste. Medical waste will be transferred to the B3 waste storage area (TPS LB3) for further management
Packaging waste	Radioactive pharmaceutical	Low Level Radioactive Waste	I-131 packaging: 8 items/week; Sm-153	Waste is collected in dedicated radioactive waste containers and	After decay storage and confirmation through radiation measurement (≤ 1

Waste Type	Waste Form	Waste Classification	Indicative Volume	Temporary Storage Method	Final Management Pathway / Disposal Route
	package, including I-131, SM-153		packaging: 1 item/month	labelled/identified after collection. The waste is stored in the radioactive waste storage room (Level 2) while awaiting collection and return by the licensed radioactive material distributor/importer authorized by BAPETEN. The waste is periodically monitored by Medical Physics personnel/Radiation Protection Officer (RPO/PPR) once every week to measure radiation exposure levels.	Bq/cm^2), the waste will be returned to the licensed radioactive material importer/distributor authorized by BAPETEN. The distributor/importer shall manage the return of radioactive packaging and protective containers or arrange transfer to an authorized radioactive waste management facility (e.g., PTLR BRIN) when required
	Mo-99/Tc-99m generator	Low Level Radioactive Waste (LLW)	1 item/week		
Contaminated linen	Patient gowns, bed sheets, blankets, pillowcases used by radionuclide therapy patients	Low Level Radioactive Waste (LLW)	Therapy room: 45 items/week; Diagnostic room: 119 items/week	Radioactively contaminated linen is collected and placed into a dedicated dirty linen box. Personnel handling contaminated linen are required to use appropriate personal protective equipment (PPE). The dirty linen box is stored in the radioactive waste storage room within the isolation area. Linen is retained until the radiation exposure level decreases to the applicable release criteria, approximately 8 days or until the measured exposure level reaches ≤3 times the background radiation level. On the 8th day, the Radiation Protection Officer (RPO/PPR) performs radiation measurement of the linen.	After decay storage and confirmation through radiation measurement (reaches ≤3 times the background radiation level), the linen is released and transferred to the laundry unit for cleaning and further use
Liquid waste	Radioactive wastewater containing radionuclides (Tc-99m)	Low Level Radioactive Waste (LLW)	Three radioactive wastewater storage tanks with total capacity of	Liquid radioactive waste from diagnostic in-vivo procedures and hot laboratory activities is collected through a dedicated hot toilet system located in the post-injection patient	The Radiation Protection Officer (RPO/PPR) conducts monthly monitoring of radioactive contamination levels by sampling wastewater from the final control tank. When the contamination

Waste Type	Waste Form	Waste Classification	Indicative Volume	Temporary Storage Method	Final Management Pathway / Disposal Route
			approximately 15,000	waiting area and connected to a dedicated radioactive wastewater decay tank. The system consists of three sequential storage tanks.). When one tank reaches full capacity, another available tank will be used for subsequent wastewater collection while the filled tank remains in decay storage. Tc-99m wastewater is managed separately from I-131 wastewater due to differences in radioactive half-life. The decay tank storage area is equipped with 25 cm thick reinforced concrete shielding structure, including top shielding, and coated with waterproof paint to prevent leakage and ensure safe containment of radioactive liquid waste.	level reaches ≤10 Bq/gram (based on applicable clearance criteria), wastewater will be pumped to non-radioactive holding tank, which is directly connected to the hospital WWTP system.
	Radioactive wastewater containing radionuclides (I-131)	Low Level Radioactive Waste (LLW)	Two radioactive wastewater storage tanks with total capacity of approximately 3,000 L	Wastewater from isolation rooms is collected through a dedicated hot toilet system and conveyed to a dedicated radioactive wastewater decay tank. The system consists of three sequential storage tanks. When one tank reaches full capacity, another available tank will be used for subsequent wastewater collection while the filled tank remains in decay storage.	

Waste Type	Waste Form	Waste Classification	Indicative Volume	Temporary Storage Method	Final Management Pathway / Disposal Route
				The decay tank storage area is equipped with 25 cm thick reinforced concrete shielding structure, including top shielding, and coated with waterproof paint to prevent leakage and ensure safe containment of radioactive liquid waste.	
Radioactive gaseous waste	Airborne radioactive contaminants (I-131 vapour/aerosol generated during radiopharmaceutical preparation)	Low Level Radioactive Waste (LLW)	Not routinely quantified. Radioactive gaseous waste generated from I-131 radiopharmaceutical preparation is managed through a Biosafety Cabinet connected to a blower and filtration system. The treated air is discharged through a dedicated exhaust stack, with monthly radiation monitoring by Medical Physics/RPO.	Radioactive gaseous waste is not stored as a separate waste stream. During I-131 preparation, activities are performed inside a Biosafety Cabinet (BSC) equipped with a dedicated exhaust system. Air containing radioactive contaminants is captured by a blower system equipped with filters to reduce radioactive contaminants before discharge	Treated air is released through the dedicated exhaust stack located on the Cancer Center building rooftop after passing through the filtration system. The Radiation Protection Officer (RPO/PPR) performs radiation monitoring around the exhaust stack once every month. The release is considered safe for the environment when the measured radiation exposure level is ≤10 µSv/hour.

4.10. Biodiversity and Ecology

The Fatmawati Hospital site is located in a dense metropolitan environment with limited site-level biodiversity. The 46,488 m² yard area within the 135,740 m² site provides modest urban green space with mature ornamental and shade-tree planting; site-level fauna is limited to common urban-tolerant avifauna and small reptiles. The DKI Jakarta provincial overall biodiversity context is dominated by metropolitan urban land cover with limited natural habitat outside Kepulauan Seribu (the small-island administrative area) and the river-corridor remnants.

The immediate surroundings of the site are dominated by the built environment — the TB Simatupang office corridor, Cilandak Town Square mall, the National Health Training Center (BBPK Cilandak), and dense residential areas of Cilandak Barat Sub-district. There are no protected areas or designated conservation zones within a 5 km radius. The Pre-FS allocates Rp 14.34 billion (1.5% of building value) for landscape components (garden, softscape, street furniture, pedestrian areas, and hardscape), to be deployed within the 15,000 m² of new open outdoor space.

Given the low-biodiversity metropolitan setting and the project timeline, the biodiversity assessment draws on two operational sources: (i) visual tree surveys by the Hospital's Environmental Maintenance Working Team for trees with diameter > 30 cm within the 46,488 m² yard area (documented in RKL-RPL reports, which record maintenance of open green space, including 430 biopores and approximately 172 m³ of infiltration wells across 12 locations); and (ii) a short walkover survey, to be conducted if required to confirm retained trees in the Multibuilding Plan design. The walkover is limited to an administrative tree inventory (location, species, diameter); extensive species sampling will follow during the post-DED phase.

4.11. Land Use and Spatial Compliance

The Project site is wholly owned by the Ministry of Health under Land Use Right Certificate (*Sertifikat Hak Pakai Fatmawati* Hospital 198-2 of 2011), and no land acquisition, physical displacement, economic displacement, or involuntary resettlement is anticipated. All proposed development activities will be implemented within the existing operational boundary of Fatmawati Hospital. Spatial conformity is principally governed by the Detailed Spatial Plan (Rencana Detail Tata Ruang / RDTR) of DKI Jakarta under Governor Regulation of DKI Jakarta No. 31/2022 on the RDTR (Masterplan, p. 274).

The Project site is designated as Public Service Facility – City Scale (SPU-1), which is consistent with the proposed healthcare function and KBLI 86101 (Government Hospital Activity). Spatial conformity is further supported by KKPR DKI Jakarta No. 11062410113174492, dated 11 June 2024, which confirms the broader approved planning polygon that encompasses the SPU-1, RTH-8, and K-1 sub-zones. Applicable spatial intensity controls for the SPU-1 zone include:

- KDB (*Koefisien Dasar Bangunan* / Building Coverage Ratio): 60%
- KLB (*Koefisien Lantai Bangunan* / Floor Area Ratio): 5
- KDH (*Koefisien Dasar Hijau* / Green Open Space Ratio): 20%
- KTB (*Koefisien Tapak Basement* / Basement Coverage Ratio): 60%

Maximum building height of 30 m under RDTR controls, subject to separate aviation safety (KKOP) clearance permitting structures up to 150 m.

The current KKPR, KRK, and conformity of the four-phase development program against the intensity parameters will be formally verified through DPMPTSP DKI Jakarta. The City Development Plan (KRK) issued in 2021 remains available as a historical planning reference, while KKPR DKI Jakarta No. 11062410113174492 provides the current spatial-conformity basis for the Project. The KKPR identifies a broader approved planning polygon of 172,333.65 m² across SPU-1, RTH-8, and K-1 sub-zones, whereas the effective operational footprint of the Hospital site cited in the Masterplan is approximately 135,740 m².

An overlay of the Multibuilding Plan footprint against the RDTR zoning map will be included in Annex F together with detailed verification of KDB, KLB, KDH, and KTB compliance against applicable zone controls. Particular attention will be given to reconciliation of the proposed vertical development configuration with the KLB 5 intensity limit and associated infrastructure/service requirements during Detailed Engineering Design (DED) finalization.

Based on currently available Masterplan, Pre-FS, and KKPR documentation, the proposed hospital expansion appears preliminarily consistent with the SPU-1 public-service zoning designation under the RDTR of DKI Jakarta. Preliminary review further indicates that building coverage and overall floor-area intensity controls are likely achievable within the broader site area; however, final conformity of cumulative development intensity, green open-space requirements, basement coverage, parking provision, utility adequacy, and applicable height controls will require formal verification during DED finalization and the new building (PBG - *Persetujuan Bangunan Gedung*) approval process.

Formal RDTR conformity assessment under Pergub DKI Jakarta No. 31/2022 will be undertaken through coordination with Bappeda DKI Jakarta and DPMPTSP DKI Jakarta. Detailed verification of the Multibuilding Plan design against SPU-1 intensity controls, RTH-8 green-belt provisions associated with the planned open-space areas, and any K-1 commercial-support functions will be completed during DED finalization under DEDC supervision.

The Project is located within an established metropolitan institutional corridor characterized by healthcare, transportation, commercial, and mixed urban land uses, including the TB Simatupang office corridor, Fatmawati MRT corridor, Cilandak Town Square commercial area, and surrounding residential neighborhoods. Existing urban infrastructure and public transport connectivity are therefore considered generally compatible with the planned expansion, subject to detailed traffic management and utility capacity assessments during subsequent design stages.

A new Building permit (*Persetujuan Bangunan Gedung*) will be required for the proposed Multibuilding Plan and associated development components, replacing the existing IMB approvals applicable to the current building stock.

4.12. Cultural Heritage Setting

Fatmawati Hospital's cultural heritage of Fatmawati Hospital reflects over 70 years. Established in 1954 by Ibu Fatmawati Soekarno during Indonesia’s early independence days, it has operated as a national referral hospital, initially focusing on pediatric tuberculosis. This history indicates that Fatmawati Hospital holds both tangible and intangible cultural heritage aspects.

4.12.1. Tangible Cultural Heritage

Based on applicable regulations and frameworks (see Section 3.1.9), a hospital building built in 1954 may be classified as a historic structure, reflecting the early phase of modern public healthcare

development in Indonesia. This building will function as the relocation site for hospital continuity services and is presently used for offices, meetings, and administrative space. The hospital has implemented structural preservation measures to maintain the building in its original 1954 condition, with no significant modifications apart from the addition of an elevator.

A preliminary assessment, based on references and a site survey conducted on May 21, 2026, confirmed that no cultural heritage buildings will be demolished. Demolition will only affect buildings constructed between the 1970s and 1990s (i.e., Griya Husada Building, Ex-BPJS Building, the General Outpatient Clinic (IRJ), Azalea Building, Amarilis Building, Pharmacy, the Genset House, Pump House, and Mosque).

4.12.2. Intangible Cultural Heritage

Fatmawati Hospital holds a valuable intangible cultural heritage. This includes the evolution of public healthcare, its identity as a key national hospital, social memories linked to healthcare experiences, its legacy of medical service and dedication, and its historical connection to Fatmawati Soekarno. Over the years, the hospital has grown into a vital social and institutional symbol, representing healthcare for Jakarta and wider Indonesia.

4.13.Five-Year Operational Environmental Trend (RKL-RPL 2020–2025)

This section consolidates the five-year operational baseline of Fatmawati Hospital (2021–2025) as the primary baseline dataset for this ESIA, in lieu of dedicated M1 and M2 primary baseline survey campaigns.

In general, the five-year operational monitoring record demonstrates consistently sound environmental performance: IPAL Sentral effluent achieved 100% compliance with MOEF Regulation 68/2016 across all 60 monthly laboratory tests, with stable-to-improving trends (including a 72% reduction in ammonia and BOD_5 values more than 80% below the standard), while hazardous and domestic waste streams were managed continuously through licensed thirt-party under the RKL-RPL framework.

The methodological rationale for this approach is as follows. First, the project is brownfield — Fatmawati Hospital has operated continuously since 1954 (more than 70 years), rendering the concept of a pre-project pristine baseline inapplicable. Second, AIIB ESS1 explicitly recognizes that adequate and reliable existing data may substitute for primary collection where they provide sufficient characterization of baseline conditions. Third, a five-year time series empirically offers greater robustness than a two-season snapshot, capturing full seasonal variability (five wet-dry cycles), operational variability (routine, holiday, and post-renovation periods), and long-term compliance patterns. Fourth, the AIIB Draft 1 submission deadline of late June 2026 does not accommodate even a single primary-survey season.

The foundational data sources comprise the ten RKL-RPL Implementation Reports (Semester I and II, 2021–2025), 60 monthly WWTP laboratory results (KAN-accredited), 60 monthly B3 waste logbooks (2021–2025), four annual domestic waste volume reports (2022–2025) with a consolidated summary, flood vulnerability data (2023–2025), groundwater quality laboratory results, daily IPAL self-monitoring data (January–March 2026), and the Draft IKLK3 Activity Report for 2025. The regulatory reference is RKL-RPL Document No. 16/DPL/-1.774.151.

Table 4.22. Inventory of Operational Baseline Data Sources, Fatmawati Hospital 2021–2025

No.	Parameter Category	Source	Period	Frequency	Data Points	Lab / Method / Reference
1	WWTP effluent (8 parameters per MOEF Regulation 68/2016)	PT Unilab Perdana (KAN-accredited)	2021–2025	Monthly	60 test results	KAN Reg. No. 0001/LPJ/LABLING-1/LRK/KLH
2	WWTP daily self-monitoring (pH, flow, temperature, TDS)	IKLK3 internal team	2026 Q1	Daily	≈90 data points	Internal SOP, Fatmawati Hospital
3	B3 waste volume by stream (medical, cytotoxic, sharps, etc.)	TPS B3, Fatmawati Hospital	2021–2025	Monthly	60 logbooks	Manifest-based (MOEF Regulation 6/2021)
4	Domestic waste annual volume	IKLK3, Fatmawati Hospital	2022–2025	Annual	4 reports + summary	Internal weighing
5	Ambient air quality ($PM_{2.5}$, PM_{10}, NO_2, SO_2, CO, O_3)	Accredited laboratory (RKL-RPL Annex 7)	2021–2025	Semi-annual	10 test results	Kepgub DKI 551/2001; PP 22/2021
6	Noise, temperature, RH, illumination	Accredited laboratory (RKL-RPL Annex 8)	2021–2025	Semi-annual	10 test results	KepMen LH 48/1996; Permenkes 7/2019
7	Stack emissions (genset + boiler)	Accredited laboratory (RKL-RPL Annex 9)	2021–2025	Semi-annual	10 test results	Permen LH 11/2021 (Combustion Emissions)
8	Clean water quality (bacteriology + chemistry)	Accredited laboratory (RKL-RPL Annex 2)	2021–2025	Semi-annual	10 test results	Permenkes 2/2023 (Clean Water Quality)
9	Food bacteriology, AC swab, airborne microbial count	Accredited laboratory (RKL-RPL Annexes 3–6)	2021–2025	Semi-annual	30+ test results	Permenkes 7/2019 (Hospital Environmental Health)
10	Flood event log	IKLK3, Fatmawati Hospital	2023–2025	Per event	Multi-event log	Internal incident log
11	Groundwater quality (baseline well)	PT Unilab Perdana	Single point	As needed	1 baseline result	KAN-accredited
12	Clean water consumption balance (PAM + wells + other)	IKLK3 (RKL-RPL Annex 10)	2021–2025	Semi-annual	10 reports	Meter + PDAM billing
13	B3 waste transport manifests	PT PPLI, PT WPLI (RKL-RPL Annex 13)	2021–2025	Per shipment	Active manifests	SK HUBDAR Transport 8120

No.	Parameter Category	Source	Period	Frequency	Data Points	Lab / Method / Reference
14	RKL-RPL Semester Implementation Reports (full)	IKLK3 → Sudin LH South Jakarta	2021–2025	Semi-annual	10 reports	RKL-RPL Doc. No. 16/DPL/-1.774.151
	TOTAL DATA POINTS		5 years		>200 unique data points	All KAN-accredited or regulator-reported

Source: Folder D — Semi-annual Environmental Management and Monitoring Implementation Reports (minimum 5 years), Fatmawati Hospital.

The Central WWTP trend analysis for 2021–2025 is based on two sources: (a) monthly laboratory results from PT Unilab Perdana (KAN Reg. No. 0001/LPJ/LABLING-1/LRK/KLH) — 60 test results for pH, BOD_5, COD, TSS, oil and grease, ammonia, total coliform, and per-capita flow per MOEF Regulation 68/2016, Annex I; and (b) daily internal self-monitoring by IKLK3 for pH, flow, temperature, and TDS.

Table 4.23. IPAL Sentral Fatmawati Hospital Five-Year Operational Trend (2021–2025) vs MOEF Regulation 68/2016 Annex I Standards

Parameter	Unit	Standard	2021 (avg)	2022 (avg)	2023 (avg)	2024 (avg)	2025 (avg)	5-Year Trend	Compliance
pH	-	6-9	7.77	7.97	7.95	7.44	7.67	Stable (~7.4–7.9)	100% within range
BOD5	mg/L	≤ 30	7.29	2.49	3.79	5.83	5.27	↓10% (2024→2025)	100% compliant, well below standard
COD	mg/L	≤ 100	24.19	7	15.83	27.92	23.17	↓17% (2024→2025)	100% compliant
TSS	mg/L	≤ 30	4.5	3.83	4.17	4.58	4.09	Stable (~4 mg/L)	100% compliant
Oil and Grease	mg/L	≤ 5	0.99	0.64	1.49	<1.6	<1.6	Stable, below detection/low concentration	100% compliant
Ammonia (NH_3-N)	mg/L	≤ 10	0.82	0.89	0.27	0.32	0.09	↓72% (2024→2025), significant improvement	100% compliant
Total Coliform (median)	MPN/100mL	≤ 3.000	0	0	<1.8	1.8	1.8	Stable, low	100% compliant
Per-capita flow	L/orang/hari	(monitoring)	165	-	148	148	151,53	↑2.4%, consistent with operational growth	In line with operations
IPAL total flow (m^3/day)	m^3/hari	Capacity 510	n/a	400 (RKL-RPL 2022)	n/a	n/a	351 (self-monitoring 2026 Q1)	Within capacity (>30% headroom)	OK

Source: 60 laboratory test results for IPAL Sentral Fatmawati Hospital (2021–2025), PT Unilab Perdana (KAN-accredited). Numerical extraction from 60 months of 2021–2025 data. Note: BOD 2024–2025 values are >83% below the quality standard, confirming effective treatment by the 510 m^3/day aeration system.

Table 4.24. Hazardouz Waste Streams, Fatmawati Hospital (2021–2025)

B3 Stream	Source	Container	Vendor	Disposal Route	Indicative Volume (per 2022 RKL-RPL)
Medical infectious waste	Clinical services, IGD, laboratories	Yellow plastic bag + watertight container	PT PPLI (Pertek S.55/2024)	Medical TPS → TPS B3 → off-site incineration	30,000 kg/month (existing 2022)
Cytotoxic waste	Cancer Center, chemotherapy	Purple plastic bag + container	PT PPLI	TPS B3 → specialised treatment	Sub-set of infectious, tracked separately
Sharps	All clinical and nursing areas	Safety box → yellow plastic bag	PT PPLI	Medical TPS → sharps treatment	Sub-set of infectious, tracked separately
COVID-19 waste	COVID-19 treatment wards	Yellow plastic + disinfection + yellow plastic	PT PPLI	TPS B3 → off-site incineration	Sub-set of infectious
IPAL sludge	IPAL Sentral	Dedicated container at General TPS LB3	PT WPLI / specialist	General TPS LB3 → sludge treatment	57 kg/month (per 2022)
Used oil	9 genset units, vehicles	Dedicated drums	PT WPLI / specialist	General TPS LB3 → used-oil treatment	Variable per maintenance cycle
Expired pharmaceuticals	Pharmacy Installation	Dedicated pharmacy storage	PT PPLI / supplier return	Return to supplier or TPS B3	Variable per stock turnover
Laboratory sample residues	Laboratory, Blood Transfusion Unit	Yellow plastic bag	PT PPLI	Medical TPS	Sub-set of infectious
Non-medical domestic waste	Offices, canteen, public areas	Black plastic bag	PT SGR	Non-medical TPS → DKI Jakarta provincial landfill	2,480 kg/day (per 2022); 15–18 m³/day
Recyclable waste	IV bottle casings, HD canisters	Clear plastic bag	PT SGR / recycler	Recycling TPS → third party	Sub-set of domestic, tracked separately

Source: RKL-RPL Implementation Reports Semester I and II, 2022, pp. 13–16; monthly B3 logbooks 2021–2025 (60 logbooks in Folder C). Active B3 vendors: PT PPLI (Pertek Integrasi Bogor S.55/2024 + SLO S.330 KLHK), PT WPLI (supplementary medical B3), PT SGR (domestic waste and cleaning). Internal collection schedule: 06:00–09:00, 13:00–15:00, 19:00–21:00. Third-party transport: Monday–Saturday 07:00–11:00 WIB.

Table 4.25. Clean Water Consumption by Activity, Fatmawati Hospital (RKL-RPL Semester II, 2022)

No.	Activity	Volume (m³/day)	% of Total	Source
1	Operating theatres	33,6	5,6%	PAM Jaya + groundwater
1	Polyclinics	41,4	6,9%	PAM Jaya + groundwater
1	Inpatient wards	199,8	33,3%	PAM Jaya + groundwater
1	Emergency Department (IGD)	33,6	5,6%	PAM Jaya + groundwater
2	Laboratory, Radiology, Pharmacy	49,8	8,3%	PAM Jaya + groundwater
3	Public bathrooms and toilets	33,6	5,6%	PAM Jaya + groundwater
3	Laundry	41,4	6,9%	PAM Jaya + groundwater
3	Kitchen	49,8	8,3%	PAM Jaya + groundwater
3	Offices	49,8	8,3%	PAM Jaya + groundwater
4	Garden and yard irrigation	67,2	11,2%	PAM Jaya + groundwater
TOTAL	**Total clean water consumption**	**600**	**100%**	**(40% PAM + 60% other sources)**

Source: RKL-RPL Implementation Report Semester II, 2022, Table 5, p. 11. Water source composition: PDAM 240 m³/day (40%) via one tapping point; deep well 20 m³/day (3.3%); shallow well 37 m³/day (6.2%); spring and self-treated water 303 m³/day (50.5%). Treated effluent from IPAL Sentral discharges to a channel leading to the Grogol River.

Table 4.26. RKL-RPL Responsible Person Timeline, Fatmawati Hospital (per Operational Documents)

Period	RKL-RPL Responsible Person	Source Document	Notes
2021 Sem I + II	Dr. Mochammad Syafak Hanung, Sp.A, MPH	RKL-RPL Report 2021	Executive Director, 2021
2022 Sem I + II	Dr. Andi Saguni, MA	RKL-RPL Report 2022	Executive Director, 2022
2023 Sem I + II	(to be extracted from RKL-RPL 2023 — scanned)	RKL-RPL Report 2023	Operational head, 2023
2024 Sem I + II	(to be extracted from RKL-RPL 2024 — scanned)	RKL-RPL Report 2024	Operational head, 2024
2025 Sem I + II	(to be extracted from RKL-RPL 2025 — scanned)	RKL-RPL Report 2025	Operational head, 2025
2026 (as of May)	(being confirmed by the HR-Education-Research Directorate)	SK SOTK HK_10447_2025 + Director Appointment SK	Operational head at time of ESIA preparation

Source: RKL-RPL Implementation Reports 2021–2025 (Chapter I A: Corporate Identity). Reference document: RKL-RPL No. 16/DPL/-1.774.151 (consistently cited across all 2021–2025 reports). The President Director serves as the accountable RKL-RPL signatory for each semester report.

The following five categories of operational baseline data underpin the analysis in Chapter 4 and the ongoing monitoring commitments in Annex B: (1) multi-year WWTP effluent quality; (2) multi-year hazardous waste volumes by stream; (3) annual domestic waste volumes; (4) annual genset and boiler stack emissions; and (5) ambient air quality and noise. Each dataset is presented in a Year × Parameter

matrix in the relevant Annex F sub-sections to facilitate AIIB compliance audit and trend analysis. Cross-referencing with the existing RKL-RPL commitments ensures management continuity from current operations through the Multibuilding Plan development phase.

Table 4.27. Electricity Supply and Back-up Generators, Fatmawati Hospital

Source	Unit	Location	Capacity
PLN	PLN main connection	Site-wide	6.350 KVA
Genset 01	RSF Station 0	Station 0 yard	1.000 KVA
Genset 02	RSF Station 0	Station 0 yard	540 KVA
Genset 03	RSF Station 1	Station 1 yard	630 KVA
Genset 04	RSF Station 2	Station 2 yard	630 KVA
Genset 05	RSF Station 2	Station 2 yard	1.000 KVA
Genset 06	RSF Station 2	Station 2 yard	1.000 KVA
Genset 07	RSF Station 2	Station 2 yard	1.000 KVA
Genset 08	Griya Husada Building	Griya Husada yard	630 KVA
Genset 09	Anggrek Building	Anggrek yard	630 KVA
UPS	Bougenville building and others	Multiple locations	790 KVA
TOTAL Back-up	9 gensets + UPS	Site-wide	4,299 KA

Source: RKL-RPL Implementation Report Semester II, 2022, Table 4, p. 10. Fire protection: 45 hose-reel hydrants, 28 pillar hydrants, 3,842 kg of portable extinguishers, 1,151 fire detectors, and 972 sprinklers. Vertical transport: 14 bed lifts, 7 passenger lifts, 31 staircases (including emergency). Operational vehicles: 8 units; ambulances: 7 units.

The Hospital's environmental and quality management track record is documented through the following awards and certifications, which support the credibility of the operational baseline dataset as an adequate substitute for primary survey campaigns.

Table 4.28. Environmental and Quality Awards and Certifications, Fatmawati Hospital

Year	Award / Certification	Authority / Scheme	Status
2011	ISO 9001:2008 (Quality)	International Organization for Standardization	Achieved
2011	OHSAS 18001:2007 (OHS)	BSI / International Standard	Achieved
2013–2016	PROPER Blue	Ministry of Environment and Forestry	Maintained continuously
2016	Joint Commission International (JCI) Accreditation	JCI International	Achieved
2016	Full Accreditation (PARIPURNA)	Hospital Accreditation Commission (KARS)	Achieved
2016	Green Hospital — 3rd Place	Ministry of Health	Achieved
2017	Green Hospital — 2nd Place	Ministry of Health	Advanced
2017–2018	Properda Environmentally Compliant	DKI Jakarta Provincial Government	Achieved
2018	Green Hospital — 1st Place (National)	Ministry of Health	National top ranking

Source: RKL-RPL Implementation Report Semester II, 2022, pp. 11–12 (Awards sub-section). The awards track record demonstrates the Hospital's long-standing commitment to environmental management and service quality.

4.14. Valued Environment Component (VEC)

Valued Environmental and Social Components (VECs) are environmental and social receptors, resources, or services considered sufficiently important, sensitive, or vulnerable to warrant focused consideration throughout the impact assessment process. The identification of VECs supports a risk-based assessment approach by focusing analysis on receptors that may experience the most significant Project-related effects, including cumulative impacts.

VECs for the Project were identified based on baseline conditions, stakeholder considerations, receptor sensitivity, regulatory requirements, and the potential for Project activities to generate significant environmental or social impacts. The selected VECs reflect the Project's location within an active tertiary referral hospital and a densely urbanized metropolitan setting (**Table 4.29**). These VECs form the basis for the impact assessment, cumulative impact assessment, and development of mitigation and management measures presented in subsequent chapters of this ESIA.

Table 4.29. Valued Environmental Component

VEC	Basis for Selection	Relevance to Project
Hospital Operational Continuity	Fatmawati Hospital will remain operational throughout redevelopment and provides critical referral and emergency services.	Construction activities may interact with healthcare delivery, internal circulation, logistics, utilities, and emergency response functions.
Community Health and Safety	Presence of patients, visitors, healthcare workers, contractors, and nearby residents, including sensitive and vulnerable groups.	Project activities may affect community safety, access, and exposure to temporary construction-related disturbances.
Traffic, Access and Mobility	Existing urban traffic conditions and the importance of maintaining reliable patient and ambulance access.	Construction traffic and operational vehicle movements may affect circulation efficiency and accessibility.
Drainage and Flood Management	Location within Jakarta's lowland urban drainage system and an area with elevated flood susceptibility.	Redevelopment activities may influence stormwater runoff, drainage performance, and localized flooding risks.
Ambient Environmental Quality (Air Quality and Noise)	Presence of sensitive hospital receptors and nearby residential areas.	Construction activities may generate temporary dust, emissions, and noise that could affect sensitive receptors.
Healthcare Service Provision	Fatmawati Hospital functions as a Class A referral hospital serving Jakarta and surrounding regions.	The Project is intended to enhance healthcare capacity, referral services, and long-term service quality.

Potential cultural heritage receptors associated with Main Building 4 have been assessed separately under the Cultural Heritage baseline and impact assessment sections. The assessment confirmed that the building to be demolished is not classified as cultural heritage. The PIU currently intends to submit a confirmation letter to the relevant authorities to obtain official clearance regarding the heritage status of the building. Given that heritage status and significance remain subject to ongoing further verification, cultural heritage will be identified as a standalone VEC if the Gedung Induk is confirmed

as heritage building by the relevant authorities; however, a precautionary approach has been adopted throughout ESIA.

5. SOCIAL BASELINE

This Chapter establishes the social baseline of the area of influence - the demographic profile centered on Cilandak Barat Sub-district and Cilandak District, the healthcare service context within which Fatmawati Hospital operates, the workforce profile, the patient population characteristics, the local economic and livelihood context, the stakeholder mapping, the identification of vulnerable groups, and the community health and safety context.

5.1. Demographic Profile of the Area of Influence

The social influence area primarily encompasses Cilandak Barat Sub-district, Cilandak District, South Jakarta, and the broader DKI Jakarta and Jabodetabek regions served by Fatmawati Hospital. Cilandak Barat has a population of approximately 229,201, of whom 50.59% are female (Cilandak Barat in Figure, 2024), and a growth rate of 0.31% per year (2020–2024). As a National Referral Hospital with aspirations for Asia-level service, Fatmawati Hospital's tertiary catchment area extends nationwide, with its primary catchment in DKI Jakarta and the Jabodetabek metropolitan area. Key demographic and development indicators for DKI Jakarta are summarised in **Table 5.1**.

Table 5.1. Key demographic and development indicators for DKI Jakarta

Indicator	Value	Source
Provincial population (2023)	10,672,100	Masterplan, p. 32
Annual growth rate	0.31% (2020–2024)	Masterplan, p. 32
Sex ratio	115 females per 113 males (2024)	BPS DKI Jakarta
Poverty line (2024)	Rp 846,085/capita/month; 464,930 below the line (·12,900 from 2023)	Pre-FS, Table 22, p. 96
Human Development Index	84.15 (very high; ranked 2nd nationally)	Pre-FS, Table 25, p. 101
Life expectancy at birth	73.87 years	Pre-FS, Table 25, p. 101
Expected years of schooling	13.51 years	Pre-FS, Table 25, p. 101
Mean years of schooling	11.49 years	Pre-FS, Table 25, p. 101
Per-capita expenditure	Rp 19,953,000/year	Pre-FS, Table 25, p. 101

Sub-district-level data for Cilandak Barat and Cilandak, covering population, age structure, density, livelihoods, and sub-district Human Development Index (HDI), will be obtained from Statistic Agency of South Jakarta Municipality prior to formal submission of the subsequent version of this document.

The Hospital's service catchment operates at three geographic tiers. The primary catchment comprises DKI Jakarta Province with a population of 10.67 million and the Jabodetabek metropolitan buffer zone. The secondary catchment covers the bordering provinces of West Java and Banten, which

are well connected by transport infrastructure. The tertiary catchment encompasses all of Indonesia through the national referral network.

Historical outpatients visit trends at Fatmawati Hospital show 873,469 visits in 2018, rising to a pre-pandemic peak of 883,682 in 2019, followed by a COVID-19-related decline to 621,553 in 2020, with progressive recovery to 795,786 in 2021, 780,687 in 2022, and 869,338 in 2023, approaching pre-pandemic levels. Quarter 1 2026 data indicate total outpatient visits exceeding 90,000, led by Paediatrics at 10,697 visits and Orthopaedic Surgery at 10,690 visits.

5.2. Healthcare Service Context

Fatmawati Hospital is part of a referral system that includes Puskesmas at the kecamatan level, such as Puskesmas Cilandak District, as well as hospitals at regency or city levels, provincial, and national referral hospitals serving DKI Jakarta and the Jabodetabek metropolitan area.

Fatmawati Hospital offers reference and back-referral services within the national hospital network. Its key feature is the Fatmawati Orthopaedic Center (FOC), which provides spine endoscopy—the first of its kind in Indonesia—along with arthroplasty, limb deformity correction, arthroscopy, and robotic knee surgery. The hospital also acts as a Sister Hospital and a teaching base for specialist medical education (PPDS).

The FOC is an integrated orthopaedic centre serving outpatient, inpatient, and surgical interventions, targeting regional Southeast-Asian-standard referral status. An active international partnership through an MoU with Seoul National University Hospital supports knowledge and medical technology.

As a Teaching Hospital since 2010, Fatmawati Hospital hosts PPDS programmes across six priority disciplines: Orthopaedics, Internal Medicine, Anaesthesiology and Intensive Therapy, Paediatrics, Obstetrics and Gynaecology, and Pulmonology and Respiratory Medicine. The Hospital previously held Joint Commission International (JCI) accreditation. The DKI Jakarta health facility landscape is summarized in**Table 5.2**.

Table 5.2. DKI Jakarta Health Facility Landscape

Facility Type	Count	Ratio to Population	Ratio by Sex (per 1,000 male / per 1,000 female) a)
Inpatient Puskesmas	2	–	–
Non-inpatient Puskesmas	42	–	–
Primary clinics (Klinik Pratama)	1,289	0.120 per 1,000	0.240 / 0.241
Specialist clinics (Klinik Utama)	651	0.061 per 1,000	0.121 / 0.122
General hospitals	140	0.013 per 1,000	0.026 / 0.026
Specialist hospitals	56	0.005 per 1,000	0.010 / 0.010
Total hospital beds	27,502	2.6 per 1,000 (below ideal 3.0)	5.12 / 5.14

Facility Type	Count	Ratio to Population	Ratio by Sex (per 1,000 male / per 1,000 female) a)
Fatmawati Hospital contribution	851 beds	Per SK HK.02.03/D.XXI/11087/2025	–
DKI Jakarta medical workforce	17,056 doctors across 196 hospitals	87 per hospital (average)	1.59 doctors per 1,000 population; sex-disaggregated workforce data to be confirmed b)
South Jakarta medical workforce	4,440 doctors across 54 hospitals	82 per hospital	–

5.3. Workforce Profile by Gender and Employment Status

Workforce and Employment Status personnel records for 2026 provide a gender-disaggregated profile of the Fatmawati Hospital workforce. As of 25 May 2026, the hospital employed 2,736 personnel. Of these, 2,392 (87%) were civil service personnel (ASN), comprising 1,342 civil servants (PNS), 438 civil servant candidates (CPNS), and 612 government employees under work agreements (PPPK). The remaining 344 personnel (13%) were non-ASN staff, comprising 24 permanent employees of the hospital as a Public Service Agency (BLU) and 320 non-permanent (contract) employees.

Women constitute the clear majority of the workforce, accounting for 1,887 personnel (69%), compared with 849 men (31%). This female predominance is consistent across employment categories: women represent 69% of ASN staff (1,656 of 2,392) and 67% of non-ASN staff (231 of 344), with the highest female share among CPNS (79%) and the lowest among BLU permanent employees (38%). Such a profile is typical of hospital workforces, which are dominated by nursing and allied health cadres. The gender distribution by employment status is presented in **Error! Reference source not found.**.

Personnel records also indicate that 394 employees (14%) reside within Kecamatan Cilandak, the sub-district in which the hospital is located, while the remaining 86% commute from surrounding areas of South Jakarta and the wider Jabodetabek region. As the Project involves the redevelopment of an existing, fully staffed facility rather than the establishment of a new one, no significant labor influx associated with the hospital's operational workforce is anticipated; construction-phase labor influx is assessed separately in the construction impact sections.

Table 5.3. Gender Distribution by Employment Status

awati HospitalEmployment Status	Males	Females	Total	% Female
PNS	415	927	1,342	69%
CPNS	90	348	438	79%
PPPK	231	381	612	62%
Subtotal ASN	736	1,656	2,392	69%
BLU Permanent Employees	15	9	24	38%
Non-Permanent Employees (PTT)	98	222	320	69%
Subtotal Non-ASN	113	231	344	67%

Total	849	1,887	2,736	69%

Source: Fatmawati Hospital personnel data disaggregated by gender, 25 May 2026. ASN = Aparatur Sipil Negara (state civil apparatus); PNS = Pegawai Negeri Sipil; CPNS = Calon Pegawai Negeri Sipil; PPPK = Pegawai Pemerintah dengan Perjanjian Kerja; BLU = Badan Layanan Umum; PTT = Pegawai Tidak Tetap. Percentages are rounded to the nearest whole number.

Post-development workforce projections indicate that the expansion from 851 to 1,352 operational beds will require significant workforce additions, concentrated in the following areas. Specialist physicians will be needed for the Cancer Centre (Oncology), Uro-Nephrology (Organ and Tissue Transplantation), and the Fatmawati Orthopaedic Centre. Certified specialist nurses will be required for operating theatres across the 13 integrated operating theatre systems, intensive care across 50 additional ICU beds, oncology nursing with cytotoxic-handling certification, and transplant nursing. Radiographers and radiotherapy technicians will be needed for the PET Scan, Hybrid MOT, and Hybrid Catheterisation Laboratory facilities. Additional support professionals required include cytotoxic-handling-certified pharmacists, laboratory analysts, and blood-bank analysts. Given the existing gender profile of the workforce, this recruitment is expected to sustain, and potentially reinforce, the predominance of women in the hospital's clinical cadres, which should be reflected in the human resource planning and gender-responsive facility provisions (such as sanitation, changing, and lactation facilities) of the developed hospital.

5.4. Patient Population Characteristics

Quarter 1 2026 emergency services recorded 6,236 visits comprising 5,939 main emergency visits and 297 obstetric emergency visits, plus 84 ambulance transfers. April 2026 added a further 2,130 emergency visits, bringing the four-month total to 8,069.

The top outpatient clinics in Quarter 1 2026 were Paediatrics at 10,697 visits and Orthopaedic Surgery at 10,690 visits, confirming orthopaedics as a proven high-volume priority service. Other significant outpatient volumes were recorded at Anaesthesiology with 5,362 visits, Urological Surgery with 3,892 visits, which is relevant to the planned Uronephrology strengthening, Oncological Surgery with 2,837 visits, which is relevant to the Cancer Centre, Digestive Surgery with 1,159 visits, Vascular Surgery with 873 visits, General Surgery with 651 visits, Paediatric Surgery with 481 visits, Plastic Surgery with 388 visits, and Thoracic Surgery with 104 visits. Executive surgical services across 16 specialisations carry an annual target of 1,206 procedures. Historical context indicates that 2023 outpatient visits totalled 869,338 and surgical procedures totalled 13,135, representing a 25% increase from 10,517 procedures in 2022. A summary of patient population and service utilisation indicators is presented in **Table 5.4**.

Table 5.4. Summary of Patient Population and Service Utilisation Indicators

Indicator	2018	2019	2020	2021	2022/2023
Inpatient bed capacity	-	-	-	750 (December 2023)	851 (per SK HK.02.03/D.XXI/11087/2025)
Annual outpatient visits	873,469	883,682	621,553 (COVID-19 decline)	795,786	780,687 (2022) / 869,338 (2023)
Surgical procedures	-	-	-	10,517 (2022) / 13,135 (2023, ↑25%)	Q1 2026: 1,206 target (annual executive surgery RBA)
Pediatrician 10,54%			Obstetrician-Gynecologist 8,00%		
Medical Rehabilitation 6.58%			Dental 3.97%		

Source: Masterplan

Inpatient performance indicators comprising BOR, ALOS, BTO, TOI, GDR, and NDR by unit for Quarter 1 2026 will be extracted from the Medical Records and Patient Insurance Administration Installation prior to formal submission of the subsequent version of this document. Historical BOR trends for 2018–2023 show average levels of 67–70%. With a current capacity of 851 beds and a post-development target of 1,352 beds, an operational BOR target of 75–85% will serve as the basis for demand-utilisation calculations during the Detailed Engineering Design phase.

5.5. Economic and Livelihood Context

Fatmawati Hospital makes a significant contribution to the local economy, employing between 2,398 and 2,457 staff, engaging in substantial supplier procurement, and generating considerable expenditure from 869,338 outpatient visits in 2023.

The hospital also grounds function as a de facto commercial microeconomy, driven primarily by the needs of patients, their families, hospital staff, and outpatient visitors. Given the 24-hour operational nature of healthcare facilities and the hospital's status as a national referral centre, daily footfall to the facility is substantial and consistent.

This demand profile creates reliable economic conditions for commercial tenants operating within the hospital campus, distinguishing the Fatmawati tenant environment from conventional retail or food service settings. Currently, there are 24 tenants in the hospital (Appendix L) within the demolition area (Appendix J). This includes:

- Food & Beverage (F&B) and Vending Operations (16 Tenants);
- Convenience Retail and Minimarkets (3 Tenants);
- Banking Infrastructure (2 Tenants); and
- Support Services & Public Utilities (3 Tenants).

Apart from PT Lancar Wiguna Sejahtera (Lawson), which has a 2-year contract, all tenant agreements expire this year. However, to support the economic sustainability of tenant businesses, the hospital has planned for temporary relocation during the construction phase. Three potential relocation sites are available: the basement of the Anggrek Building, near the hospital's mosque, and the first floor of the Teratai Building.

Among them, six tenants are identified as individuals rather than corporate or institutional entities. These individuals comprise the most economically vulnerable group among the affected tenants. In response, Fatmawati Hospital has begun engaging with them and has communicated the redevelopment plans for the hospital. Based on available information, each tenant employs approximately two workers, resulting in an estimated 48 workers whose livelihoods are directly linked to tenant operations within the hospital.

Table 5.5. Summary of Contract Period Distribution

Contract Period Category	Count	Share (%)
Expired / Short-term (ends ≤ June 2026)	5	20.8%
Mid-term (ends July – October 2026)	5	20.8%
Year-end 2026 (ends December 2026)	13	54.2%
Operational-start basis (Lawson)	1	4.2%

Total	24	100%

Source: Analysis based on PKS records, RSUP Fatmawati (2025/2026).

Although the redevelopment project will not require permanent acquisition of tenant-owned assets, temporary relocation and business disruption may affect tenant revenues and worker income during construction. Therefore, the Project will implement Livelihood Restoration Plan (LRP) including mitigation measures during transition period such as promotion of 24 tenants. Construction activities may also influence consumer behavior through changes in pedestrian movement, parking availability, access routes, noise, dust, and general perceptions regarding convenience and accessibility. However, given that hospital operations will continue throughout construction and patient services will remain operational, the overall customer base supporting tenant activities is expected to remain present within the hospital environment.

The potential economic and livelihood impacts are therefore expected to be primarily associated with temporary business disruption and changes in customer access, rather than permanent economic displacement. The Project will seek to minimise these impacts through a phased tenant relocation and transition strategy designed to maintain business continuity wherever practicable. The relocation arrangements will consider the type, size, operational requirements, utility needs, customer dependency, and business characteristics of each tenant. Where practicable, permanent tenant facilities will be relocated to permanent premises on a like-for-like basis, while temporary facilities will be provided with appropriate consideration of the existing business function and operational requirements.

The Project has identified 24 affected tenants, with 23 existing lease arrangements terminated in connection with the redevelopment process. The affected businesses include food and beverage outlets, convenience retail, vending services, photocopying and other supporting commercial activities. The economic significance of the impact varies among tenants, particularly because some small businesses and sole proprietors are more dependent on their activities within the hospital for their income. Six sole proprietors have been identified as being substantially dependent on their businesses for their income, and these businesses will therefore receive particular attention during the transition and post-relocation monitoring period.

To facilitate continued business operations, approximately 673.11 m² of temporary relocation space has been identified within the hospital complex, including areas associated with the Anggrek Building basement, the Hospital Mosque area, and the first floor of the Teratai Building. The final allocation of relocation space will take into account the specific operational requirements of each affected tenant. For larger food and beverage outlets and minimarkets, particular consideration will be given to space requirements, utilities, storage, customer seating, visibility, and accessibility.

The relocation locations are also expected, in some cases, to provide improved customer and market access, particularly where the new premises are located closer to areas with significant hospital activity, including outpatient and inpatient service areas. This may help maintain customer exposure and potentially provide additional business opportunities for relocated tenants. The Project will also consider appropriate signage, wayfinding, and promotional measures to inform patients, visitors, and hospital staff of the new locations of relocated businesses.

Where tenants incur reasonable and directly attributable relocation or construction costs in establishing their businesses at the new premises, the Hospital will assess such costs and apply an appropriate support mechanism through an extension of the applicable tenancy period. For example, where a tenant has a monthly rental rate of IDR 1 million and incurs IDR 2 million in eligible relocation or construction costs, the equivalent value would be recognised as an additional two months of

tenancy, extending a 12-month tenancy to 14 months, subject to verification and agreement between the Hospital and the respective tenant. This mechanism is intended to ensure that tenants are not unfairly burdened by reasonable costs arising directly from the relocation process.

For tenants whose existing tenancy or land-use agreements expire in 2026, the Hospital will provide an option to continue the tenancy monthly, rather than requiring a new long-term commitment of one or two years. This arrangement provides greater flexibility to tenants during the redevelopment period and reduces the risk of tenants being required to make a long-term commercial commitment shortly before the planned relocation.

The proposed relocation and transition arrangements were communicated to the affected tenants during the socialisation/consultation process held on 29 June 2026. Tenants were provided with information regarding the redevelopment and proposed relocation arrangements and were given an opportunity to consider whether they wished to continue their business relationship with RSUP Fatmawati under the proposed arrangements. Tenants retain the option to continue or discontinue their business relationship with the Hospital based on their own decision.

The available consultation findings indicate that all 24 affected tenants (100%) expressed support for the proposed hospital redevelopment. This indicates a high level of general acceptance of the Project; however, tenant acceptance of the overall redevelopment will continue to be distinguished from satisfaction with specific relocation arrangements. The Project will therefore maintain tenant-level engagement to identify and address any concerns arising during the actual transition and relocation process.

During construction, the Project will monitor potential changes in tenant business performance and customer access, particularly for tenants that are highly dependent on hospital-based customers. Monitoring will consider, where practicable, changes in customer flow, operating conditions, accessibility, business income, and other indicators of potential economic disruption. Where significant unforeseen impacts are identified, additional mitigation or support measures will be considered on a case-by-case basis.

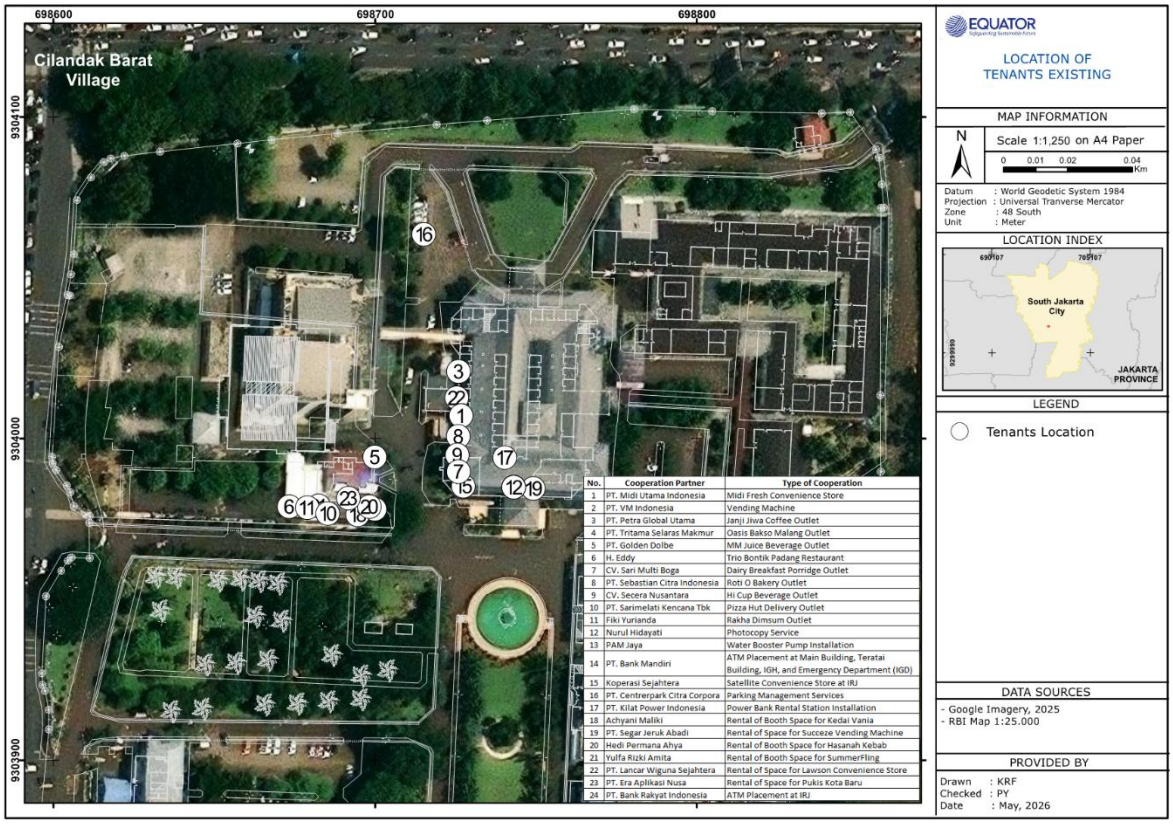


Figure 5-1. Distribution of Existing Commercial Tenant

5.6. Workers' Right and Protection

Fatmawati Hospital's workforce operates under the national labour laws set by Law No. 13 of 2003 on Manpower, complemented by Law No. 6 of 2023 on Job Creation, Government Regulation No. 35 of 2021 on Fixed-Term Employment, and MOH Regulation No. 66 of 2016 on Occupational Health and Safety in Hospitals. As a government-owned facility operating under the PPK-BLU framework, the employment of ASN personnel is also governed by Law No. 5 of 2014 on State Civil Apparatus and its related regulations.

The legal basis for protection against workplace harassment and violence applicable to Fatmawati Hospital is summarised in **Table 5.6**.

Table 5.6. Legal Basis for Workers' Rights and Protection, RSUP Fatmawati

No	Regulation	Subject Matter	Relevance to Project
1	Law No. 13 of 2003 on Manpower	Minimum wage, working hours, overtime, leave entitlements, termination procedures, and worker welfare	Applies to all non-ASN workers comprising PPPK, BLU, and PTT staff and all construction contractor workers
2	Law No. 6 of 2023 on Job Creation	Amendments to labour provisions including fixed-term contracts, outsourcing arrangements, and severance	Applies to fixed-term and outsourced construction labour

No	Regulation	Subject Matter	Relevance to Project
3	Government Regulation No. 35 of 2021	Fixed-term employment (PKWT) conditions, outsourcing, working hours, and rest periods	Applies to contractor workforce management
4	Government Regulation No. 36 of 2021 on Wages	Minimum wage compliance; DKI Jakarta Provincial Minimum Wage (UMP DKI Jakarta)	All construction workers must receive minimum UMP DKI Jakarta as the applicable regional minimum wage
5	Law No. 5 of 2014 on State Civil Apparatus	ASN employment conditions, rights, and obligations	Applies to 1,774 ASN personnel (PNS/CPNS and PPPK) at RSUP Fatmawati
6	MOH Regulation No. 66 of 2016 on Hospital OHS	Occupational health and safety management system at hospitals (K3RS)	Applies to all hospital operational staff and construction interface workers
7	Government Regulation No. 50 of 2012 on SMK3	Occupational safety and health management system for construction	Mandatory for all construction contractors with more than 100 workers or high-risk activities
8	MOL Regulation No. 5 of 2018 on OHS in Work Environment	Occupational exposure standards for noise, vibration, chemicals, and radiation	Applicable to construction workers and hospital operational staff in high-exposure areas
9	Law No. 21 of 2000 on Trade Unions	Right to organise, form, and join trade unions; collective bargaining	Applicable to all workers at RSUP Fatmawati; contractor Code of Conduct must not restrict union rights
10	MOL Regulation No. 18 of 2022 on Gender-Based Violence and Sexual Harassment at Work	Prevention and handling of GBV/SEAH in the workplace	Applicable to all hospital staff and construction contractor workforce; integrated into contractor Code of Conduct
11	ILO Core Conventions ratified by Indonesia	Freedom of association (C87, C98), equal remuneration (C100), non-discrimination (C111), minimum age (C138), worst forms of child labour (C182), GBV/SEAH (C190)	Applicable to all workers under AIIB ESF requirements

Construction Workforce Labour Management

The construction workforce for Tower & Podium 1A and Buildings 1B is expected to comprise a mix of local hires from Cilandak Barat sub-district, Cilandak district, and the broader South Jakarta and Jabodetabek area, and non-local workers mobilised by the contractor. An estimated 300 construction workers, whether directly employed by the contractor or through subcontractors, are subject to the labour management requirements set out in Annex E (Labor Management Procedure) and the contractor Code of Conduct. Principal labour management requirements are summarized in **Table 5.7**, while the potential contractor's base camps is presented in Figure 5-2.

Table 5.7. Construction Workforce Labour Management Requirements

Requirement	Standard	Implementation Mechanism
Minimum wage compliance	UMP DKI Jakarta 2026 and above for all construction workers	Payroll verification by CMC/PMSC monthly; spot checks by Fatmawati Hospital team

Requirement	Standard	Implementation Mechanism
Maximum working hours	8 hours per day, 40 hours per week; overtime maximum 4 hours per day and 18 hours per week per Law No. 13/2003	Weekly working hours log maintained by contractor HSE Manager
Written employment contracts	All workers to hold written PKWT or PKWTT contracts in Bahasa Indonesia prior to mobilisation	Contract compliance audit by Fatmawati Hospital team at mobilisation and quarterly thereafter
Social security enrolment	All construction workers enrolled in BPJS Ketenagakerjaan (JKK, JKM, JHT) and BPJS Kesehatan prior to commencement of work	BPJS registration cards verified by CMC/PMSC at mobilisation
No child labour	Minimum working age 18 years for all construction activities	Age verification (KTP) at mobilisation; zero tolerance — immediate dismissal if violation found
No forced labour	All workers employed voluntarily; no retention of identity documents; no debt bondage	Worker welfare audit by Fatmawati Hospital team
Right to organise	No restriction on workers' right to form or join trade unions	Contractor Code of Conduct; GRM channel available to all workers
Preferential local hiring	Minimum *[To be confirmed — indicatively 30%]* of unskilled and semi-skilled construction workforce sourced from Cilandak Barat sub-district and Cilandak district	Monthly local hire percentage reported by contractor to PIU
Non-discrimination	No discrimination in hiring, assignment, or compensation on grounds of gender, religion, ethnicity, or disability	Contractor Code of Conduct; GRM channel for discrimination complaints
GBV/SEAH zero tolerance	Zero tolerance policy for all forms of GBV, SEAH, and workplace harassment	Contractor Code of Conduct signed by all workers at mobilisation; dedicated GRM channel per Chapter 10
Grievance access	All workers have access to project GRM through worker grievance pathway in C-ESMP	Worker GRM channel established prior to mobilisation; Toolbox feedback sessions weekly
Accommodation standards	Where contractor-provided accommodation is used, standards must meet minimum requirements for space, sanitation, ventilation, and privacy	Accommodation inspection by Fatmawati Hospital team prior to worker mobilisation and quarterly thereafter
Water consumption	All workers have access to a minimum clean water of 40 L/day to 50 L/day for drinking, sanitary used, and others.	Accommodation inspection by Fatmawati Hospital team
Waste management	The sanitary treatment plants will be installed to support contractors' base camp.	

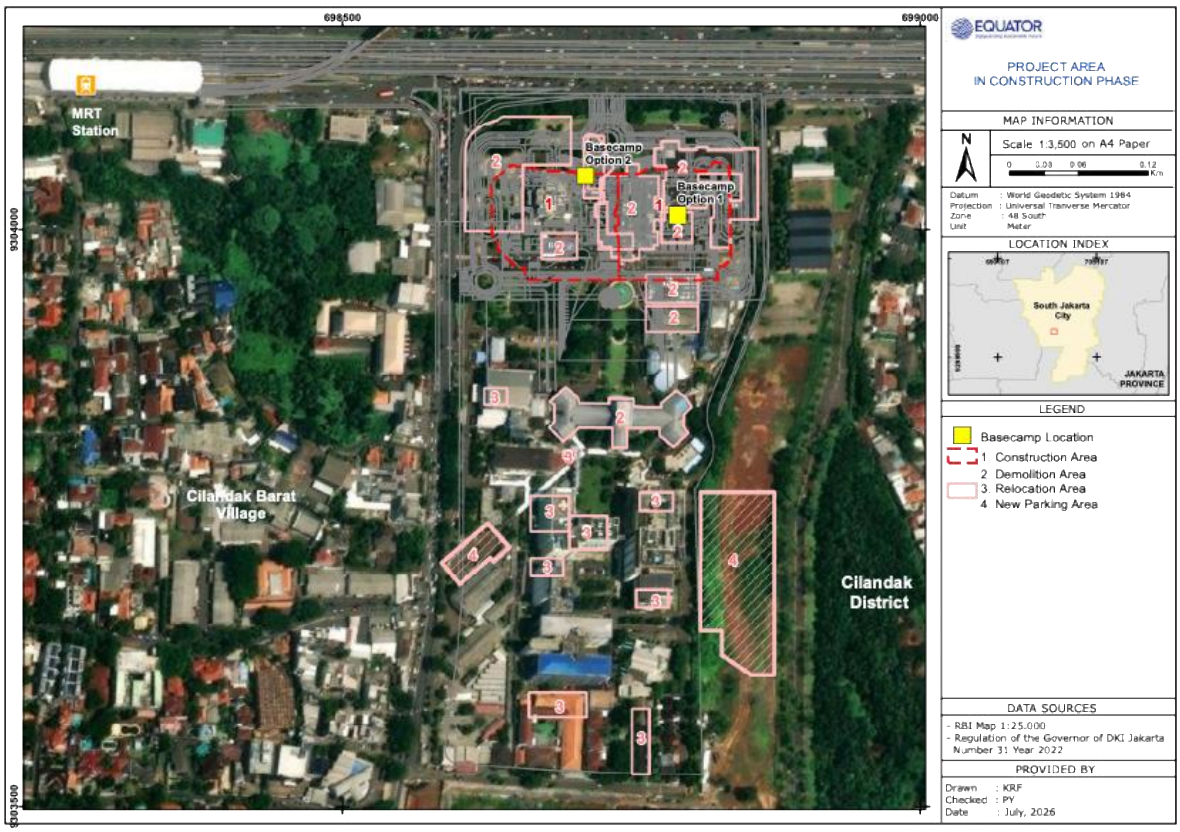


Figure 5-2 Proposed Contractors' Base Camps

5.7. Stakeholder Mapping

The principal stakeholder groups are summarized in Table 5.8. Detailed stakeholder analysis with interest-influence mapping is presented in Chapter 9 and Annex C (Stakeholder Engagement Plan).

Table 5.8. Principal Stakeholder Groups, Fatmawati Hospital Redevelopment

Category	Stakeholders
National institutional	Ministry of Health (Kemenkes); AIIB; Bappeda DKI Jakarta; DPMPTSP DKI Jakarta; DLH DKI Jakarta; Sudin LH South Jakarta; BPS DKI Jakarta and BPS South Jakarta.
Local government	Mayor of South Jakarta; Camat Cilandak; Lurah Cilandak Barat; Polsek Cilandak; Koramil Cilandak.
Affected community	Cilandak Barat sub-district residents; MRT users; road users on Jl. Raya TB Simatupang and Jl. Raya Fatmawati Raya; neighbouring institutions (BBPK Cilandak, Cilandak Town Square mall).
Professional and academic	PPDS partner universities; Hospital Accreditation Commission (KARS); Indonesian Medical Association (IDI); Indonesian Nurses Association (PPNI).
Hospital internal	Fatmawati Hospital staff (2,398–2,457 personnel); staff unions and associations.
Media and civil society	National and local media; health-sector NGOs; patient-advocacy groups.
Micro, Small, and Medium Enterprises (MSMEs)	Local micro, small, and medium-sized businesses that may be affected by or benefit from the project, either directly or indirectly, through economic activities, employment opportunities, supply chains, or changes in local market conditions.

5.8. Gender and Gender-Based Violence

The redevelopment of Fatmawati Hospital is a strategic project aimed at expanding healthcare capacity and improving service delivery. Such development carries social implications, particularly in relation to gender equality. A gender analysis is essential to ensure that the project does not exacerbate existing inequalities but instead strengthens equitable access to healthcare services for women, men, children, the elderly, and other vulnerable groups. Consistent with the AIIB Environmental and Social Framework, the analysis below examines five dimensions: (i) gender profile of service users and the workforce; (ii) community access to hospital services during construction and operation; (iii) gender-related risks, including gender-based violence (GBV), sexual exploitation, abuse and harassment (SEA/SH), and community health and safety impacts; (iv) opportunities for the project to deliver gender-responsive benefits through employment, training, and inclusive design; and (v) gender-focused stakeholder engagement.

5.8.1. Gender Profile of Service Users and the Workforce

Female patients account for a significant proportion of outpatients and inpatients, particularly in obstetrics, gynaecology, and paediatric services, indicating that women are primary beneficiaries of Fatmawati Hospital's services. At the same time, they are among the most vulnerable to disruptions during construction, particularly pregnant women and postpartum patients who require safe and timely access to healthcare.

Female healthcare workers constitute the majority of nurses and administrative staff. Their workload is already high, particularly in emergency units, intensive care, and maternity wards. The increase in patient numbers following the expansion may further intensify the double burden faced by female healthcare workers, making it necessary to implement policies on workload balance and occupational health protection.

Ministry of Health data in 2024 indicates that Indonesia has approximately 1.5 million healthcare workers, of whom approximately 77% are women. Globally, women account for approximately 67% of the healthcare workforce, although leadership representation remains comparatively lower in many healthcare systems. This context is relevant to Fatmawati Hospital, where available organisational data indicate relatively balanced gender representation across leadership and managerial functions: of 63 identifiable managerial and leadership positions, women occupy approximately 52% and men approximately 48%. Male representation remains more dominant in technical, infrastructure, financial, surgical, and engineering-related functions, indicating a persistent occupational segregation that the project can help address through targeted training (see item (d) below).

5.8.2. Community Access to Hospital Services

Women in the catchment area, particularly maternal and child health patients, elderly women, and women accompanying family members, depend on continuous and predictable access to hospital services. Construction of Building A (Tower and Podium 1A-JKN) and Building B (Tower and Podium 1B) poses temporary risks to this access, including rerouted pedestrian and vehicle entrances, longer walking distances between drop-off points and service units, reduced parking, and congestion at hospital gates. These disruptions disproportionately affect pregnant women, women in labour,

women carrying infants, and women with mobility limitations. Mitigation measures under the ESMP and C-ESMP will therefore include: (i) maintaining a clearly signed, well-lit, sheltered, and step-free priority access route to emergency, maternity, and outpatient services at all times; (ii) advance public notification of any access changes through channels accessible to women (community health posts/posyandu, PKK networks, and social media); (iii) priority drop-off zones for pregnant women, patients with infants, elderly patients, and persons with disabilities; and (iv) coordination with hospital management to schedule high-disturbance construction activities away from peak outpatient hours.

5.8.3. Opportunities for the Project to Deliver Gender-Responsive Benefits

The project also presents concrete opportunities to advance gender equality:

- **Employment**. The contractor will be required to set and report against targets for female employment in construction-phase roles, including non-traditional roles (site administration, safety officers, surveying support, equipment operation, quality control), supported by equal pay for equal work, safe and separate sanitation and changing facilities for female workers, and zero-tolerance enforcement of the Code of Conduct.
- **Training**. The expansion increases demand for specialised clinical and technical competencies. The project provides an entry point to: (i) prioritise female healthcare workers for upskilling into specialised nursing (intensive care, oncology, neonatal), biomedical equipment operation and maintenance, and hospital management functions where women are currently under-represented; (ii) offer certified construction-related skills training (OHS safety certification, scaffolding, electrical, finishing trades) open to women from the local workforce; and (iii) link procurement of catering, cleaning, and support services to local women-owned enterprises where feasible
- **Hospital workforce**. Based on currently available internal staffing data covering 63 identifiable managerial and leadership positions, women occupy approximately 52% of the reviewed positions and men occupy approximately 48%, as presented in **Table 5.9**.

Table 5.9. Gender-Based Workforce Distribution

Workforce Category	Male		Female		Total
	Number	%	Number	%	Number
Specialist Doctors / Clinical Department Heads	9	50%	9	50%	18
General Practitioners / Clinical Service Leadership	2	25%	6	75%	8
Nurses & Midwives / Nursing Leadership	1	25%	3	75%	4
Medical Support Personnel	6	35%	11	65%	17
Non-Medical Personnel	8	67%	4	33%	12
Management / Leadership	4	50%	4	50%	8
Total	**30**	**48%**	**33**	**52%**	**63**

Within the reviewed staffing structure, female representation is particularly prominent in nursing leadership, inpatient and outpatient services, rehabilitation medicine, pharmacy, nutrition, laboratory services, and quality-management functions. Specialist clinical leadership positions are relatively balanced between male and female personnel, while non-medical operational and infrastructure-related functions remain more male-dominated. These patterns generally reflect broader healthcare-sector workforce trends in Indonesia.

- **Diverse patients**. As a major tertiary referral hospital, Fatmawati Hospital serves a diverse patient population including women, children, elderly persons, oncology patients, persons with disabilities, and immunocompromised patients who may represent vulnerable social receptors in relation to privacy, safety, dignity, and accessibility considerations. These aspects are particularly relevant given the planned expansion of oncology, transplantation, intensive care, and specialised treatment services under the project.
- **Gender-responsive design**. The detailed design of Tower and Podium 1A-JKN will incorporate features that respond to women's needs, including adequate restrooms, lactation/breastfeeding rooms, adequate and safely located women's toilets, family waiting areas suitable for caregivers with children, priority seating, step-free routes for pregnant women and women with strollers, adequate lighting in corridors, parking areas and transitional spaces, and privacy provisions in examination and inpatient areas. Universal design features will also serve elderly patients and persons with disabilities.
- **Gender-Focused Stakeholder Engagement**. Stakeholder engagement under the SEP will be designed to capture women's perspectives effectively, recognising that mixed-forum consultations often under-represent women's and vulnerable group's voices. Measures include: (i) women-only focus group discussions with female patients, female hospital staff, female entrepreneurs around the site, and women's community organisations (PKK, posyandu cadres); (ii) scheduling consultations at times and venues compatible with women's care responsibilities; (iii) use of female facilitators; (iv) sex-disaggregated recording of participation and issues raised; and (v) feedback loops demonstrating how women's inputs have influenced design, mitigation measures, and monitoring. Consultation findings related to women's access, safety, and livelihoods will be reflected in the ESMP and monitored during implementation, with sex-disaggregated indicators reported in periodic monitoring reports to Ministry of Health.

In general, the gender action commitments for the Fatmawati Hospital TRUST Project are operationalised through the Gender Action Plan presented in Table 5.10. The Plan addresses gender-related risks identified across four dimensions comprising patient access and dignity, workforce protection, construction-phase GBV/SEAH risk management, and community livelihood impacts. Each action is assigned a responsible party and an implementation timeline aligned with the project phases established in Section 2.5.

Table 5.10. Gender Action Plan, Fatmawati Hospital TRUST Project

No	Gender Issue	Key Action	Performance Indicator	Responsible Party	Timeline
A	Patient access and dignity — Female patients including pregnant women, postpartum patients, and cancer and transplantation patients require uninterrupted access to clinical services and gender-sensitive care	Prepare and implement a phased service-continuity plan ensuring maternity, obstetric, oncology, and transplantation services remain accessible throughout construction; incorporate universal design requirements	Zero interruption to obstetric emergency services; 100% of new clinical areas meet universal design standards at SLF inspection	Fatmawati Hospital Medical Services Directorate and DEDC	Pre-construction and throughout construction phase (2026–2029)

No	Gender Issue	Key Action	Performance Indicator	Responsible Party	Timeline
	pathways throughout the construction period	per MOH Regulation No. 40/2022 for all new clinical facilities in Building A (Tower and Podium 1A-JKN) including accessible ramps, toilets, and signage			
B	Female workforce protection — Female staff comprising 78.5% of nursing personnel face increased workload risk during construction-phase service disruption and require gender-sensitive operational facilities in the new buildings	Implement workload-monitoring system during construction; establish maximum shift hours for female nursing staff during service-relocation periods; design and construct lactation rooms, female prayer rooms, and gender-segregated toilet and changing facilities in Building A and Building B	Monthly workload audit with zero exceedance of maximum shift hours per MOH Regulation No. 66/2016; dedicated facilities confirmed at SLF inspection	Fatmawati Hospital HR-Education-Research Directorate and DEDC	Construction phase (2026–2029) and DED finalisation
C	GBV/SEAH prevention at construction interface — Male-dominated construction workforce introduces GBV/SEAH risk at the construction-hospital and construction-community interface	Require contractor to implement Code of Conduct with zero-tolerance GBV/SEAH policy; conduct mandatory GBV/SEAH awareness induction for all construction workers prior to mobilisation; establish dedicated GRM channel with separate intake by trained female officer and referral pathway to UPTD PPA Jakarta Selatan	100% of construction workers complete GBV/SEAH induction; dedicated GBV/SEAH intake protocol operational; zero reported incidents of construction workers entering clinical zones without authorisation	Contractor and Fatmawati Hospital	Pre-construction mobilisation and throughout construction phase
D	Gender-sensitive workforce planning for expanded operations — Post-development expansion to 1,352 beds and five priority excellence services requires gender-disaggregated workforce planning and equitable representation in leadership	Develop gender-disaggregated workforce targets for Building A (Tower and Podium 1A-JKN) operational staffing led by Fatmawati Hospital team; maintain and improve current female representation of approximately 52% in reviewed leadership	Annual workforce gender audit; female representation in leadership maintained at minimum current level; gender-disaggregated workforce targets incorporated into Annex G	Fatmawati Hospital HR-Education-Research Directorate and PIU Safeguards Officer	DED stage through operational phase

No	Gender Issue	Key Action	Performance Indicator	Responsible Party	Timeline
		and managerial positions			
E	Community livelihood — female informal vendors — Female informal vendors and small-scale traders operating within and around the hospital campus are disproportionately and represent the most economically vulnerable group	Conduct gender-disaggregated livelihood mapping of all informal vendors prior to construction mobilization; include female vendor representatives in Phase 1 stakeholder consultation; provide equitable temporary relocation arrangements with accessible GRM channel for female community members	Number of female vendors mapped and consulted; percentage receiving temporary relocation assistance; number of GRM complaints received and resolved from female complainants	Fatmawati Hospital team and Project Liaison Officer	Pre-construction — prior to mobilisation
F	Monitoring and reporting — Gender outcomes require systematic tracking across construction and operational phases to ensure commitments are fulfilled and course-corrected where needed	Report gender action plan implementation progress in semi-annual ESMP Implementation Reports to AIIB; conduct quarterly gender audit during construction phase and annual audit during operational phase; disaggregate all relevant monitoring indicators by gender	GAP progress reported in each semi-annual ESMP report; gender-disaggregated indicators captured in Tables 63 and 64 (Monitoring Plan)	Fatmawati Hospital team and PIU Safeguards Officer	Throughout project lifecycle

At the time of preparation of this ESIA-ESMP, no dedicated gender-based violence or sexual harassment incident dataset specific to the project area or Fatmawati Hospital workforce had been formally provided to the ESIA team. The assessment therefore applies a precautionary risk-management approach based on institutional context, workforce characteristics, and Good International Industry Practice (GIIP).

Existing institutional systems within Fatmawati Hospital, including hospital security arrangements, workforce supervision, patient-service procedures, complaint-handling mechanisms, and occupational health and safety systems, provide an important baseline framework for the management of gender-related and social-protection risks. Additional mitigation measures incorporated into the ESMP include contractor Codes of Conduct, worker induction and awareness programmes, accessible grievance mechanisms, gender-sensitive workforce management measures, and maintenance of secure and controlled-access operational areas during construction and operational phases. These measures are detailed in Chapter 7 and Annex A.

5.9. Vulnerable Groups Identification

AIIB ESS1 requires the explicit identification of vulnerable groups within the area of influence, with tailored mitigation. For Fatmawati Hospital, the following groups warrant explicit consideration both as patient populations and as potentially affected community members. Additionally, Fatmawati Hospital has a broad patient vulnerability profile and a heterogeneous disease spectrum.

- Cancer patients, are vulnerable to therapy side-effects, immunosuppression, and financial hardship from prolonged treatment regimens, and require integrated palliative pathways and confidentiality protections.
- Transplant patients, require comprehensive immunosuppression management, infection control, and long-term follow-up.
- Elderly patients with chronic disease represent a large and growing patient cohort given the DKI Jakarta ageing demographic shift, with the elderly population share projected to increase from 9.03% in 2020 to 19.11% by 2035.
- Paediatric patients, including those in NICU, PICU, and paediatric services, require age-appropriate facilities and family-centred care. The Paediatrics clinic records the second highest outpatient visit volume at the Hospital.
- Pregnant women and Maternal and Child Health patients are a significant group, with the Obstetrics and Gynaecology clinic ranking fifth in outpatient visit volume. Maternal and Child Health is one of the five priority excellence services to be strengthened under the project.
- Persons with disabilities require accessibility through universal design, including ramps, accessible toilets, appropriate signage, and hearing loops where applicable, in accordance with MOH Regulation No. 40/2022 and the Masterplan KMK 1673/2024 commitment to disability-accessible facilities including ramps and dedicated parking.
- Low-income households covered under JKN/BPJS represent the principal patient population of Building A, which provides 850 beds for BPJS inpatient services, in accordance with the minimum 60% standard-class bed requirement for central government hospitals under MOH Regulation No. 14/2021.
- Construction-phase workers, who are often transient and migrant, are vulnerable to occupational health and safety hazards, harassment, and GBV/SEAH risks. These risks are addressed through the labour management provisions in the C-ESMP and Annex G.
- Female Fatmawati Hospital staff and patients require gender-sensitive facilities including lactation rooms, prayer facilities, separate toilets, and harassment-free environments. Nurses comprising 43% of the workforce, the majority of whom are women, require accommodating workplace facilities. GBV/SEAH risk management at the construction interface is addressed through the contractor Code of Conduct and the GRM established in Annex D.

6. COMMUNITY HEALTH AND SAFETY

The Project is located within Cilandak District, Kota Jakarta Selatan, a densely urbanized metropolitan area characterized by high population mobility, intensive traffic activity, high traffic accident incidence, urban air quality stress, vulnerability to fluvial-pluvial flooding and airborne disease, thus resulting in substantial demand for healthcare services.

The healthcare service landscape within DKI Jakarta reflects high healthcare demand associated with the metropolitan population and continued pressure on tertiary healthcare capacity. DKI Jakarta contains approximately 140 general hospitals, 56 specialist hospitals, and approximately 27,502 hospital beds, equivalent to approximately 2.6 beds per 1,000 population, which remains below the commonly referenced planning benchmark of 3.0 beds per 1,000 population. Within this broader metropolitan healthcare system, Kota Jakarta Selatan and Cilandak District represent important healthcare service areas with relatively high concentrations of hospitals, clinics, healthcare personnel, and referral services. **Table 6.1** summarizes community health and healthcare service indicators for Cilandak District and Kota Jakarta Selatan.

Table 6.1. Healthcare Infrastructure and Community Health Indicators for Cilandak District and Kota Jakarta Selatan

Indicator	Cilandak District	Kota Jakarta Selatan
General Hospitals	6	36
Specialized Hospitals	1	7
Puskesmas	6	75
Clinics/Health Centers	49	500
Posyandu	92	1,245
General Practitioner Practices	81	1,608
Dental Practices	74	1,062
Specialist Medical Practices	24	450
Doctors	276	1,836
Nurses	2,041	7,625
Midwives	135	1,347
Tuberculosis Cases	-	7,859
Pneumonia Cases	-	10,106
Diarrheal Disease Cases	-	55,121
Dengue Fever Cases	-	1,976
HIV/AIDS Cases	-	80 new cases; 355 cumulative cases

Source: BPS Kota Jakarta Selatan, 2026

As a major tertiary referral hospital, Fatmawati Hospital forms an important component of the regional healthcare system serving South Jakarta and surrounding areas, particularly for BPJS and specialized referral patients. Fatmawati Hospital represents an important component of the regional healthcare system within this broader context. Current operational capacity includes approximately 851 beds, (representing approximately 3% of total DKI Jakarta hospital bed capacity). Historical

operational data indicate consistently high service utilization, including approximately 869,338 outpatient visits and 13,135 surgical procedures in 2023. Emergency service utilization also remains substantial, with 8,069 emergency visits recorded during the first four months of 2026. Fatmawati Hospital functions as one of the key tertiary referral hospitals within this healthcare network.

The healthcare service context indicates that Fatmawati Hospital constitutes a strategically important and sensitive healthcare receptor within the DKI Jakarta referral network. Continued hospital operations during redevelopment are therefore important to maintaining regional healthcare access, emergency response capability, inpatient services, and continuity of specialized referral care. Consequently, potential construction-phase disruptions associated with access, utilities, noise, dust, infection control, traffic management, and patient safety require careful management throughout Project implementation.

The first-phase 2025–2029 redevelopment introduces additional construction-phase community risks comprising truck movements on the surrounding arterial roads, dust, and noise, which are addressed in Chapter 7 and the C-ESMP.

The disease prevalence profile of DKI Jakarta is presented in Error! Reference source not found., drawn from the most recent available national and provincial health survey data.

Table 6.2. DKI Jakarta Disease Prevalence

Condition	DKI Jakarta Prevalence	Trend / Note
Heart disease	1.65%	Down from 1.9% (2018)
Cancer	2.4%	Up from 2.33%; ranked 2nd nationally (after DI Yogyakarta)
Stroke	12.2% (Riskesdas 2018)	High category
Chronic kidney disease	0.5%	Stable
Diabetes mellitus	3.1% (physician diagnosis); >10% (blood-glucose testing, SKI 2023)	Among the highest provincial prevalences
Gastroenterohepatological disease	Trending upward	Emerging burden
Emerging infectious diseases	High vulnerability	Highest population mobility nationally

This prevalence profile confirms the relevance of the Hospital's five priority services (orthopaedics, oncology, uronephrology including transplantation, maternal-child health, and minimally invasive surgery) to the disease burden in the catchment. The baseline presented in this section serves as the pre-construction reference point against which project impacts on community health will be monitored and evaluated during construction and operational phases, as established in the Monitoring Plan (Annex B).

7. RISK/IMPACT ASSESSMENT

This Chapter presents the environmental and social impact assessment for the project. It begins with the assessment methodology, then characterizes construction-phase impacts across nine impact pathways (excluding heritage per AIIB direction), summarizes operational-phase impacts, and concludes with the cumulative impact assessment that AIIB ESS1 requires.

7.1. Assessment Methodology

The risk and impact assessment within this document utilizes a structured qualitative descriptive approach. It relies on clearly defined operational criteria to evaluate impact magnitude and receptor sensitivity. To achieve high analytical accuracy and meet international safeguard expectations, the framework thoroughly incorporates specific risk criteria alongside detailed receptor vulnerabilities. By avoiding subjective numerical scoring, the assessment maintains transparency and consistency throughout the environmental review. The final significance of impact is determined using an interaction matrix that cross-references impact magnitude with receptor sensitivity, aligning with international best practices (2024 AIIB ESF; 202 IFC PS 6; and GIIP).

7.1.1. Impact Characterization Parameters

Each risk and potential impact is analyzed comprehensively using four criteria to determine its descriptive classification:

1. Nature & Duration
   Measures the timeframe over which the impact persists. It is divided into Very Short-term (days/weeks), Short-term/Temporary (construction phase), Medium-term (a few years), Long-term (throughout the operational lifespan), and Permanent (irreversible/cannot recover).
2. Impact Likelihood
   Assesses the probability of the impact materializing under normal conditions, classified from Rare (highly unlikely to occur under normal conditions), Unlikely (could occur occasionally but not expected), Possible (may occur under certain operational conditions), Likely (expected to occur regularly during project activities), to Almost Certain (expected to occur frequently or continuously).
3. Impact Scope
   Evaluates the pathway interaction of the impact, whether it is a Direct impact on physical environmental components, or an Indirect impact acting as a secondary chain effect on socio-economic aspects or community health.
4. Spatial Scale
   Determines the physical boundaries of the impact spread, ranging from Site-Specific, Immediate Local, Local Area (surrounding villages/sub-districts), Regional Scale (district/watershed level), to National/Transboundary.

7.1.2. Classification of risks and Impacts Magnitude

Impact magnitude is commonly determined by combining four impact criteria (Section 7.2), including the nature and duration of risks and impacts, impact likelihood, impact scope, and spatial scale.

The 'Nature & Duration of Risks/Impacts' parameter assesses the inherent characteristics of an environmental or social impact and determines its duration, ranging from very short-term and fully reversible (1) to permanent and irreversible (5).

Table 7.1. The scoring, description, and typical characteristics for Nature & Duration of Risks/Impact

Score	Description	Typical Characteristics
1.	Very Short-Term / Fully Reversible	Impact lasts days to weeks with rapid recovery and no lasting change.
2.	Short-Term / Reversible	Impact lasts weeks to months and recovery occurs naturally within a short period.
3.	Medium-Term / Partially Reversible	Impact persists for months to several years with moderate recovery effort required.
4.	Long-Term / Difficult to Reverse	Impact continues for several years and significantly alters environmental or social conditions.
5.	Permanent / Irreversible	Impact causes permanent change or irreversible loss of environmental/social function.

Risk/Impact Likelihood is the probability that a predicted environmental or social impact will occur as a result of project activities, ranging from rare (1) to almost certain (5).

Table 7.2. The scoring, description and Probability Interpretation for Risks/Impacts Likelihood

Score	Description	Probability Interpretation
1	Rare	Highly unlikely to occur under normal conditions.
2	Unlikely	Could occur occasionally but not expected.
3	Possible	May occur under certain operational conditions.
4	Likely	Expected to occur regularly during project activities.
5	Almost Certain	Expected to occur frequently or continuously.

Risk/impact Scope refers to the extent or breadth of receptors affected by a project-related impact, ranging from very limited (1) to widespread (5).

Table 7.3. The scoring, description and Extends for Scope

Score	Description	Geographic Extent
1	Very Limited	Affects isolated individuals or a very small area.
2	Limited	Affects a small group or localized habitat.
3	Moderate	Affects several communities, habitats, or receptor groups.
4	Extensive	Affects large populations or multiple ecosystems.
5	Widespread	Affects regional-scale receptors or extensive populations/ecosystems.

Spatial Scale refers to the geographical extent or physical area over which an environmental or social impact occurs, ranging from site-specific (1) to national/transboundary (5).

Table 7.4. The scoring, description and Geographic Extent for Spatial Scale

Score	Description	Geographic Extent
1	Site-Specific	Restricted entirely within project footprint.
2	Immediate Local Area	Limited to adjacent project surroundings.
3	Local Area	Affecting nearby villages, waterways, or ecosystems.
4	Regional Scale	Affecting districts, watersheds, or multiple administrative areas.
5	National / Transboundary	Affecting national-scale systems or crossing international boundaries.

Impact characterization parameters are classified into five distinct tiers of Impact Magnitude (Table 7.5).

Table 7.5. Risk/Impact Magnitude Category

Risk/Impact Magnitude Category	Descriptive Criteria Definition
Negligible (4-6)	The change to baseline conditions is imperceptible, occurs within a highly restricted area, features a very brief duration, and has no measurable consequence on ecological functions or social livelihoods.
Low (7-9)	The impact is small in scale, site-specific, short-term (temporary) in duration, and fully capable of natural recovery (reversible) without active human intervention.
Medium (10-13)	The impact is moderate in nature, has a medium to long-term duration, extends beyond the project boundary (off-site), or affects multiple receptors simultaneously but remains within the environmental assimilation capacity.
High (14-17)	The impact is severe, extensive across a regional scale (extensive off-site), long-term in duration, difficult to reverse, and introduces distinct, visible changes to the baseline environment.
Very High (18-20)	The impact is extreme and widespread, permanent and irreversible in nature, completely disrupts essential ecological functions, or causes massive, severe socio-economic disruptions.

7.1.3. Classification of Receptor Sensitivity

This section establishes the criteria for evaluating the vulnerability and value of the receiving environment or community within the study area. As detailed in **Table 7.6**, receptor sensitivity is classified into five tiers based on baseline ecological importance, social resilience, and the extent of environmental modification. These operational definitions provide a standardized framework to ensure objectivity and consistency during subsequent cross-referencing of the impact signifi - referencing.

Table 7.6. Receptor Sensitivity Category

Description	Typical Receptor Characteristics
Very Low	Disturbed or highly modified environment with low ecological/social value.
Low	Common habitats or populations with high resilience.
Moderate	Productive ecosystems or stable communities with moderate vulnerability.
High	Protected areas, vulnerable livelihoods, or sensitive social receptors.
Critical	Critical habitat, endangered species, Indigenous Peoples, or world heritage areas.

7.1.4. Impact Significance Interaction Matrix

Risk and Impact Significance is the overall importance, criticality, or acceptability of an environmental or social impact once the combined effect of impact magnitude and receptor characteristics has been considered. The ESIA-ESMP considers the significance to be typically derived by integrating the assessed **risk and impact magnitude** (which reflects the intensity, duration, extent, and likelihood of the impact) **with the sensitivity, vulnerability**, or value of the affected receptor. This approach provides a structured basis for distinguishing **negligible** or **minor** impacts from **moderate**, **major**, or **unacceptable** impacts, and thereby guides decision-makers in prioritizing which risks require avoidance, robust mitigation, compensation, or enhanced monitoring measures within the ESMP.

Table 7.7. Impact Significance Interaction Matrix

Impact Magnitude	VERY LOW	LOW	MODERATE	HIGH	CRITICAL
NEGLIGIBLE	Negligible	Low	Low	Moderate	Moderate
MINOR	Low	Low	Moderate	Moderate	High
MEDIUM	Low	Moderate	Moderate	High	High
HIGH	Moderate	Moderate	High	High	Critical
VERY HIGH	Moderate	High	High	Critical	Critical

Environmental & Social Management Plan (ESMP) Implications:

- **Negligible Impact**: This minor tier requires **no specific mitigation** or monitoring, and routine daily logs are sufficient for documentation purposes.
- **Low Impact**: These impacts are **managed through standard good engineering practices** and do not require dedicated environmental budget lines.
- Moderate Impact: This level requires specific, localized, and measurable mitigations detailed within the ESMP to actively prevent risk escalation.
- High Impact: Considered a key environmental and social issue, this tier demands a commitment to best available technology, routine independent laboratory testing, and close regulatory oversight.
- **Critical Impact**: As the highest risk tier, this impact **could trigger project suspension or international compliance breaches**. Technical engineering avoidance, corridor rerouting, or comprehensive macro-level biodiversity and social offsets are strictly mandatory.

7.1.5. Cummulative Impact Assessment

In accordance with Good International Industry Practice (GIIP), cumulative impact assessment evaluates whether Project-related impacts, when combined with impacts from other existing, planned, or reasonably foreseeable activities, may result in effects that are greater than those arising from the Project alone. The assessment focuses on shared environmental and social receptors that may be affected by multiple activities occurring within the same area over time and considers the priority Valued Environmental and Social Components (VECs) identified for the Project.

Transboundary impacts refer to impacts that extend beyond administrative boundaries or affect downstream or interconnected environmental and social receptors outside the immediate Project area. Given the urban redevelopment nature and localized footprint of the Project, significant transboundary impacts are not anticipated.

The cumulative impact assessment has been undertaken in accordance with AIIB Environmental and Social Standard 1 (ESS1), IFC Performance Standard 1, and the IFC Good Practice Handbook on Cumulative Impact Assessment and Management (2013). The assessment considers cumulative interactions within the Project Area of Influence (AOI), including the Fatmawati Hospital complex, surrounding residential and commercial areas, local and arterial road networks, municipal drainage infrastructure, utility networks, and public services that may be affected by Project activities and broader urban development.

The assessment focuses on the priority VECs identified in Section 4.12 and considers the potential interaction of Project impacts with existing and reasonably foreseeable activities within the AOI, including ongoing hospital operations, urban development, transportation growth, municipal infrastructure works, and population growth within South Jakarta. Given the urban setting, Project scale, and available planning information, the cumulative impact assessment is qualitative and proportional to the nature and significance of potential cumulative interactions.

The cumulative impact assessment comprises the following steps:

- identification of priority VECs that may be affected by cumulative effects;
- identification of existing and reasonably foreseeable activities within the AOI that may affect the same receptors;
- assessment of potential spatial and temporal overlap between Project impacts and other activities; and
- evaluation of the resulting cumulative impacts and the effectiveness of existing mitigation and management measures.

7.2. Pre-Construction Phase Impact Assessment

7.2.1. Asbestos Containing Material

Demolition of existing hospital buildings, comprising the confirmed structures of Griya Husada (5,629.0 m²), MM Juice or Ex-BPJS Building (197 m²), the Outpatient Installation building (IRJ/Anyelir, 6,246.0 m²), Building Azalea (3,035.0m²), Amarilis Building (392.0 m²), pharmacy (1,728.0 m²), Genset House (48.0 m²), Pump House (24.8 m²) and Mosque (76 m²)subject to final confirmation during the Detailed Engineering Design stage, may disturb asbestos-containing materials (ACM) if such materials are present within flooring materials, insulation, ceiling panels, piping, and roofing.

In accordance with AIIB guidance confirmed during the AIIB safeguards review meeting in May 2026, laboratory testing is not required at this stage. The required approach comprises a pre-demolition visual inspection of building components, supported by a review of construction history and maintenance records. Based on these findings, an Asbestos Management Plan (AMP) shall be prepared and incorporated into the Construction-phase Environmental and Social Management Plan (C-ESMP) before any demolition activities commence.

The asbestos screening conducted in June 2026 (see Section 4.3.8) indicates that three buildings proposed for demolition for the construction of Tower and Podium 1A-JKN and the utility building may contain asbestos-containing materials: Azalea, IRJ, and Wijaya Kusuma/Amarilis Building. Meanwhile, the buildings proposed for demolition for Tower and Podium 1B were found to be free of asbestos-containing material, or non-ACM; see Error! Reference source not found..

Where ACM is identified through visual inspection, laboratory analysis, or discovered as a chance-find during demolition activities, the affected area shall be immediately isolated and all work within a minimum 10-metre radius suspended pending assessment by the designated ACM-qualified officer. If ACM is improperly disturbed during demolition, cutting, crushing, or debris-handling activities, asbestos fibres may be released into the air, creating occupational health risks for workers and localised exposure risks within the construction area. Given the proximity of active clinical facilities including the Cancer Centre, ICU/NICU, and operating theatres, effective ACM management is a critical safeguard during the demolition phase.

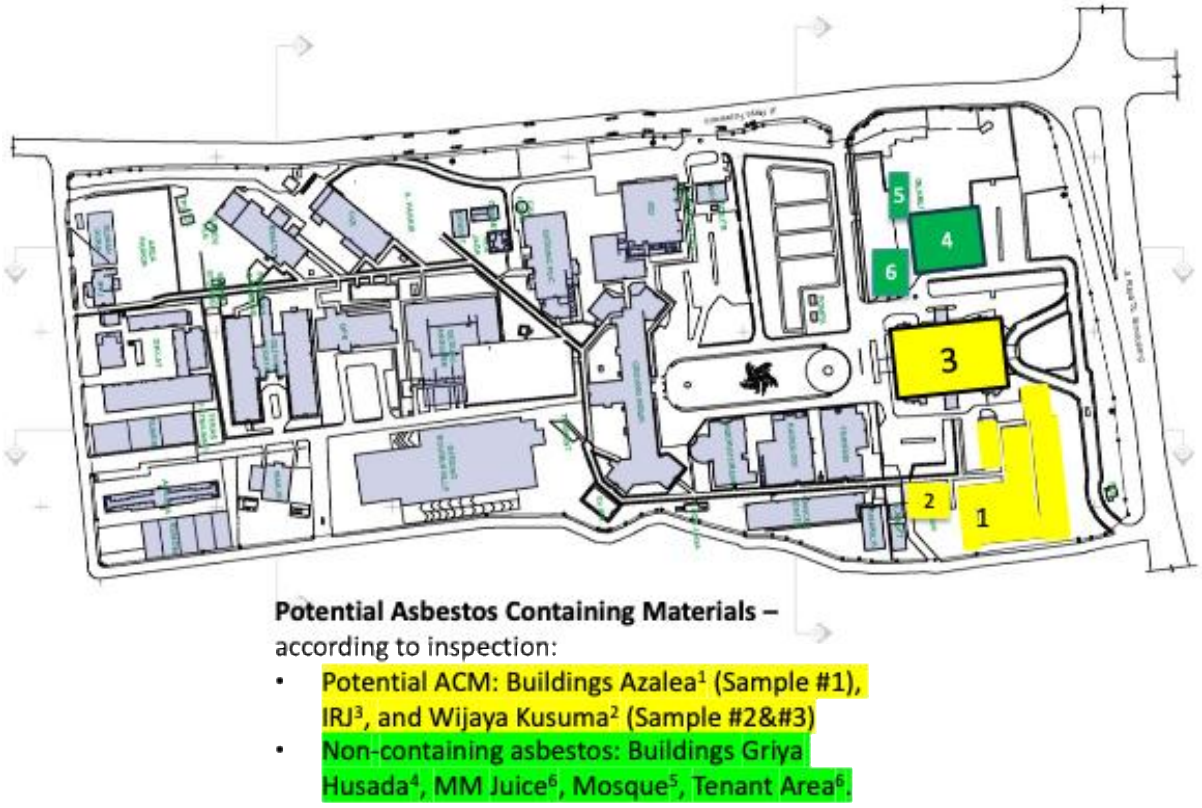


Figure 7-1. Result of Asbestos-containing Material (ACM) Inspection

Principal mitigation measures are set out in the project AMP and include pre-demolition visual inspection of all structures scheduled for demolition, covering flooring, ceiling panels, pipe insulation, roofing materials, and wall linings; review of building construction records and maintenance history; identification and restricted-access control of suspected ACM work areas; controlled removal procedures using wet suppression methods to prevent fibre release; prohibition of high-dust-generating demolition techniques in any area where ACM is suspected or confirmed; mandatory use of appropriate PPE including full-face respirator with P100 filter and disposable coverall Type 5/6 for all workers in ACM-suspect areas; worker decontamination procedures; segregation and secure

temporary storage of ACM waste in sealed, labelled containers; and transport and disposal through licensed B3 hazardous-waste management facilities in accordance with applicable Indonesian regulations, GIIP requirements, and the AMP. With implementation of these controls, asbestos-related impacts are expected to remain localised and manageable.

7.2.2. Demolition

The pre-construction phase will commence with the demolition of existing buildings and supporting structures identified for replacement or redevelopment as part of the Fatmawati Hospital redevelopment project. Demolition buildings include Griya Husada (5,629.0 m²), MM Juice or Ex-BPJS Building (197 m²), the Outpatient Installation building (IRJ/Anyelir, 6,246.0 m²), Building Azalea (3,035.0m²), Amarilis Building (392.0 m²), pharmacy (1,728.0 m²), Genset House (48.0 m²), Pump House (24.8 m²) and Mosque (76 m²). These demolition activities may include dismantling obsolete hospital facilities, removing internal fixtures, disconnecting utilities, and clearing the site.

Environmental Impact of Demolition. Potential environmental impacts include dust generation, release of ACM, elevated noise and vibration levels, increased construction waste, and temporary deterioration of local air quality. If not properly managed, demolition debris may create visual impacts and increase the risk of soil contamination from accidental spills of fuels, lubricants, or hazardous building materials. Existing buildings may also contain hazardous materials such as asbestos-containing materials (ACM), lead-based paint, fluorescent lamps, or chemical residues that require specialized handling and disposal by licensed contractors.

Taken into account the ACM inspection results (see Section 7.2.1), particulate and noise generation as well as the potential sensitive receptors, the inherent impact significance is **High** without any mitigation measures. The high significance impact can be reduced to **Minor** once the AMP (see Annex J) is implemented effectively and consistently. Accordingly, confirmatory laboratory testing (XRD phase matching and/or PLM/TEM) prior to demolition or removal of suspect materials is mandatory.

Social Impact of Demolition. From a social perspective, demolition activities may temporarily disrupt access to certain areas within the hospital premises and increase safety risks for patients, visitors, healthcare workers, contractors, and nearby communities due to the movement of heavy equipment. Temporary disturbances from noise, vibration, dust, and construction of traffic may also affect sensitive receptors within and around the hospital, particularly inpatient wards, emergency services, intensive care units, and neighboring residential areas.

Importantly, demolition activities will be carried out in parallel with the continued operation of hospital services and are not expected to result in the cessation or significant interruption of healthcare services. Prior to demolition, the relevant healthcare services and supporting functions will have been relocated and operationalized in designated temporary relocation areas, with appropriate arrangements to maintain continuity of patient care and essential hospital services. Similarly, economic activities operated by individual tenants will have been relocated prior to the commencement of demolition activities, thereby minimizing potential disruption to their business operations and livelihoods.

With the implementation of appropriate demolition management procedures, hazardous material management plans, dust suppression measures, traffic and access management, clear segregation of demolition areas from operational hospital facilities, and occupational and community health and

safety protocols, the residual social impacts are expected to be moderate, localized, temporary, and manageable.

7.2.3. Preparation of the Relocated Area

Prior to relocating affected hospital functions, the designated relocation areas will require preparation to ensure continuity of healthcare services throughout the renovation period. Activities may include refurbishment of existing buildings, installation of temporary modular facilities, upgrading utilities, provision of medical equipment, and establishment of temporary access roads and supporting infrastructure.

Environmental impacts during this stage are expected to be relatively limited and mainly associated with minor construction activities, including temporary increases in dust, noise, solid waste generation, and construction-related traffic. Small quantities of construction materials and equipment will be transported to the preparation sites, potentially causing localized traffic congestion within the hospital compound.

The primary social consideration during this phase is maintaining uninterrupted healthcare services. Temporary relocation of medical departments may create confusion among patients and visitors if adequate information and directional signage are not provided. Hospital staff may also require temporary adjustments to operational procedures, workspaces, and internal coordination. Inadequate preparation of relocated facilities could reduce service efficiency and patient comfort during the transition period.

Through careful planning, phased implementation, stakeholder communication, and early preparation of replacement facilities before relocation, these impacts can be effectively minimized. Consequently, the residual environmental and social impacts are expected to be **minor**, temporary, and reversible.

7.2.4. Relocation of Hospital Service

The construction of the Multibuilding Plan will require the demolition of several existing facilities, including Griya Husada Building, Ex-BPJS Building, the General Outpatient Clinic (IRJ), Azalea Building, Amarilis Building, Pharmacy, the Genset House, Pump House, and Mosque. These facilities currently support a broad range of clinical and administrative functions, encompassing outpatient care, medical rehabilitation, child development services, mental health clinics, vaccination services, HIV counselling and testing (VCT), and general hospital support operations. To maintain continuity of care, the Hospital has planned for the temporary transfer of affected departments, medical equipment, administrative functions, healthcare personnel, and associated support services to designated temporary facilities within Gedung Induk (see **Figure 7-2)**. Prior to Phase I demolition activities, services from the Buildings Azalea, Pharmacy, IRJ, and Griya Husada will be relocated to the Gedung Induk/R. Soehasim Building, with the full phased sequencing and service relocation plan presented in Table 2.2.

Gedung Induk/R. Soehasim built in 1954 indicates potential heritage building. The Hospital currently submits a confirmation request to Tourism and Cultural Agency of South Jakarta, and Ministry of Cultural Affairs to obtain clearance on this building status. While this process is underway, several precautionary approaches are implemented, including:

- No demolition, structural alteration, or façade modification of Gedung Induk/R. Soehasim will be undertaken at any phase. Written confirmation of the building's status from the South

Jakarta Tourism and Culture Agency and, where applicable, the Ministry of Culture, will serve as the basis for its preservation. Accordingly, the building is to be treated provisionally as a presumed cultural heritage object (Objek Diduga Cagar Budaya), in line with Law No. 11/2010 on Cultural Heritage, under which structures aged 50 years or more meet the age criterion for heritage designation.

- Baseline documentation of the building is being prepared prior to any adjacent construction activity, comprising photographic records of exterior and interior conditions, measured drawings or as-built documentation where available, and a dated condition survey noting existing cracks, settlement, or deterioration. This record serves both heritage documentation and as a pre-construction condition baseline for dilapidation monitoring.
- A chance find procedure is incorporated into the CESMP, covering both the possibility that other structures or artifacts of cultural significance are encountered during works, and defined steps (stop work in the affected area, notify the PIU and the relevant cultural agency, secure the find) with clear responsibility assignment to the contractor's site manager.
- Design contingency planning. The detailed engineering design retains flexibility such that, should the building be confirmed as cultural heritage or suspected cultural heritage, the site layout can accommodate its preservation in situ without material change to the Project's functional program.
- Consultation and disclosure. The status confirmation process and any resulting management measures will be communicated to hospital management, staff representatives, and relevant stakeholders through the Project's stakeholder engagement process, and the outcome will be reported to AIIB. Any future works affecting the building, if permitted, will follow the requirements of Law No. 11/2010, including permits from the competent cultural heritage authority.



Figure 7-2. Gedung Induk/Soehasim

Further, a key social impact during this phase relates to the continuity and accessibility of healthcare services. The initial period of temporary relocation may result in altered patient circulation patterns, increased travel distances between departments, temporary reductions in operational efficiency, and potential confusion — particularly among elderly patients, persons with disabilities, and emergency cases. Coordination among medical personnel may also require adjustment as departments become temporarily dispersed across the facility. Relocation activities may additionally generate short-term traffic congestion within the hospital campus due to the movement of medical equipment, logistics vehicles, and staff, while the transfer of sensitive medical equipment will require careful handling protocols to prevent operational disruptions and safeguard patient safety. Beyond operational impacts, temporary relocation may also create psychosocial stress among hospital staff adapting to unfamiliar working environments, potentially affecting performance and morale during the transition period.

Environmental impacts associated with the relocation phase are expected to be limited in scope and duration, consisting mainly of transportation-related emissions, increased domestic waste, minor packaging and material waste, and temporary increases in vehicle movements within the project area.

Provided that the relocation process is implemented in phases, supported by comprehensive operational planning, clear communication with patients and staff, appropriate wayfinding systems, emergency response arrangements, and uninterrupted operation of critical healthcare services, the residual impacts are expected to be **minor**, temporary, and manageable.

7.2.5. Livelihood Impact of Relocated Tenant

The development of Buildings 1A-JKN, B-Podium, and C1B will require the termination, non-renewal, or transition of existing tenancy arrangements and the physical relocation of commercial and service tenants currently operating within RSUP Fatmawati. A total of 24 tenants has been identified as potentially affected by the Project. Of these, 23 tenants are expected to experience termination or non-renewal of their existing tenancy arrangements, while one tenant, PT Lancar Wiguna Sejahtera (Lawson Mini Market), is expected to transition to an alternative location within the hospital complex, namely the former Kantin Dharma Wanita area.

Among the affected tenants, six are individual entrepreneurs (natural persons) whose businesses constitute their primary or only source of income. The potential livelihood impacts therefore extend beyond the physical relocation of business premises and may include temporary business interruption, reduced customer access, changes in customer flows, additional relocation and re-establishment costs, and potential short-term reductions in business income. Particular attention is therefore required for tenants whose businesses represent their principal or sole source of household income.

The Project also recognizes that economic displacement may indirectly affect workers employed by the affected tenants, including potential temporary changes in working hours, income, employment continuity, or working arrangements during the relocation process. Accordingly, the assessment and mitigation measures consider not only the business operators but also, where relevant, workers who may be indirectly affected by changes in tenant operations.

The removal or temporary relocation of food and beverage outlets, convenience retail, financial services, photocopy services, vending facilities, and other supporting services may also affect patients, visitors, caregivers, and hospital staff. Such impacts may be particularly relevant to families of long-stay inpatients who rely on conveniently accessible food and other services within the hospital premises. These impacts are expected to be temporary and manageable through appropriate relocation planning and the continued provision of essential services within the hospital complex.

Based on the consultation survey, all 24 affected tenants (100%) expressed support for the proposed hospital facility development. This indicates broad support for the overall Project. However, support for the overall hospital development should not necessarily be interpreted as full acceptance of all aspects of the proposed relocation arrangements, including the location, timing, operating conditions, or potential business impacts associated with relocation.

Based on the survey results, all 24 tenants (100%) expressed their support for the proposed hospital facility development. This is illustrated in the figure below.

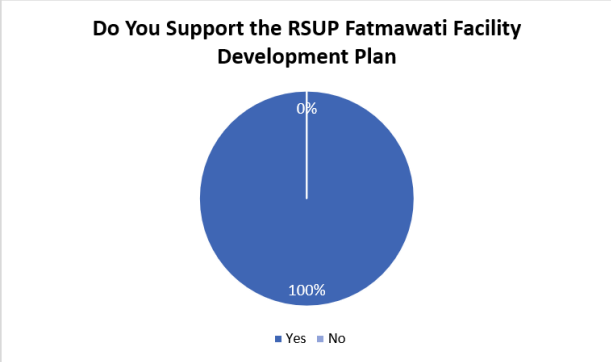


Figure 7-3. Perception of support the RSUP Fatmawati Facility Development Plan

With respect to the proposed temporary relocation, 15 tenants responded to the specific question regarding their willingness to relocate. Of these, 9 tenants (60.0%) expressed their willingness to accept the designated relocation arrangements, while 5 tenants (33.3%) indicated that they were willing to relocate subject to certain conditions, and 1 tenant (6.7%) did not agree with the proposed relocation arrangement. The results indicate that while the majority of respondents are generally willing to relocate, a significant proportion have specific conditions or concerns that should be addressed through continued consultation and coordination.

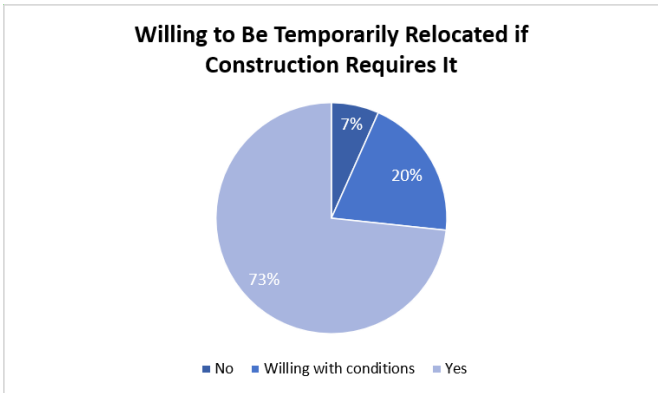


Figure 7-4. Willing to Be Temporarily Relocated

To maintain business continuity during implementation of the Fatmawati Hospital Redevelopment Project, affected commercial and service tenants located within the demolition footprint will be temporarily relocated to alternative locations within the hospital complex, where feasible. The relocation strategy has been developed to minimize economic disruption, maintain reasonable access to customers, and ensure the continued provision of services to patients, visitors, caregivers, and hospital staff throughout the construction period.Where feasible, temporary relocation activities will be completed and the relocated premises will be operational before demolition activities commence within the affected areas. This sequencing is intended to minimize business downtime and avoid unnecessary interruption to tenant operations. The relocation process will be coordinated with each affected tenant to facilitate an orderly transition and ensure that the necessary basic infrastructure, utilities, access, signage, and operational requirements are in place prior to commencement of demolition.

The proposed temporary relocation areas include the Basement of Gedung Anggrek, the area adjacent to the Hospital Mosque (Masjid Area), and designated spaces on Level 1 of Gedung Teratai. These locations have been selected based on their accessibility, proximity to major pedestrian circulation routes, availability of supporting infrastructure, and suitability for the operational requirements of different tenant categories.

The relocation approach is consistent with the Project's commitment to managing temporary economic displacement and minimizing adverse livelihood impacts during construction. Economic displacement associated with tenant relocation has therefore been identified as a relevant social impact within the ESIA process. The Project will seek to maintain the continuity of affected businesses to the extent practicable and minimize the duration and magnitude of any disruption to business operations and income.

The relocation program will prioritize maintaining operational continuity for food and beverage services, convenience retail, banking facilities, vending services, photocopy services, medical delivery services, and other supporting public services regularly used by hospital patients, visitors, caregivers, and staff. Relocation activities will be undertaken in close coordination with affected tenants to minimize downtime and facilitate a smooth transition to temporary operating locations.

Potential impacts associated with relocation may include temporary loss or reduction of business income, changes in customer accessibility and pedestrian flows, additional costs associated with moving and re-establishing business operations, changes in operating conditions, and temporary disruption to employees. These potential impacts will be considered in the implementation of the tenant relocation program.

Where applicable, appropriate relocation, transition, and/or re-establishment assistance will be considered in accordance with the applicable contractual arrangements, Project policies, and relevant requirements. Such assistance may include support related to physical relocation, re-establishment of business operations, coordination of utilities and access, and other reasonable measures necessary to facilitate the resumption of business activities. Particular attention will be given to tenants that may experience significant income disruption and to individual entrepreneurs whose businesses constitute their primary or only source of income.

Based on the tenant relocation inventory, the affected businesses comprise food and beverage outlets, vending machines, minimarkets, ATM facilities, photocopy services, medical delivery services, and other supporting commercial and service activities. The total area requiring temporary relocation is approximately 673.11 m^2, excluding circulation areas and supporting infrastructure.

The Project will maintain an accessible grievance mechanism through which affected tenants and, where relevant, their workers may raise concerns regarding the relocation process, relocation locations, timing, access, business interruption, income impacts, operating conditions, utilities, signage, customer accessibility, or other livelihood-related concerns. Grievances will be documented, assessed, and addressed in a timely manner through coordination with the relevant hospital management and Project representatives.

The effectiveness of the tenant relocation measures will also be monitored throughout the construction period. Monitoring will include the continuity of tenant operations, reported business disruption or downtime, accessibility of relocated premises, operational conditions, tenant concerns and grievances, and any significant livelihood impacts identified during implementation. Where monitoring identifies material or unanticipated livelihood impacts, additional corrective or mitigation measures will be considered in consultation with the affected tenants.

Overall, the proposed tenant relocation program is expected to minimize rather than eliminate economic displacement impacts. With advance consultation, adequate preparation of relocation premises, relocation prior to demolition, continued access to customers, appropriate transition and re-establishment measures, an accessible grievance mechanism, and ongoing monitoring, the residual

livelihood impacts on affected tenants are expected to be moderate, localized, temporary, and manageable.

Relocation Strategy

The proposed relocation strategy adopts a phased and coordinated approach to maintain business continuity, minimize economic disruption, and reduce potential livelihood impacts on affected tenants during the implementation of the RSUP Fatmawati Redevelopment Project. The strategy will be implemented in coordination with affected tenants and will be sequenced to ensure that alternative premises are adequately prepared and operational before demolition activities commence within the affected areas.

Affected tenants will be grouped and allocated to suitable relocation locations based on business type, space requirements, utility and infrastructure needs, customer access and dependency, storage requirements, operating hours, pedestrian circulation, health and safety considerations, and other operational characteristics. The allocation will also take into consideration the potential impacts of relocation on business income and the need to maintain reasonable visibility and accessibility to existing customers.

The proposed relocation areas comprise the Basement of Gedung Anggrek, the area adjacent to the Hospital Mosque (Masjid Area), and designated spaces on Level 1 of Gedung Teratai. The indicative allocation of tenant categories is as follows:

- Basement of Gedung Anggrek: Large food and beverage outlets, minimarkets, and other businesses requiring relatively larger floor areas, utility connections, storage facilities, food preparation areas, customer seating, or other supporting infrastructure will be prioritized for this location. The allocation will consider ventilation, water supply, electricity, waste management, fire safety, and access requirements appropriate to the nature of the businesses.
- Masjid Area: Smaller kiosks, semi-permanent booths, vending machines, and other small-scale commercial activities will be considered for relocation to areas adjacent to the Hospital Mosque, subject to available space and hospital operational requirements. The location is expected to provide relatively high pedestrian exposure due to the movement of hospital staff, patients, visitors, and caregivers. Appropriate arrangements will be made to maintain safe pedestrian circulation and avoid obstruction of access to the mosque and surrounding hospital facilities.
- Gedung Teratai Level 1: Banking and ATM-related services, photocopy facilities, medical delivery services, and other services that require convenient access for patients, visitors, and hospital personnel may be relocated to designated spaces on Level 1 of Gedung Teratai. The allocation will consider accessibility, operating hours, security, customer waiting requirements, and connectivity with the main circulation routes of the hospital.The relocation process will be implemented through advance consultation and coordination with each affected tenant. Prior to relocation, tenants will be informed of the proposed relocation location, schedule, duration, operating conditions, access arrangements, utility availability, and any applicable requirements for adapting or re-establishing their business operations. Tenant-specific operational requirements and reasonable concerns will be reviewed and incorporated into the relocation planning where practicable.

To minimize business interruption, the Project will seek to ensure that relocated premises are ready for occupation and basic services are functioning before tenants are required to vacate their existing premises. Where practicable, tenants will be provided with sufficient time to move equipment, stock, furniture, and other business assets to the temporary premises. The relocation schedule will also be coordinated with the demolition schedule to minimize downtime and avoid unnecessary interruption to business operations.

The relocation strategy will seek to maintain customer accessibility and visibility as far as reasonably practicable. Appropriate signage, directional information, pedestrian access, and wayfinding will be provided to inform patients, visitors, caregivers, and hospital staff of the new locations of relocated services. Particular attention will be given to essential services such as food and beverage outlets, minimarkets, banking/ATM services, and other services regularly required by hospital users.

The Project will also consider the specific operational and livelihood needs of individual entrepreneurs and other tenants that may be more vulnerable to income disruption. Where a tenant has particular requirements related to business size, equipment, storage, utilities, operating hours, customer access, or other factors that could materially affect business continuity, these requirements will be assessed during the relocation planning process.

The relocation strategy will include appropriate arrangements for utilities, waste management, occupational and public health and safety, fire safety, security, loading and unloading, and access for persons with disabilities, as applicable to each relocation location. The design and operation of temporary tenant areas will be coordinated with hospital management to ensure that commercial activities do not interfere with critical hospital functions, emergency access, patient movement, infection prevention and control requirements, or other hospital safety protocols.

The Project will maintain an accessible grievance mechanism throughout the relocation process. Affected tenants will be able to raise concerns regarding relocation of locations, timing, access, business interruption, utilities, customer flows, operating conditions, or other livelihood-related matters. Grievances will be documented and addressed through timely consultation and coordination with the relevant hospital and Project representatives.

The implementation of the relocation strategy will be monitored throughout the construction period. Monitoring will focus on the readiness and functionality of relocation premises, continuity of tenant operations, business downtime, accessibility and customer flow, reported livelihood or income impacts, outstanding grievances, and any unforeseen issues arising during the transition. Where significant or unanticipated impacts are identified, appropriate corrective measures will be considered in consultation with the affected tenants.

Overall, the proposed phased relocation strategy is intended to enable continued operation of affected businesses while supporting the uninterrupted provision of essential services to hospital users. By completing relocation preparations before demolition, maintaining customer accessibility, providing appropriate transition support, and monitoring business continuity throughout construction, the Project will seek to minimize temporary economic displacement and livelihood impacts on affected tenants.

The proposed allocation may be adjusted during detailed relocation planning depending on operational requirements, fire safety considerations, circulation needs, utility availability, and tenant preferences.

Table 7.8. Proposed Relocation Plan

No	Category/Tenant	Existing Location	Existing size (m^2)	Temporary Relocation Location	Permanent Relocation Location	Relocation Type / Size	Size (m^2)
1	Cooperative Mini Market Satellite	IRJ Floor 1	10.4	Under the 1st floor of the Lotus Building	Under the 1st floor of the Lotus Building	empty land 6 × 4	24
2	Pukis	Beside GH Building 3		In front of the Nutrition Parking Lot	IRJ Waiting Room After Relocation (Orchid Field)	empty land 3 × 12	36
3	Dim Sum	Beside GH Building 4					
4	PHD	Beside GH Building 8					
5	Juice	Beside GH Building 5,6					
6	Kebab	Beside GH Building 4					
7	Vania's Shop	Beside GH Building 6					
8	Lawson	IRJ Floor 1	90	former Indomaret (in front of BRI)	former Indomaret (in front of BRI)	permanent 11 × 7	77
9	Midi Fresh Mini Market	Beside GH Building 101		former Dharma Wanita Canteen	former Dharma Wanita Canteen	permanent	72
10	Promise of the Soul	Beside IRJ Building 24		Security post behind the laboratory Bougainvillea building		semi-permanent 19.5 × 4	78
11	Roti O	Beside IRJ Building 25					
12	Hi Cup	Beside IRJ Building 15	6				
13	mm Juice	Beside GH Building 85		Former IVPP	Former IVPP	permanent	145
14	Oasis	Beside GH Building 113					

No	Category/Tenant	Existing Location	Existing size (m^2)	Temporary Relocation Location	Permanent Relocation Location	Relocation Type / Size	Size (m^2)
15	Baked Porridge	Beside IRJ Building 40		Ex Fiesta (next to Ex IVPP)	Ex Fiesta (next to Ex IVPP)	permanent	44
16	Photocopy	IRJ Floor 1	4.5		IRJ Waiting Room – New Location Beside the Main Building		
17	BRI ATM	IRJ Floor 1	2				
18a	BTN ATM	IRJ Floor 1	2				
19	Power Bank	IRJ Floor 1	2.25				
20	Mandiri ATM	GH Floor 1	3		GH Waiting Room – New Location (Main Building Lobby)	Main Building 1st Floor	
21	BNI ATM	GH Floor 1	2.7				
18b	BTN ATM	GH Floor 1	2				
22	Power Bank	GH Floor 1	2.25				
23	Vending Machine	IGH Floor 1					
24	Vending Machine	IRJ Floor 1	5				

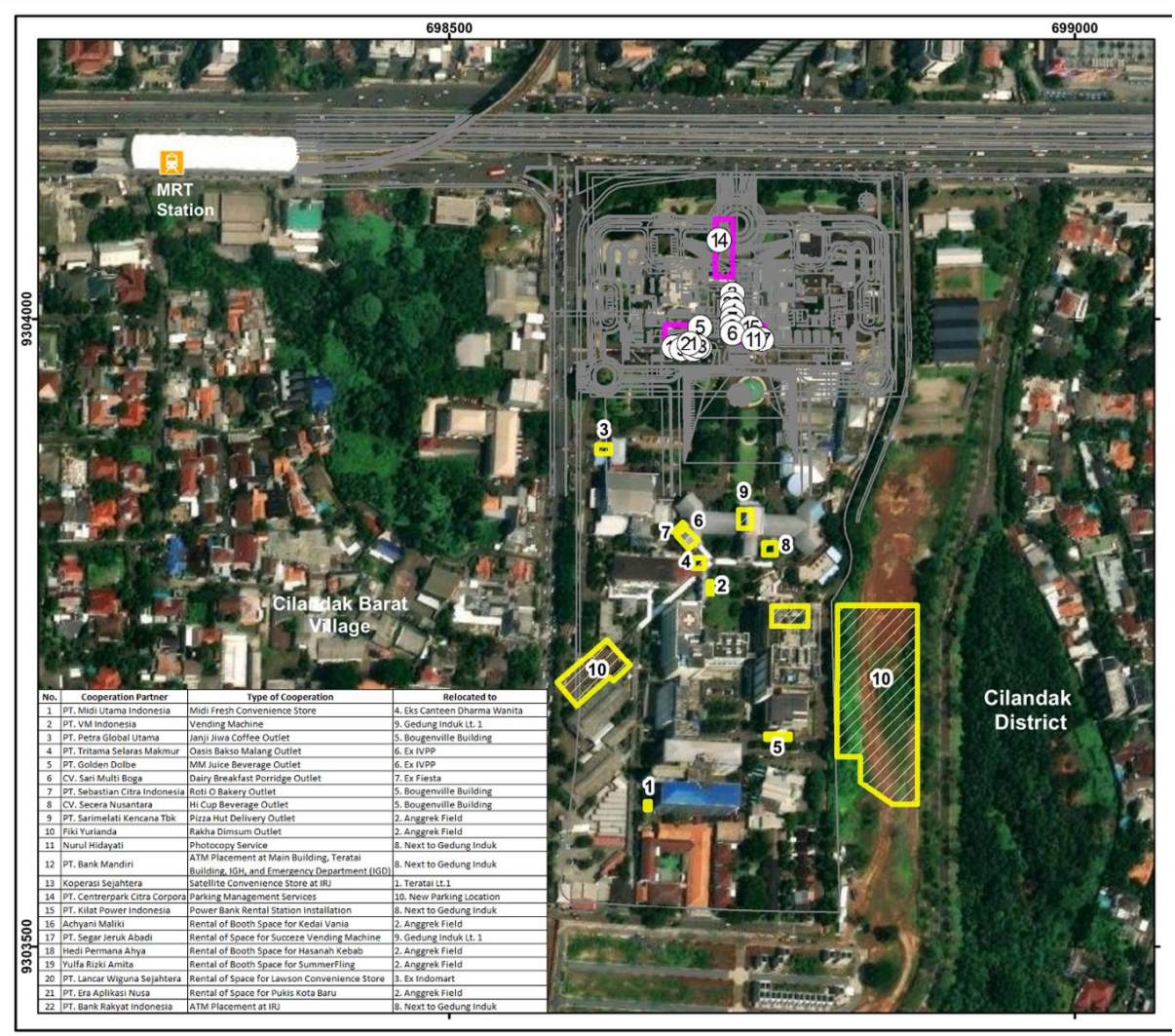
Note: Final space allocation may be refined during detailed relocation of design and consultation with affected tenants.

Table 7.9. Relocation Implementation Action

Activity	Description	Responsibility	Timing
Tenant Consultation	Conduct meetings with affected tenants regarding relocation arrangements	Fatmawati Hospital Management	Prior to relocation
Relocation Notification	Issue formal relocation notices and schedules	Hospital Management	Minimum 45 days prior
Preparation of Relocation Areas	Installation of utilities, signage, safety systems, and wayfinding	Hospital Management	Before tenant move
Physical Relocation	Transfer of equipment, inventory, and furnishings	Tenants with Hospital Support	Relocation period
Operational Assistance	Provision of directional signage and customer information	Hospital Management	Throughout construction

Activity	Description	Responsibility	Timing
Livelihood Monitoring	Monitor business continuity and tenant concerns	Hospital Management	Quarterly
Grievance Management	Address relocation-related complaints and requests	Hospital Management	Throughout construction

Through the implementation of this temporary relocation plan, Fatmawati Hospital aims to ensure that affected tenants can continue operating during the redevelopment period, thereby minimizing temporary economic displacement and protecting the livelihoods of business owners and approximately 68 tenant employees. The relocation plan (Annex I) will be implemented through continued consultation, transparent communication, and ongoing monitoring to ensure that adverse impacts are minimized and business continuity is maintained to the greatest extent practicable.



No.	Cooperation Partner	Type of Cooperation	Relocated to
1	PT. Midi Utama Indonesia	Midi Fresh Convenience Store	4. Eks Canteen Dharma Wanita
2	PT. VM Indonesia	Vending Machine	9. Gedung Induk Lt. 1
3	PT. Petra Global Utama	Janji Jiwa Coffee Outlet	5. Bougenville Building
4	PT. Tritama Selaras Makmur	Oasis Bakso Malang Outlet	6. Ex IVPP
5	PT. Golden Dolbe	MM Juice Beverage Outlet	6. Ex IVPP
6	CV. Sari Multi Boga	Dairy Breakfast Porridge Outlet	7. Ex Fiesta
7	PT. Sebastian Citra Indonesia	Roti O Bakery Outlet	5. Bougenville Building
8	CV. Secera Nusantara	Hi Cup Beverage Outlet	5. Bougenville Building
9	PT. Sarimelati Kencana Tbk	Pizza Hut Delivery Outlet	2. Anggrek Field
10	Fiki Yurianda	Rakha Dimsum Outlet	2. Anggrek Field
11	Nurul Hidayati	Photocopy Service	8. Next to Gedung Induk
12	PT. Bank Mandiri	ATM Placement at Main Building, Teratai Building, IGH, and Emergency Department (IGD)	8. Next to Gedung Induk
13	Koperasi Sejahtera	Satellite Convenience Store at IRJ	1. Teratai Lt.1
14	PT. Centrerpark Citra Corpora	Parking Management Services	10. New Parking Location
15	PT. Kilat Power Indonesia	Power Bank Rental Station Installation	8. Next to Gedung Induk
16	Achyani Maliki	Rental of Booth Space for Kedai Vania	2. Anggrek Field
17	PT. Segar Jeruk Abadi	Rental of Space for Succeze Vending Machine	9. Gedung Induk Lt. 1
18	Hedi Permana Ahya	Rental of Booth Space for Hasanah Kebab	2. Anggrek Field
19	Yulfa Rizki Amita	Rental of Booth Space for SummerFling	2. Anggrek Field
20	PT. Lancar Wiguna Sejahtera	Rental of Space for Lawson Convenience Store	3. Ex Indomart
21	PT. Era Aplikasi Nusa	Rental of Space for Pukis Kota Baru	2. Anggrek Field
22	PT. Bank Rakyat Indonesia	ATM Placement at IRJ	8. Next to Gedung Induk

Figure 7-5. Commercial Tenant Relocation

7.3. Construction Phase Impacts

Construction-phase impacts comprise eight principal pathways, as outlined below. The heritage and archaeological resources pathway is adopted as a precautionary approach. The Cultural Heritage Management Plan will be drafted upon clarification of the status of tangible cultural heritage from the responsible authorities. Each pathway is identified, the receptors are noted, and cross-references to mitigation in Chapter 7 and Annex A (ESMP) are provided. Detailed impact-mitigation pairings are tabulated in Section 7.2.

7.3.1. Air Quality

Construction-phase dust and combustion particulate impacts arise from the full scope of demolition and construction activities across the AIIB-financed and Associated Facility components. The total demolition area across both funding sources amounts to approximately 15,946.0 m², comprising the demolition for AIIB Building (Tower and Podium 1A-JKN, as well as utility building) and Tower & Podium 1B (5,426.8 m^2) as one of associated facilities.

Construction-phase dust and combustion particulate impacts arise from the full scope of demolition and construction activities across the AIIB-financed and associated facility components. The total demolition area across both funding sources is approximately 15,946.0 m², comprising the demolition of the 10,519.2 m² - AIIB Building (Tower and Podium 1A-JKN, as well as the utility building) and Tower & Podium 1B (5,426.8 m²), one of the associated facilities. The concurrent construction of Building 1A-JKN, Podium, Building 1B, and utility building within the same active hospital campus further increases the cumulative dust generation potential from earthworks, basement excavation, frequent vehicle movements for aggregate haulage, concrete batching, loading and unloading of materials, heavy machinery operation, and combustion emissions.

These activities create serious risks for sensitive receptors within and surrounding the active hospital campus, including immunocompromised Cancer Centre patients, paediatric and elderly patients, ICU/NICU/PICU patients, hospital staff, and the surrounding community comprising Cilandak Barat sub-district residents, Cilandak Town Square mall, BBPK Cilandak, the TB Simatupang office corridor, and Stasiun MRT Fatmawati users. Given the extended demolition footprint and the concurrent construction of three buildings, dust-suppression management must be coordinated across the entire construction zone as a single integrated programme. Mitigation measures include wet suppression, wheel-wash at all site exits, covered haulage vehicles, covered material stockpiles, batching plant controls, and continuous real-time PM_{10} and $PM_{2.5}$ monitoring at sensitive receptor locations.

Exhaust gas emissions and fugitive emissions were estimated using the California Emission Estimator Model (CalEEMod) version 2022.1. CalEEMod employs the EMFAC2021 model from the California Air Resources Board to calculate emissions from on-road construction vehicles, and the OFFROAD2017 model for emissions from construction equipment activities (off-road equipment). The estimation of overlapping pre-construction and construction activity timelines utilized the default mode, assuming a seven (7) working-day schedule from January 1, 2027, to December 30, 2029. The inputs used in CalEEMod are described as follows:

- The Commercial general land use category, with the Hospital subtype, was applied as the designated land use, covering a total area of .0 m² (Pre-Construction) and 17,129 m² (Construction).

- Pre-Construction for the Fatmawati Hospital activities were assumed Demolition to operate on a seven-day-per-week schedule over 90 working days
- Construction activities for the Fatmawati Hospital were assumed to operate on a seven-day-per-week schedule, comprising, Grading over 89 working days, Building Construction over 550 working days, and Architectural Coating over 122 working days with operated assumed in 2029
- A wind speed of 1.12 m/s was applied, together with an assumption of 125 rainy days per annum.
- The fugitive dust emission parameters evaluated were limited to PM_{10} and $PM_{2.5}$.
- Worker commuting and hauling trips were assumed to be uniformly distributed along the internal roads of the project site, which were characterized as paved roads.
- The maximum vehicular speed was set at 25 mph (equivalent to 40 km/h).
- In order to represent the worst-case scenario, no fugitive emission control measures were assumed to be implemented.

The type, quantity, capacity, and operating hours of construction equipment employed at each activity site were estimated by CalEEMod, based on the construction schedule and activity category (Table 7.10).

Table 7.10. Type, Quantity, Capacity, and Operating Hours of Pre-Construction and Construction Equipment

Phase Name	Equipment Type	Number per Day	Hours Per Day	Horsepower (HP)	Load Factor
Pre-Construction					
Demolition	Excavators	1	8	36	0,38
Demolition	Concrete/ Industrial Saws	1	8	33	0,73
Demolition	Rubber Tired Dozers	1	8	367	0,4
Demolition	Tractors/ Loaders/ Backhoes	3	8	84	0,37
Construction					
Grading	Graders	1	8	148	0,41
Grading	Rubber Tired Dozers	1	8	367	0,4
Grading	Tractors/ Loaders/ Backhoes	3	8	84	0,37
Grading	Excavators	1	8	36	0,38
Building Construction	Cranes	1	8	367	0,29
Building Construction	Forklifts	3	8	82	0,2
Building Construction	Generator Sets	1	8	14	0,74
Building Construction	Tractors/ Loaders/ Backhoes	1	6	84	0,37
Building Construction	Welders	3	8	46	0,45
Architectural Coating	Air Compressors	1	6	37	0,48

Source: CalEEMod Estimates. The Load Factor represents the ratio of the equipment's actual average power during use to its maximum rated power.

The total annual emissions generated at each activity location, comprising both fugitive dust and exhaust gas emissions, were converted into grams per second (g/s) based on the number of operating days and the respective land area. A summary of this calculation is provided in Table 7.11.

Table 7.11. Estimated Emission Rates for Area Sources from Pre-Construction and Construction

Year	Dust Emission Rate (g/s)					
	$PM_{10}E$ [a]	$PM_{10}D$ [b]	$PM_{10}T$ [c]	$PM_{2.5}E$ [a]	$PM_{2.5}D$ [b]	$PM_{2.5}T$ [c]
Pre-Construction						
2027	6.3.E-04	2.5.E-02	2.6.E-02	5.8.E-04	3.8.E-03	4.4.E-03
Construction						
2027	2.0.E-03	1.0.E-02	1.2.E-02	1.8.E-03	4.5.E-03	6.3.E-03
2028	1.4.E-03	0.0.E+00	1.4.E-03	1.2.E-03	0.0.E+00	1.2.E-03

Note:

a. $PM_{10}E$ and $PM_{2.5}E$: Exhaust emission.

b. $PM_{10}D$ and $PM_{2.5}D$: Fugitive emission (dust).

c. $PM_{10}T$ and $PM_{2.5}T$: Total Emission of Fugitive and Exhaust

The nearest sensitive receptors, consisting of residential areas, are situated approximately 100 m to the east (UA-5) and approximately 200 m to the southwest (UA-6) of the project site. In order to estimate the dispersion of fugitive dust emissions from the construction activity areas to the receptor locations, the $PM_{10}T$ and $PM_{2.5}T$ concentration values for the year 2027—representing the pre-construction and the peak construction period—were utilized as inputs in the Gaussian dispersion model presented in Equation (1). A simplified ground-level source function, denoted as C (x,0,0;0), was applied as shown in Equation (2), assuming Atmospheric Stability Class B.

$$C(x,y,z;H) = \frac{Q}{2\pi\sigma_y\sigma_z u}\exp\left[-\frac{y^2}{2{\sigma_y}^2}\right]\left\{\exp\left[-\frac{(z-H)^2}{2{\sigma_z}^2}\right]+\exp\left[-\frac{(z+H)^2}{2{\sigma_z}^2}\right]\right\} \quad (1)$$

$$C(0,0,0;0) = \frac{Q}{\pi\sigma_y\sigma_z u} \quad (2)$$

In the dispersion modeling of emissions, the area source was assumed to be square in shape (S × S) and was represented as a collection of equivalent point sources, with each point representing emissions from a sub-unit of the modeled area. For practical application, a virtual point was established to serve as a single representative release point for all emissions from the area source. Under the assumption that wind travels from the virtual point toward the receptor, the effective distance employed in the dispersion calculation was not the actual distance from the source boundary, but rather a corrected distance defined as $x_p = x + x_0$, wherein x denotes the distance from the virtual point to the receptor and x_0 represents a correction factor accounting for the physical extent of the area source. The value of x_0 was derived using an approach based on the initial standard deviation of the concentration distribution, σ_{y0} = S/4.3, where S is the length of one side of the area source. This value was subsequently correlated with the atmospheric dispersion coefficients a and b through the equation $x_0 = \left(\frac{\sigma_{y0}}{a}\right)^b$. This approach carries important implications for the effective distance values utilized in estimating pollutant concentrations at receptor locations. The resulting concentration estimates at the receptor distances corresponding to the residential areas are summarized in Table 7.12.

Table 7.12. Predicted Concentration Ambient from Pre-Construction and Construction

Reseptor Point	Existing (µg/m³)[a]		Incremental (µg/m³) [b]		Predicted (µg/m³) [c]	
	$PM_{2.5}$	PM_{10}	$PM_{2.5}$	PM_{10}	$PM_{2.5}$	PM_{10}
Pre-Construction						
UA – 5	16,55	24,95	1,45	8,58	18,00	33,53
UA – 6	18,75	24,90	0,73	4,29	19,51	29,19
Construction						
UA – 5	16,55	24,95	2,08	3,96	18,63	28,91
UA – 6	18,75	24,90	1,04	1,98	19,79	26,88

Note:

Existing concentration is Primary data from baseline survey (Direct measurement 24h on June 2026)

a. Concentration from calculation

b. Predicted concentration is total of existing and incremental

The air quality modeling results at two receptor points, UA-5 and UA-6, during both pre-construction and construction phases show that the concentrations of $PM_{2.5}$ and PM_{10} remain within safe limits. During the pre-construction phase, at UA-5, the existing concentration of $PM_{2.5}$ was 16.55 µg/m³ and PM_{10} was 24.95 µg/m³, with incremental increases of 8.58 µg/m³ for $PM_{2.5}$ and 33.53 µg/m³ for PM_{10}, resulting in predicted concentrations of 25.13 µg/m³ for $PM_{2.5}$ and 58.48 µg/m³ for PM_{10}. At UA-6, the existing concentrations were 18.75 µg/m³ ($PM_{2.5}$) and 24.90 µg/m³ (PM_{10}), with incremental increases of 0.73 µg/m³ for $PM_{2.5}$ and 4.29 µg/m³ for PM_{10}, yielding predicted concentrations of 19.48 µg/m³ for $PM_{2.5}$ and 29.19 µg/m³ for PM_{10}. During the construction phase, at UA-5, existing concentrations remained at 16.55 µg/m³ ($PM_{2.5}$) and 24.95 µg/m³ (PM_{10}), with incremental increases of 2.08 µg/m³ and 3.96 µg/m³, respectively, resulting in predicted concentrations of 18.63 µg/m³ for $PM_{2.5}$ and 28.91 µg/m³ for PM_{10}. At UA-6, existing concentrations were 18.75 µg/m³ ($PM_{2.5}$) and 24.90 µg/m³ (PM_{10}), with incremental increases of 1.04 µg/m³ and 1.98 µg/m³, respectively, producing predicted concentrations of 19.79 µg/m³ for $PM_{2.5}$ and 26.88 µg/m³ for PM_{10}. Overall, all predicted concentrations for both $PM_{2.5}$ and PM_{10} at both receptor points and phases remain well below the established ambient air quality standards of 55 µg/m³ for $PM_{2.5}$ and 75 µg/m³ for PM_{10}, indicating that the air quality impact from the modeled emission source is still within safe limits and does not exceed the required threshold.

7.3.2. Noise and Vibration

Construction-phase noise and vibration impacts arise from the full scope of demolition, excavation, piling, and building construction activities across Tower 1A JKN, Podium, Tower 1B, and utility building within the active hospital campus. Principal noise and vibration sources include demolition of .0 m², earth excavation for foundation preparation across the multibuilding plan footprint, basement excavation across two levels beneath the combined gross floor area of Phase I Buildings is 34,010 m², piling works, routine operation of heavy machinery comprising excavators, bulldozers, vibrators, hammers, and haulage vehicles, and the operation of a contractor base camp. The concurrent demolition of multiple structures across the combined footprint of approximately 17,129 m² will extend both the duration and spatial extent of demolition-phase noise and vibration impacts compared to a single-structure demolition programme.

Noise levels produced by heavy equipment (excluding impact pile drivers) can reach approximately 76–95 dB(A) at a distance of 15 m from the source (FTA, 2018). The closest identified noise-sensitive

receptor is the Cancer Center Building, located within approximately 70 m of the construction area. At this distance, and assuming no mitigation measures are implemented, the maximum noise contribution from construction activities is estimated to range from 63 to 82 dB(A) at the building façade.

Based on this preliminary assessment, noise generated during construction activities may result in exceedances of the applicable noise criteria for sensitive receptors. Given the proximity of the Cancer Center Building to the construction area and the predicted façade noise levels, the impact is considered potentially significant and will require the implementation of appropriate noise management and mitigation measures to minimize disturbance to building occupants.

Where impact pile driving is required, vibration levels can typically reach 16.4 mm/s at a distance of 8 m from the source (FTA, 2018). The nearest identified vibration-sensitive receptor is the Cancer Center Building, located approximately 70 m from the construction area. At this distance, vibration levels generated by piling activities are estimated to be approximately 0.6 mm/s peak particle velocity (PPV), equivalent to 75 VdB.

Based on this preliminary assessment, vibration generated by impact pile driving activities is expected to be perceptible within the Cancer Center Building. Given the sensitivity of the receptor and the proximity of the construction works, appropriate vibration management and mitigation measures should be implemented to minimize potential disturbance to building occupants and to reduce the likelihood of vibration-related complaints.

The noise and vibration impacts intersect sharply with the hospital's clinical operations across the existing 851 operational beds (SK No. HK.02.03/D.XXI/11087/2025) and the adjacent dense metropolitan environment comprising residential areas, commercial facilities, and Stasiun MRT Fatmawati. Sensitive clinical receptors include operating theatres, ICU/ICCU/NICU/PICU, the Cancer Centre, and precision diagnostic equipment rooms, all of which must remain operational throughout the construction period. As such, the impact significant with the absence mitigation measures is High. However, with the consistent and effective mitigation measures, the residual impact can be minimize to Moderate.

Mitigation measures include acoustic barriers, restricted working hours for heavy demolition and piling activities near inpatient wards comprising 08:00 to 17:00 on working days only and not during clinical shift handover periods, continuous vibration monitoring at all sensitive clinical receptor points throughout the combined demolition period, and the use of bored piles rather than driven piles where geotechnical conditions permit, given the high-plasticity clay and clayey silt soil profile confirmed in the geotechnical assessment.

7.3.3. Traffic and Access

Construction activities may generate temporary impacts on traffic conditions, accessibility, circulation and project safety around the project area, particularly as Tower 1A is located intersection of Jl. Raya TB Simatupang and Jl. Raya Fatmawati Raya. Construction-phase truck movements along Jl. Raya TB Simatupang, Jl. Raya Fatmawati Raya, and Jl. Lingkar Fatmawati (Masterplan KMK 1673/2024 pp. 84) will interact with the existing dense metropolitan traffic network surrounding the project area. These corridors already function as important urban and regional transportation routes and are connected with major transportation infrastructure including Jl. Tol Lingkar Luar Jakarta (Jakarta Outer Ring Road).

The sensitivity of traffic impacts is further increased due to the proximity of the project area to major urban activity centers and public transportation facilities, including Stasiun MRT Fatmawati and Cilandak Town Square commercial area. Consequently, temporary increases in construction vehicle movement may contribute to localized congestion, circulation disturbance, and road safety risks if not properly managed.

Part of current parking space will be closed during construction, thus temporary parking space will be open in a separated space adjacent to the existing hospital. During construction the parking area will be relocated to a new space in the southwest part of the existing hospital complex as depicted in the Figure below.

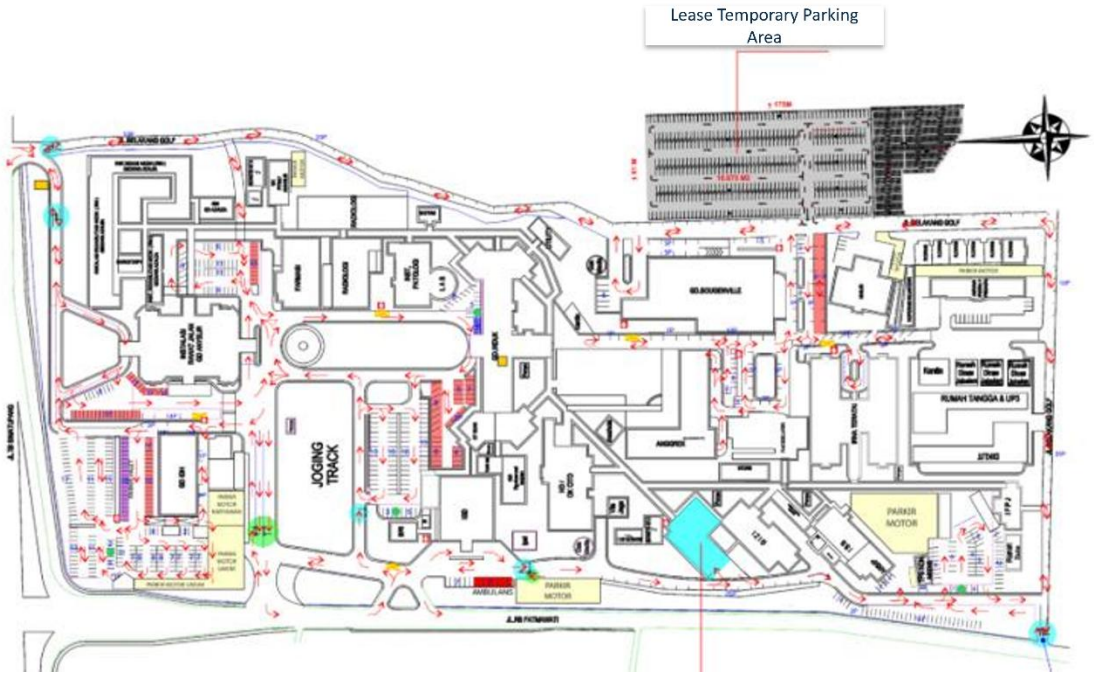


Figure 7-6 Temporary Relocated Parking Area

The traffic impact assessment and traffic engineering considerations for the project will also be integrated with the Traffic Impact Analysis (Andalalin) study currently being prepared.

Increased Traffic Volume

Construction activities may increase the number of vehicles entering and exiting the project area due to transportation of construction materials, heavy equipment mobilization, worker transportation; and waste and debris hauling activities. This additional traffic may temporarily reduce road service levels and increase congestion around the hospital area, particularly during peak traffic periods.

Disturbance to Hospital Accessibility

Construction activities, that may trigger local street vendors, may temporarily affect accessibility for emergency vehicles and ambulances, patients and visitors, hospital staff; and service and logistics vehicles. Any disruption to emergency access represents a critical concern because Fatmawati Hospital functions as an active referral hospital with continuous healthcare operations.

Road Safety Risks

Movement of heavy vehicles and construction equipment may increase road safety risks for pedestrians, patients, elderly individual, persons with disabilities, motorcyclists; and hospital visitors. Potential risks include vehicle conflicts, temporary obstruction of pedestrian pathways, reduced visibility, and traffic accidents.

Parking and Internal Circulation Disturbance

Temporary occupation of certain internal areas during construction activities may affect: existing parking availability; vehicle circulation patterns; drop-off and pick-up areas; and pedestrian movement within the hospital area. Existing parking assessments indicate parking demand frequently exceeds available capacity, with daily vehicle movements reaching approximately 3,000–3,500 cars and 3,800–5,000 motorcycles.

Additionally, construction-related transportation activities may contribute to increased noise levels, localized vibration, dust emissions; and temporary disturbance to surrounding communities and hospital users, as discussed in the previous section.

Table 7.13. Summary of Potential Traffic and Access Impacts During Construction

Activity	Potential Impact
Material transportation	Increased traffic congestion
Heavy equipment mobilization	Road safety risk
Worker transportation	Increased local traffic volume
Temporary lane occupation	Reduced road capacity
Construction near access roads	Disturbance to hospital accessibility
Internal construction activities	Parking and circulation disruption

7.3.4. Surface Water, Groundwater and Drainage

Construction activities including demolition, earthworks, piling, basement excavation, dewatering, material handling, and temporary worker facilities may generate temporary impacts on surface water, groundwater, and drainage conditions within and surrounding the Project site. Potential impact pathways include sediment-laden runoff, accidental spills of fuels or chemicals, concrete washwater discharge, worker sanitation wastewater, temporary drainage diversion, and disruption of existing hospital drainage infrastructure during excavation and utility-relocation works. Based on an estimated peak construction workforce of approximately 300 workers, construction water demand is estimated at 15 m^3/day (approximately 450 m^3/month) in accordance with SNI 03-7065-2005. Domestic wastewater generation is expected to be of a similar magnitude and will be collected through temporary sanitary facilities and conveyed to the existing hospital wastewater treatment system or other approved temporary wastewater management facilities, subject to the detailed Construction Environmental and Social Management Plan (C-ESMP). Construction water supply will be sourced from the existing hospital water supply system.

The planned two-level basement excavation beneath the Multibuilding Plan also introduces temporary groundwater-management considerations. Dewatering activities may temporarily alter localized groundwater conditions and, if not properly controlled, could contribute to localized settlement, soil instability, or indirect effects on adjacent hospital structures and underground utilities. Without appropriate erosion-control, drainage-management, and dewatering, construction

activities could temporarily affect local drainage performance and surface-water quality around the Project area.

7.3.5. Construction and Hazardous Waste Management

Construction activities including demolition of Building Azalea, Building Anyelir/Outpatient Installation, and Building Griya Husada, earthworks, excavation, and building construction are expected to generate substantial volumes of hazardous and non-hazardous construction waste. Principal waste streams include concrete and masonry debris, excavated soil, metal off-cuts, timber, packaging materials, and general construction refuse. Without proper segregation, temporary storage, transport, and disposal controls, construction waste may create temporary impacts including obstruction of work areas and drainage pathways, dust generation, visual nuisance, increased waste transport traffic, and potential contamination through mixing with hazardous materials.

Construction activities will generate limited hazardous waste, primarily used oil, paint, solvents, and contaminated containers. Despite the low anticipated volume, improper storage, handling, or disposal could result in soil and water contamination, occupational exposure concerns, and disruption to continuing hospital activities. Due to the proximity to existing medical services, insufficient hazardous waste segregation may increase contamination risks and disrupt the hospital's established waste management systems. These waste streams must be managed in accordance with MOEF Regulation No. 6/2021, which emphasizes waste minimization at the source, on-site segregation by waste characteristics, and transportation and disposal through licensed hazardous waste management facilities.

7.3.6. Radioactive Waste Impact Assessment

Construction activities associated with demolition, excavation, utility relocation, and structural modification near the Nuclear Medicine Unit and related controlled infrastructure may create localized radiological and contamination risks if radioactive materials, wastewater lines, drainage systems, ventilation ducts, storage areas, or contaminated surfaces are inadvertently disturbed. Potential impacts may include limited worker exposure to residual radiation, accidental spread of low-level contamination, generation of minor quantities of radioactive or mixed waste, and temporary interruption of nuclear medicine services. However, significant off-site radiological impacts are considered unlikely because radioactive materials within hospital nuclear medicine facilities are generally managed under existing Fatmawati Hospital operational controls, BAPETEN requirements, radioactive decay-storage procedures, and Radiation Protection Officer (RPO/PPR) supervision. Most medical radionuclides used in nuclear medicine are also relatively short-lived and decay rapidly to acceptable levels.

Risks are therefore expected to remain temporary, localized, and manageable through pre-construction coordination with the Nuclear Medicine Unit, radiological clearance verification, controlled demolition procedures, segregation of potentially contaminated materials, and compliance with hospital radiation-protection and BAPETEN requirements during construction works.

7.3.7. Occupational Health and Safety

Construction-phase activities including demolition, excavation, piling, work at height, heavy-equipment operation, material handling, and utility relocation may create occupational health and safety risks for workers. Potential hazards include falling objects, slips and falls, heavy-equipment

interaction, electrical hazards, noise and dust exposure, hazardous-material exposure including potential asbestos-containing materials (ACM), and confined-space or excavation-related accidents. For work at height, contractors shall implement specific controls in accordance with applicable Indonesian OHS requirements, including a work permit prior to commencement of activities, supported by task-specific risk assessment, supervision, safe access arrangements, and fall-protection measures.

Demolition and construction activities adjacent to active hospital operations may also increase interface risks between construction personnel, hospital staff, patients, and operational utilities if not properly controlled. Worker exposure risks are expected to be elevated during demolition, basement excavation, and structural works involving heavy machinery and hazardous materials. Heavy equipment shall only be operated by competent and appropriately authorised operators, and all equipment shall have valid inspection and operational-worthiness documentation, as applicable under Indonesian OHS requirements, prior to use on site.

Mitigation measures shall include the implementation of a project-specific Construction OHS Management Plan consistent with SMK3 and applicable GIIP requirements, including:

- task-specific risk assessments and method statements;
- permit-to-work procedures for work at height, hot works, confined-space entry, excavation, lifting activities, and electrical isolation;
- activity-specific PPE requirements;
- worker training and competency requirements;
- emergency preparedness and response procedures;
- hazardous-material management controls;
- traffic segregation and vehicle-pedestrian management measures;
- routine toolbox meetings;
- routine OHS inspections; and
- incident reporting, investigation, and corrective action procedures.

Minimum PPE requirements shall include safety helmets, safety footwear, high-visibility vests or clothing, gloves appropriate to the task, eye protection, hearing protection where required, respiratory protection for dusty or hazardous-material-related work, and full-body harnesses with appropriate anchorage for work at height, as applicable to the specific activity. Detail safety management plan for construction work is outlined in SOP Pre-Construction Risk Assessment (PCRA) and

7.3.8. Community Health and Safety

Community health and safety risks during construction primarily relate to traffic interaction with construction truck movements, including pedestrian and vehicle accident risk along Jalan Raya TB Simatupang and Jalan Raya Fatmawati Raya. Additional risks include temporary dust exposure for nearby residential receptors in Cilandak Barat sub-district and noise exposure affecting nearby receptors including BBPK Cilandak and Cilandak Town Square.

Construction activities may also generate limited community health and social risks associated with temporary workforce interactions, including communicable disease transmission and inappropriate behaviour, such as GBV/SEAH. However, these risks are expected to remain relatively limited, as

construction labour is anticipated to be sourced primarily from local and regional labour markets, with at least 20% labour recruited locally or regionally, and without the establishment of large worker camps. Dust and noise impacts are also expected to be temporary and localised during the construction phase of Phase I buildings.

Mitigation measures will include qualification screening during recruitment for both local and non-local candidates, implementation of a contractor Code of Conduct enforcing zero tolerance for harassment, GBV/SEAH, and other inappropriate behaviour, communicable and infectious disease screening for incoming workers, traffic-management controls, dust and noise suppression, and community access to the project GRM as described in Annex D.

Construction activities may also create safety risks for hospital staff, patients, visitors, and other members of the public due to the interface between active hospital operations and nearby work areas. Potential risks include interaction with construction vehicles and heavy equipment, accidental access to work zones, falling objects, slips, trips and falls, obstruction of pedestrian or ambulance routes, and exposure to dust, noise, and utility disruptions. These risks are likely to be more significant for vulnerable groups such as patients with limited mobility, elderly visitors, children, and emergency service users.

Mitigation measures should include:

- physical segregation of construction areas from hospital operations and public-access zones;
- clear directional and warning signage;
- controlled access and security barriers;
- designated pedestrian walkways separated from construction traffic;
- traffic management for delivery vehicles and heavy equipment;
- scheduling of high-risk activities to minimise interaction with peak hospital traffic;
- dust, noise, and vibration controls;
- advance notice to hospital management of activities affecting access or utilities; and
- emergency access arrangements to ensure uninterrupted entry for ambulances, staff, patients, and visitors.

7.3.9. Labour Influx and Working Conditions

Construction of the Project is expected to mobilize approximately 300 workers at peak. Of these, an estimated 20% are expected to be recruited locally from Cilandak Barat sub-district, Cilandak district, and the wider Jakarta Selatan area, with the remaining approximately 80% workers mobilized by the contractor from outside the immediate area.

Assessed against the host community population, the influx ratio is very low: Cilandak Barat Sub-district has a population of approximately [60,000] and Cilandak District approximately [200,000] (BPS, South Jakarta in Figure, 2025), giving a non-local worker to host population ratio of well under 1%.

In addition, given the urban setting, a substantial share of non-local workers are expected to commute daily or be accommodated in contractor-managed on-site facilities (*bedeng*) within the hospital complex, rather than settling in surrounding neighborhoods. On this basis, the magnitude of labor influx impacts on community demographics, housing, and public services is assessed as **low**.

However, the sensitivity of the receiving environment is elevated: the site is an operating hospital with continuous patient, visitor, and staff presence, and 24 PKS tenants operate at the site boundary. The residual risks therefore relate primarily to worker-community interaction at the site interface, community health and safety, and GBV/SEAH, rather than to settlement pressure, and these are assessed as **moderate** prior to mitigation.

Concurrent construction activities within the area of influence were screened as part of this assessment. These include development of MRT Fatmawati Station and TB Simatupang road development. The combined construction workforce of these activities is estimated at 700 workers. Even accounting for this combined workforce, the aggregate influx remains small relative to the population and absorptive capacity of Jakarta Selatan, and cumulative influx-related impacts are assessed as **low**. The main cumulative interaction is expected to be construction traffic and shared road use rather than workforce-related social pressure; this is addressed in the Traffic Management Plan. The PIU will coordinate with Transportation Agency should additional concurrent projects be identified during implementation.

7.3.10. Hospital Service Continuity

Construction of the Multibuilding Plan will require demolition of several existing facilities, including Griya Husada Building, Ex-BPJS Building, the General Outpatient Clinic (IRJ), Azalea Building, Amarilis Building, Pharmacy, the Genset House, Pump House, and Mosque . These facilities currently support outpatient care, medical rehabilitation, child development services, mental health clinics, vaccination services, HIV counselling and testing (VCT), and supporting hospital functions.

Potential impacts during construction primarily relate to temporary disruption associated with service relocation, circulation changes, utility adjustment, and interaction between construction activities and ongoing hospital operations. However, the Hospital has planned continuation of affected services through relocation to other existing facilities, including relocation of Azalea and IRJ services to the Gedung Induk prior to demolition activities for phase 1 construction. Additionally, the existing WWTP (IPAL Sentral) will be used during the construction and the Hospital will install new WWTP covering Phase I. The full phased construction sequencing and service-relocation planning are shown in Figure 2-1.

Operational Phase Impacts

Operational impacts arise from the commissioning and operation of Tower 1A JKN, Podium, and Tower 1B as the three integrated components of the Phase 1 Multibuilding Plan at RSUP Fatmawati. Building 1A-JKN (786 beds for BPJS inpatient services and general intensive care), Podium (275 beds) constitute the AIIB-financed scope, and Building 1B (396 beds for executive inpatient and intensive care services) is assessed as an Associated Facility under AIIB ESS1. Together, the three buildings will deliver the full 1,352-bed operational capacity of Phase 1 upon commissioning, supported by 33 operating theatres on floors 6 to 7, expanded outpatient services, emergency services, pharmacy, catering, laundry, parking facilities, and supporting clinical and non-clinical infrastructure.

Unlike construction-phase impacts, which are temporary and localized, operational impacts are generally long-term and recurring, with intensity linked to hospital occupancy, patient throughput, and healthcare service utilization across all three buildings. The impact assessment follows the methodology established in Section 7.1, with significance rated based on magnitude and receptor sensitivity as described in the interaction matrix.

7.4. Operation Phase

7.4.1. Air Quality, and Indoor Infection Control

Operational air quality impacts arise from both external emission sources and internal clinical ventilation systems associated with the expanded hospital complex comprising Tower 1A JKN, Podium, and Tower 1B. External sources include operation of backup generators, steam boilers, ambulance traffic, and healthcare waste handling and treatment activities associated with the expanded 1,352-bed facility.

Compliance with the Technical Approval for Air Emissions (Pertek BMUE) will be maintained through periodic stack-emission testing, preventive maintenance, and operational monitoring programmes. Indoor air quality and infection-control ventilation represent critical operational controls for the expanded clinical facilities across all three buildings.

The Cancer Centre, transplantation unit, operating theatre complex, ICU/NICU services, and isolation facilities within Tower 1A JKN and Podium require highly controlled HVAC systems incorporating HEPA filtration, pressure differentials, and air-change requirements consistent with WHO guidance and healthcare GIIP standards. Executive inpatient and intensive care services within Building 1B (Tower and Podium 1B) require equivalent infection-control ventilation standards given the shared campus environment and the risk of cross-building nosocomial transmission pathways. Operating theatres require positive-pressure environments, while airborne infection isolation rooms require negative-pressure differentials and minimum ventilation performance standards. HVAC failure or inadequate pressure control in any of the three buildings may create.

7.4.2. Noise and Vibration

Operational noise sources include generators, HVAC systems, chillers, pumps, ambulance activity, loading areas, and mechanical equipment associated with the expanded hospital complex comprising Tower 1A JKN, Podium, and Tower 1B. The combined operational footprint of three high-rise buildings within the active hospital campus increases the aggregate mechanical noise load compared to existing operations, with potential cumulative effects on adjacent urban receptors if not adequately controlled through equipment selection and maintenance.

Heavy medical equipment within Building A (Tower and Podium 1A-JKN) and Building B ((Tower and Podium 1B) including MRI systems, PET Scan facilities, and Hybrid Catheterisation Laboratories may generate operational vibration requiring specialised isolation systems to prevent interference with precision diagnostic equipment and maintain imaging reliability. Mitigation measures include acoustic enclosures, low-noise equipment selection, preventive maintenance, and vibration isolation mounting systems incorporated during Detailed Engineering Design.

7.4.3. Traffic, Accessibility and Parking

Operation of Building A and associated podium facilities will increase patient, visitor, ambulance, logistics, and staff traffic volumes within the Fatmawati and TB Simatupang corridor. Increased operational traffic demand may contribute to congestion pressure at key access routes including Jalan Raya Fatmawati Raya and Jalan TB Simatupang, particularly during peak outpatient hours, visiting periods, staff shift changes, and emergency-service activity.

Potential operational impacts include:

- increased congestion and delays around hospital access roads;
- increased parking demand and circulation pressure within the Hospital complex;
- interaction conflicts between ambulances, private vehicles, motorcycles, pedestrians, and service vehicles;
- reduced pedestrian comfort and accessibility around hospital entrances; and
- indirect noise and air-quality impacts associated with increased traffic activity.

The Masterplan provides long-term parking development comprising approximately 3,123 car parking spaces and 2,461 motorcycle parking spaces distributed across structured parking, basement areas, and surface parking zones. Adequacy of parking provision and internal circulation arrangements for the operational phase will require verification through the Traffic Impact Assessment (Andalalin) against projected demand and emergency-access requirements.

Mitigation measures include implementation of approved Andalalin recommendations, dedicated ambulance and emergency circulation routes, integration with MRT and public transportation access, directional signage, parking-management systems, scheduling controls for logistics operations, and periodic traffic-performance monitoring during operational phases.

7.4.4. Effluent, Water Supply and Drainage

Operation of Tower 1A JKN, Podium, and Tower 1B will substantially increase water demand, wastewater generation, and stormwater runoff within the Fatmawati Hospital complex due to the expansion of inpatient, outpatient, emergency, intensive care, laboratory, and supporting healthcare services. Upon full operation, the redeveloped hospital is projected to accommodate approximately 1,352 inpatient beds, a three-fold increase in outpatient visits, and a two-fold increase in hospital employees compared to existing conditions.

Based on the projected operational population, total water demand is estimated at approximately 1,455.49 m^3/day, as shown in **Table 7.14**. Water supply will continue to be sourced from a combination of groundwater abstraction (approximately 20–30%) and municipal water supply (PDAM/PAM Jaya) (approximately 70–80%). The increased water demand may increase pressure on local water resources, particularly during periods of seasonal water stress that already affect the Jakarta region. To reduce dependence on groundwater abstraction, the hospital will continue to prioritize municipal water supply and incorporate water-efficiency measures within the Green and Smart Hospital design, including treated wastewater reuse for landscape irrigation.

Table 7.14. Daily Water Demand and Wastewater Generated

Aspect	Demand [m3/day]	Source
Inpatient Services	1,352-person x 0.45 m3 = 633.6 m3/day	Permenkes 7/2019 Hospital type A and B
Outpatient Services	98,808-person x 0.005 m3 = 494.04 m3/day	Permenkes 7/2019, RSUP Fatmawati Outpatient Data
Employee & Office	5,557-person x 0.05 m3 = 327.85 m3/day	SNI 03-7065-2005 Office Water Demand

Aspect	Demand [m3/day]	Source
Total Water Demand	**1,455.49 m3/day**	

The increased operational population will also increase wastewater generation. The existing central has a treatment capacity of 510 m^3/day, which is insufficient to accommodate the projected wastewater flow. To address this, the Project includes a WWTP upgrade through the addition of a new treatment facility with about 945.5 m^3/day capacity (which will be located in the twin tower area), total treatment capacity to approximately 1,455.5 m^3/day. The WWTP upgrade is classified as an Associated Facility under the AIIB ESF and is included within the ESIA scope.
Treated effluent will continue to be discharged through the existing drainage system in accordance with the applicable wastewater discharge permit (*Persetujuan Teknis*). Operational controls will include routine effluent monitoring, WWTP maintenance, and wastewater management procedures.

7.4.5. Domestic and Hazardous Waste

Operation of Tower 1A-JKN, the podium, and Tower 1B will increase the generation of both domestic solid waste and healthcare waste associated with the combined 1,352-bed operational capacity. The increase in domestic waste is expected to comprise recyclable materials (e.g., paper, cardboard, and plastic packaging), organic waste (e.g., food waste and garden waste), and other general non-hazardous waste generated from routine hospital operations, while selected non-infectious medical waste will continue to be managed separately through the hospital's recycling programme. To accommodate the projected increase in domestic waste generation, a new 150 m^2 Domestic Waste Temporary Storage Facility (TPS Non-Medis) is planned in the basement of the new buidling to support the operation of the new development, while the existing 96 m^2 TPS Non-Medis will continue to serve the existing hospital buildings. Domestic waste management will continue to be supported by waste segregation at source, routine internal collection and transportation by the hospital's contracted cleaning service provider (PT SGR), dedicated temporary storage facilities, and off-site collection by the authorized municipal waste service provider for final disposal. The domestic waste management system and the proposed TPS Non-Medis will be incorporated into the AMDAL documentation as part of the environmental management measures for the hospital expansion.

Operation of the expanded hospital will also increase the generation of general healthcare waste, hazardous healthcare waste, cytotoxic waste, sharps waste, chemical waste, and treatment residues. In particular, Tower 1B's executive inpatient and intensive care services will generate additional infectious waste, sharps, pharmaceutical residues, and laboratory chemicals, which will be managed within the hospital's integrated hazardous waste management system together with waste generated from Tower 1A-JKN and the podium. To support the projected increase in hazardous waste generation, a new 100 m^2 Hazardous Waste Temporary Storage Facility (TPS LB3) is planned in the basement of the new building, while the existing 60 m^2 TPS LB3 will remain in operation to serve the existing hospital facilities. As part of the ongoing environmental approval process, the planned Hazardous Waste Storage Technical Details (Rintek LB3) will consider the cumulative hazardous waste generation from all hospital buildings and establish the corresponding storage capacity and management requirements in accordance with the applicable regulatory framework.

Hazardous waste management is supported by waste segregation at source, licensed temporary hazardous waste storage facilities, manifest tracking, and transport through licensed third-party

treatment facility. The hospital currently appoints PT PPLI as its licensed third-party contractor for the transportation and treatment of infectious healthchare waste. Other hazardous waste has historically been transported by PT WSLI and subsequently treated and disposed of by PT WPLI. However, at the time of the ESIA preparation, the contract between hospital and PT WSLI had expired, and the procurement for a new contractor for the transportation and management of non-infectious hazardous waste was expected to be undertaken through a new tender. Consequently, off-site transportation and treatment of these waste streams had not yet resumed. Therefore, for the purpose of this ESIA, a desktop review was undertaken only for PT PPLI, based on publicly available information, including the company's official website and published technical information, as well as a Certificate of Operational Feasibility (Sertifikat Laik Operasi/SLO) and Technical Approval (Persetujuan Teknis) recommendation. The results are summarized in Table 7.15.The results are summarized in Table 7.15.

Table 7.15. Summary of Technical Information on the Licensed Hazardous Waste Management Company

Aspect	Description
Company Profile	PT PPLI is a licensed integrated hazardous waste management company providing collection, transportation, treatment, recylcing, recovery and final disposal services for hazardous and selected non-hazardous waste, including healthcare waste
Waste Transportation	The transporter was verified to hold a Hazardous Waste Transportation Recommendation issued by the Ministry of the Environment under Recommendation No. S.62. The recommendation specifies the authorized vehicle types, including light truck box, truck box, truck tronton box, and truck tronton head vehicles, as well as the categories and types of hazardous waste permitted for transportation. The approved waste streams include Category 1 and Category 2 hazardous wastes, which encompass the hazardous waste generated by Fatmawati Hospital. In addition, the transporter possesses a Hazardous Waste Transportation Decree issued by Directorate General of Land Transportation (Hubdar) under Decree No.81200079205610011, which authorizes the operation of special transportation services for hazardous waste (B3 waste).
Treatment Technologies / Processes	The hazardous treatment facility was verified to possess a valid Tehnical Approval (Persetujuan Teknis) No. S.55 and a Certificate of Operational Feasibility (Sertifikat Laik Operasi/SLO) No. S.330. The facility is authorized to undertake hazardous waste management activities, including collection, recovery and treatment operations. Authorized collection activities include waste consolidation for export and segregation for subsequent utilization. Approved utilization activities include the production of synthetic solid fuel, synthetic liquid feedstock, alternative raw materials, and thermal-based material recovery. Authorized treatment activities include stabilization/solidification, incineration, physicochemical-biological treatment processes, treatment of CFL/TL lamps, spray can processing, dismantling of electronic waste, separation of electrolyte fluids from used batteries, washing of contaminated packaging and hazardous waste containers, and treatment of PCB-containing waste.
Thermal Treatment (incineration)	PPLI operates a vertical stoker-type incinerator as a part of its integrated hazardous waste treatment facility. Incoming hazardous wastes undergo waste characterization and pre-acceptance assessment to determine their physical and chemical characteristics, compatibility with the incineration process, transportation requirements, occupational health and safety measures, and compliance with the applicable waste acceptance criteria. The incinerator

Aspect	Description
	operates under a Technical Approval (Persetujuan Teknis) issued by the Ministry of Environment and Forestry (MOEF) (No. S.574).
Air Emission Control & Monitoring	The incinerator incorporates a multi-stage pollution control system comprising: ▪ Selective Non-Catalytic Reduction, using ammonia or urea to control No_x in the produced flue gas ▪ A rapid quenching system that cools flue gas gas below 200 C within 2 seconds to minimize dioxin formation ▪ Lime and activated carbon to control acid gases (e.g., HC and So_2), heavy metals, and other pollutants ▪ An automatic turbo chemical baghouse filter ▪ A Continuous Emission Monitoring System (CEMS) for continuous monitoring of stack emissions and key operating parameters.
Operational and Environmental Performance	Based on publicly available information, PPLi operates an integrated hazardous waste management facility, supported by multiple licensed treatment technologies, certified management systems (ISO 9001, ISO 14001, ISO/IEC 17025, and SMK3), and continuous emission monitoring for its incineration facility

PPLI has the necessary permits, treatment technologies, operation controls, and environmental management systems to provide integrated hazardous waste treatment, including healthcare waste management. The review of publicly available information and available regulatory documents did not identify any significant environmental or social compliance issues that would preclude the use of PPLi as a licensed third-party hazardous waste treatment facility. However, this assessment is based solely on publicly available information, the available Technical Approval (Pertek) and Operational Feasibility Certificate (SLO) documents, and therefore does not constitute an independent technical, environmental, or operational audit of the facility.

7.4.6. Radiation Safety and Radioactive Materials

Operation of Tier-1 medical equipment including PET Scan, Hybrid Catheterisation Laboratory, Hybrid MOT, Digital X-Ray, SPECT/CT, and nuclear medicine therapy facilities introduces operational radiation exposure risks to workers, patients, maintenance personnel and waste handlers, and the controlled hospital environment. Potential impacts include occupational exposure to ionising radiation, accidental contamination events, radioactive material handling risks, and radioactive wastewater generation associated with Iodine-131 and other radiopharmaceutical therapies. The proposed development will also include a new Cancer Center and Nuclear Medicinie Facilities, which are expected to generate additional radioactive waste streams, including radioactive solid waste, radioactive liquid waste, contaminated linen, and gaseous radioactive emissions.

Radioactive solid waste generated from the new facilities will be managed using the same decay-in-storage approach and radioactive waste management procedures currently implemented at the existing Cancer Center facility. Solid radioactive waste will be segregated at the point of generation, collected in labelled containers, monitored by Medical Physics/Radiation Protection Officer (RPO/PPR), and released from radioactive control only after confirming that applicable clearance criteria have been achieved.

Radioactive liquid waste generated from Nuclear Medicine activities, including patient excreta, radiopharmaceutical residues, and equipment washing wastewater, will be collected through a

dedicated delay/decay storage system located adjacent to the new wastewater treatment plant (WWTP). The radioactive wastewater storage system will allow sufficient radioactive decay prior to controlled transfer to the non-radioactive wastewater system and subsequent treatment through the hospital WWTP, in accordance with applicable regulatory requirements and radiation protection procedures. Contaminated linen generated from nuclear medicine treatment areas will be managed through dedicated collection, decay storage, radiation monitoring, and controlled release procedures prior to transfer to the laundry unit. Radioactive gaseous emissions generated during radiopharmaceutical preparation activities will be controlled through dedicated ventilation and filtration systems prior to controlled discharge.

Operational controls will include radiation shielding design, controlled-access zoning, radiation monitoring systems, personnel dosimetry, radioactive material inventory control, radioactive waste tracking, emergency response procedures, and licensing of radioactive sources through BAPETEN. Radiation protection programmes, commissioning verification, and operational readiness assessments will be completed prior to commencement of radiological and nuclear medicine services.

The proposed radioactive waste management facilities within the Twin Tower development will be designed and operated based on the same radiation protection principles and regulatory requirements applied at the existing Nuclear Medicine facilities. These controls will ensure safe segregation, temporary storage, monitoring, decay management, and controlled release or transfer of radioactive waste through authorized pathways, thereby minimizing potential impacts to workers, patients, the public, and the environment.

7.4.7. Energy and Resource Consumption

Operation of Tower 1A and associated facilities including operating theatres, intensive care services, transplantation facilities, nuclear medicine units, and advanced HVAC systems, will significantly increase electricity, water, medical-gas, and cooling demand. Energy-intensive systems include chillers, ventilation systems, sterilisation units, medical imaging equipment, and continuous critical-care operations.

Resource-efficiency measures are incorporated through the Smart and Green Hospital strategy described in Masterplan KMK 1673/2024, including energy-efficient HVAC systems, LED lighting, daylight optimisation, Reverse Osmosis treatment systems, smart utility monitoring, and potential rainwater-harvesting measures.

7.4.8. Occupational Health and Safety

Operation of the expanded Fatmawati Hospital facility is expected to generate significant positive community-health benefits through increased healthcare capacity, expanded BPJS-supported services, strengthened emergency-care capability, and improved access to specialised medical services including oncology, transplantation, intensive care, and nuclear medicine.

Operational community health and safety risks may nonetheless arise from increased traffic volume, ambulance movement, hazardous-material release, infectious disease transmission pathways, vector proliferation, and failure of critical healthcare support systems. Increased patient, visitor, logistics, and staff movement may contribute to congestion along Jalan Raya Fatmawati Raya and Jalan TB Simatupang. Expanded hospital operations also increase the importance of effective hazardous-waste management, wastewater treatment, infection prevention and control (PPI), radiation protection, and

emergency preparedness systems to prevent indirect public-health exposure risks affecting surrounding communities and hospital users.

Risk management is implemented through the Hospital Occupational Health and Safety Programme (K3RS), Infection Prevention and Control Programme (PPI), radiation protection systems, medical surveillance, PPE protocols, staff competency training, emergency preparedness, and hazardous-material handling procedures.

7.4.9. Community Health and Safety

Operational impacts on surrounding communities may arise from increased traffic congestion, emergency vehicle movement, accidental hazardous-material release, infectious disease exposure pathways, and vector proliferation. Increased patient and visitor volumes may intensify traffic conditions along Jalan Raya Fatmawati Raya and Jalan TB Simatupang, potentially affecting surrounding residential and commercial receptors.

Public-health coordination is undertaken with the South Jakarta Municipal Health Office and related agencies through surveillance, emergency preparedness, vector-control programmes, and public-health monitoring systems. Hazardous waste, wastewater, radiation, and infection-control systems are required to operate in accordance with applicable Indonesian regulations and healthcare GIIP standards to minimize community exposure risk.

7.4.10. Patient Safety, Privacy and Dignity

Once commissioned, the Tower 1-A JKN, Tower 1B, Podium, and utility building will substantially expand RSUP Fatmawati's inpatient, outpatient, and diagnostic capacity. Therefore, the assessment of impacts on patient safety, privacy, and dignity during operations focuses on whether the new facility's design, staffing, systems, and procedures adequately safeguard patients throughout their care journey.

Patient safety risks in operation include hospital-acquired infections associated with inadequate ventilation, air filtration or sanitation performance; medication and clinical errors during the transition to new, integrated service configurations; delayed emergency response arising from unfamiliar layouts or wayfinding deficiencies in the early operational period; theft or robbery targeting patients and their belongings; civil disturbances within or around hospital premises; and, for the most vulnerable patient group, the risk of infant abduction from maternity and neonatal wards.

Privacy and dignity risks include inadequate visual and acoustic separation in consultation, examination and treatment areas; mixed-gender accommodation or sanitation arrangements; unauthorized access by visitors to inpatient wards outside regulated hours; unauthorized photography or disclosure of patient conditions; and, at the most severe end of the spectrum, harassment, violence, or exploitation and abuse of vulnerable patients, including infants, children, the elderly, post-operative and unconscious patients, persons with disabilities and patients with mental or emotional conditions.

The increased patient volumes enabled by the expanded facility may amplify these risks if staffing levels, security coverage and administrative controls do not scale commensurately, and fire and life-safety risks inherent to a high-occupancy vertical facility housing non-ambulatory patients.

The operation of oncology, transplantation, intensive care, isolation, and other specialized clinical services concentrated within the Phase I buildings requires a heightened standard of protection for patient confidentiality and dignity, as well as the maintenance of safe and uninterrupted clinical pathways.

The hospital has established the following procedural framework, which provides the principal institutional safeguard against these risks and will be carried forward into the operation of the Phase I buildings:

- Protection of patients and staff from violence;
- Prevention of infant abduction;
- Access control and visitor management;
- Security operations and emergency response; and
- Protection of patient property;

Taking into account the hospital's mature and comprehensive the above-mentioned procedural framework, the clinical zoning, infection-control and confidentiality measures embedded in the integrated service model, the design standards of the Phase I buildings, and the continuity of national accreditation and clinical governance oversight, the residual impact on patient safety, privacy and dignity during the operational phase is assessed as **minor**, with the redevelopment expected to deliver a net positive outcome relative to baseline conditions in the existing aging facilities

Mitigation measures include integrated clinical zoning, confidential patient-management procedures, infection-control protocols, staff training, controlled-access systems, and patient-centred service design consistent with the integrated service model established in the updated Master Plan.

7.5. Cumulative Impact Assessment

The cumulative impact assessment considers the interaction of the Project with existing and reasonably foreseeable activities within the Project Area of Influence (AOI) (Figure 2-3), mainly Fatmawati Hospital complex, including municipal drainage infrastructure and utility networks. Existing and foreseeable activities considered in the assessment include ongoing operation of Fatmawati Hospital, commercial and mixed-use development along the TB Simatupang–Fatmawati corridor, activities associated with Cilandak Town Square (CITOS), construction of the TB Simatupang SPALD-T wastewater system and associated pipeline network, municipal utility and drainage works, transportation improvement programmes, and broader urban development and population growth within South Jakarta.

The assessment focuses on the priority VECs identified in Section 4.14, including hospital operational continuity, community health and safety, traffic, access and mobility, drainage and flood management, ambient environmental quality, and healthcare service provision (see **Table 4.29**). Given the urban setting and relatively limited Project footprint, cumulative impacts are expected to be driven primarily by interaction with existing metropolitan growth pressures and concurrent infrastructure activities rather than by Project activities alone.

Table 7.16. Cumulative Impact Assessment

Existing / Planned Activities	Interaction with Project	Phase	Priority VEC	Potential Cumulative Impact	Residual Significance[8]
Ongoing operation of Fatmawati Hospital as a major hospital, including emergency services, referral functions, high patient volumes, existing parking constraints, and phased service relocations during redevelopment	Construction activities occurring within an active healthcare campus	Construction	Hospital Operational Continuity	Combined pressures on internal circulation, patient movement, logistics, parking availability, and service delivery may create temporary operational inefficiencies and increased coordination requirements during construction.	Moderate
Existing congestion along Jalan TB Simatupang and Jalan Fatmawati Raya, commercial and mixed-use development, and continued metropolitan growth	Additional construction traffic, workforce movements, deliveries, and operational vehicle trips	Construction and Operation	Traffic, Access and Mobility	Project traffic may incrementally contribute to existing congestion and travel-time variability, potentially affecting access for patients, visitors, staff, service vehicles, and ambulances.	Moderate
Construction of the TB Simatupang SPALD-T wastewater system, associated pipeline works, drainage improvements, utility construction, and other municipal infrastructure programmes	Concurrent construction activities affecting shared road corridors and public access routes	Construction	Traffic, Access and Mobility	Temporary cumulative traffic disruption, lane restrictions, and localized access constraints may occur where Project activities overlap spatially or temporally with utility and infrastructure works.	Moderate
Existing urban drainage constraints, flood susceptibility within South Jakarta, increasing impervious surface coverage, and climate-driven rainfall variability	Additional building footprint and stormwater	Construction and Operation	Drainage and Flood Management	The Project may contribute incrementally to cumulative runoff and drainage demand; however, impacts are expected	Low–Moderate

[8] Refer to Table 7.7, Section 7.1

Existing / Planned Activities	Interaction with Project	Phase	Priority VEC	Potential Cumulative Impact	Residual Significance[8]
	runoff generation			to remain localized and manageable with appropriate stormwater management measures.	
Existing road traffic emissions, urban air quality pressures, traffic noise, commercial activities, and nearby construction activities	Temporary dust, emissions, and noise generated during demolition and construction	Construction	Ambient Environmental Quality (Air Quality and Noise)	Temporary cumulative increases in dust, noise, and construction-related disturbance may affect sensitive receptors including patients, visitors, nearby residents, and healthcare workers.	Low
Population growth, increasing healthcare demand, and continued pressure on tertiary healthcare services within Jakarta and surrounding regions	Expansion and modernization of hospital facilities and services	Operation	Healthcare Service Provision	Increased inpatient capacity, improved clinical facilities, enhanced referral capability, and strengthened healthcare resilience contribute positively to regional healthcare service provision.	Major Positive

7.6. Summary of Environmental and Social Impact Assessment and Mitigation Plan

This section provides a concise and integrated overview of the principal environmental and social risks and impacts identified through the ESIA process for the Fatmawati Hospital TRUST Project. It consolidates the detailed impact assessment results developed for both the construction and operational phases, including the corresponding impact magnitude, receptor sensitivity, and significance ratings derived from the semi-quantitative assessment methodology described in Section 7.1.

The summary table reflects pre-mitigation (inherent) impact significance prior to implementation of mitigation and management measures. Particular attention is given to impacts assessed as Moderate, Moderate-High, High, Very High, or Critical, considering the magnitude of impact together with the sensitivity and vulnerability of affected environmental and social receptors, including ongoing hospital operations, patients, workers, surrounding communities, and urban infrastructure systems.

The summary is intended to support transparent decision-making by providing project proponents, regulators, lenders, and stakeholders with a consolidated understanding of the Project's overall environmental and social risk profile and the priority areas requiring mitigation, monitoring, and management through the Environmental and Social Management Plan (ESMP).

Table 7.17. Summary of Environmental and Social Impact Assessment

No	E & S Risk/Impact	Project activities that cause Risks/ Impacts	Nature & Duration of Risks/Impacts	Risks/Impacts Likelihood	Risk/Impact Scope	Spatial Scale	Risks/Impacts Magnitude (Total Score)	Receptor Sensitivity	Risk/Impact Significance
				Pre-Construction					
1	Demolition	Demolition of existing buildings and supporting structures, induced dust generation, elevated noise and vibration levels, increased construction waste including hazardous construction waste, asbestos removal related risks, impact hospital service continuity, occupational and community health risk	2 (Short Term - Impact lasts weeks to months and recovery occurs naturally within a short period)	4 (Likely - Expected to occur regularly during project activities)	2 (Affects a small group or localized habitat)	3 (Affecting nearby villages, waterways, or ecosystems)	Moderate (11)	High	Moderate-High
2	Preparation of Relocated Area	Refurbishment of existing buildings, installation of temporary modular facilities, upgrading utilities, provision of medical equipment, and establishment of temporary access roads and supporting infrastructure for relocation area	1 (Very Short Term - Impact lasts days to weeks with rapid recovery and no lasting change)	5 (Expected to occur frequently or continuously)	2 (Affects a small group or localized habitat)	1 (Site-specific - Restricted entirely within project footprint)	Low (9)	Moderate	Low

No	E & S Risk/Impact	Project activities that cause Risks/ Impacts	Nature & Duration of Risks/Impacts	Risks/Impacts Likelihood	Risk/Impact Scope	Spatial Scale	Risks/Impacts Magnitude (Total Score)	Receptor Sensitivity	Risk/Impact Significance
3	Relocation of Hospital Service	Temporary transfer of affected departments, medical equipment, administrative functions, healthcare personnel, and associated support services to designated temporary facilities	1 (Very Short Term - Impact lasts days to weeks with rapid recovery and no lasting change)	5 (Expected to occur frequently or continuously)	2 (Affects a small group or localized habitat)	1 (Site-specific - Restricted entirely within project footprint)	Moderate (10)	Moderate	Moderate
4	Livelihood Impact of Tenant Relocation	Tenant contract termination and resettlement due to demolishment of the existing building and construction of three buildings	3 (Medium Term - Impact persists for months to several years with moderate recovery effort required)	5 (Expected to occur frequently or continuously)	2 (Affects a small group or localized habitat)	2 (Immediate Local Area - Limited to adjacent project surrounding)	Moderate (12)	Moderate	Moderate
				Construction					
1	Asbestos Containing Material	Disturbance of legacy asbestos-containing materials during demolition of existing buildings; airborne fibre exposure to workers, patients, and surrounding receptors.	3 (Medium Term - Impact persists for months to several years with moderate recovery effort required)	3 (Medium Term - Impact persists for months to several years with moderate recovery effort required)	2 (Affects a small group or localized habitat)	1 (Site-specific - Restricted entirely within project footprint)	Low (9)	High	Moderate
2	Air Quality and Dust	Dust emissions from demolition, excavation, hauling, concrete works, and vehicle movement; diesel exhaust emissions from heavy equipment.	2 (Short Term - Impact lasts weeks to months and recovery occurs naturally within a short period)	4 (Likely - Expected to occur regularly during project activities)	2 (Affects a small group or localized habitat)	2 (Immediate Local Area - Limited to adjacent project surrounding)	Moderate (10)	High	High

No	E & S Risk/Impact	Project activities that cause Risks/ Impacts	Nature & Duration of Risks/Impacts	Risks/Impacts Likelihood	Risk/Impact Scope	Spatial Scale	Risks/Impacts Magnitude (Total Score)	Receptor Sensitivity	Risk/Impact Significance
3	Noise and Vibration	Piling, demolition, excavation, heavy equipment operation, and truck movement affecting hospital operations and surrounding urban receptors.	2 (Short Term - Impact lasts weeks to months and recovery occurs naturally within a short period)	4 (Likely - Expected to occur regularly during project activities)	3 (Affect several communities, habitat, or receptor groups)	2 (Affects a small group or localized habitat)	Moderate (10)	Moderate	High
4	Traffic and Access	Construction vehicle movement, temporary road obstruction, ambulance-access disruption, and congestion on Jalan Fatmawati Raya and TB Simatupang corridor.	2 (Short Term - Impact lasts weeks to months and recovery occurs naturally within a short period)	4 (Likely - Expected to occur regularly during project activities)	2 (Affects a small group or localized habitat)	3 (Affecting nearby villages, waterways, or ecosystems)	Moderate (11)	Moderate	Moderate
5	Surface Water, Groundwater and Drainage	Sediment runoff, drainage obstruction, contaminated stormwater, excavation dewatering and groundwater disturbance.	2 (Short Term - Impact lasts weeks to months and recovery occurs naturally within a short period)	3 (Possible - May occur under certain operational conditions)	2 (Affects a small group or localized habitat)	2 (Affects a small group or localized habitat)	Low (8)	Moderate	Low
6	Construction Waste and Hazardous Materials	Demolition waste, spoil disposal, hazardous residues, fuel/oil spills, concrete washwater, and temporary waste storage.	2 (Short Term - Impact lasts weeks to months and recovery occurs naturally within a short period)	4 (Likely - Expected to occur regularly during project activities)	2 (Affects a small group or localized habitat)	2 (Affects a small group or localized habitat)	Low (8)	High	Moderate
7	Radiation Waste and	Demolition, excavation, utility relocation, and structural modification	2 (Short Term - Impact lasts weeks to months and recovery occurs	4 (Likely - Expected to occur regularly	2 (Affects a small group	1 (Site-specific - Restricted	Low (7)	High	Moderate

No	E & S Risk/Impact	Project activities that cause Risks/ Impacts	Nature & Duration of Risks/Impacts	Risks/Impacts Likelihood	Risk/Impact Scope	Spatial Scale	Risks/Impacts Magnitude (Total Score)	Receptor Sensitivity	Risk/Impact Significance
	Radiation Safety Risks	near the existing Nuclear Medicine Unit and associated controlled infrastructure. Activities may potentially disturb radioactive materials, radioactive wastewater pipelines, drainage systems, ventilation ducts, radioactive waste storage areas, or contaminated surfaces.	naturally within a short period)	during project activities)	or localized habitat)	entirely within project footprint)			
8	Occupational Health and Safety	Work-at-height risks, crane operation, excavation hazards, electrical risks, confined spaces, heavy equipment interaction, and worker exposure to hazardous materials.	3 (Medium Term - Impact persists for months to several years with moderate recovery effort required)	4 (Likely - Expected to occur regularly during project activities)	2 (Affects a small group or localized habitat)	1 (Site-specific - Restricted entirely within project footprint)	Moderate (10)	High	High
9	Community Health and Safety	Dust, noise, traffic accidents, falling objects, restricted access, emergency-access disruption, and accidental hazardous-material release affecting nearby communities and hospital users.	2 (Short Term - Impact lasts weeks to months and recovery occurs naturally within a short period)	3 (Possible - May occur under certain operational conditions)	2 (Affects a small group or localized habitat)	2 (Immediate Local Area - Limited to adjacent project surrounding)	Low (9)	High	Moderate

No	E & S Risk/Impact	Project activities that cause Risks/ Impacts	Nature & Duration of Risks/Impacts	Risks/Impacts Likelihood	Risk/Impact Scope	Spatial Scale	Risks/Impacts Magnitude (Total Score)	Receptor Sensitivity	Risk/Impact Significance
10	Labour Influx and Working Conditions	Worker accommodation, worker welfare, labor-rights compliance, communicable disease transmission, grievance management, and contractor workforce conduct.	2 (Short Term - Impact lasts weeks to months and recovery occurs naturally within a short period)	3 (Possible - May occur under certain operational conditions)	2 (Affects a small group or localized habitat)	2 (Immediate Local Area - Limited to adjacent project surrounding)	Low (9)	Moderate	Low
11	Hospital Service Continuity	Disruption to ongoing clinical operations, utility interruption, vibration-sensitive medical services, emergency response access, and temporary relocation of hospital functions.	2 (Short Term - Impact lasts weeks to months and recovery occurs naturally within a short period)	4 (Likely - Expected to occur regularly during project activities)	2 (Affects a small group or localized habitat)	2 (Immediate Local Area - Limited to adjacent project surrounding)	Moderate (10)	High	High
12	Heritage and Archaeological Resources	Potential disturbance to historically significant structures, vibration effects on adjacent buildings, and accidental discovery of archaeological or cultural materials.	2 (Short Term - Impact lasts weeks to months and recovery occurs naturally within a short period)	3 (Possible - May occur under certain operational conditions)	2 (Affects a small group or localized habitat)	1 (Site-specific - Restricted entirely within project footprint)	Low (8)	Moderate	Low
				Operation					
1	Air Quality, Stack Emission and Indoor	Boiler/genset emissions, hazardous-waste treatment emissions, HVAC failure, inadequate ventilation,	3 (Medium Term - Impact persists for months to several years	3 (Possible - May occur under certain operational conditions)	2 (Affects a small group or localized habitat)	2 (Immediate Local Area - Limited to adjacent	Low (8)	Moderate	Low

No	E & S Risk/Impact	Project activities that cause Risks/ Impacts	Nature & Duration of Risks/Impacts	Risks/Impacts Likelihood	Risk/Impact Scope	Spatial Scale	Risks/Impacts Magnitude (Total Score)	Receptor Sensitivity	Risk/Impact Significance
	Infection Control	airborne infection transmission, and nosocomial disease spread.	with moderate recovery effort required)			project surrounding)			
2	Noise and Vibration	Operational noise from generators, chillers, HVAC systems, ambulances, and vibration from MRI, PET Scan, and Hybrid Cath Lab equipment affecting diagnostic integrity and surrounding receptors.	2 (Short Term - Impact lasts weeks to months and recovery occurs naturally within a short period)	3 (Possible - May occur under certain operational conditions)	2 (Affects a small group or localized habitat)	2 (Immediate Local Area - Limited to adjacent project surrounding)	Low (10)	Moderate	Low
3	Traffic, Accessibility and Parking	Increased patient, visitor, ambulance, logistics, and staff traffic causing congestion, parking pressure, and emergency-access constraints.	3 (Medium Term - Impact persists for months to several years with moderate recovery effort required)	3 (Possible - May occur under certain operational conditions)	2 (Affects a small group or localized habitat)	2 (Immediate Local Area - Limited to adjacent project surrounding)	Moderate (11)	Moderate	Moderate
4	Effluent, Water Supply and Drainage	Increased wastewater generation, IPAL loading, stormwater runoff, drainage overload, groundwater abstraction pressure, and treated-effluent compliance risks.	3 (Medium Term - Impact persists for months to several years with moderate recovery effort required)	3 (Possible - May occur under certain operational conditions)	2 (Affects a small group or localized habitat)	2 (Immediate Local Area - Limited to adjacent project surrounding)	Moderate (10)	Moderate	Moderate
5	Domestic Waste and Hazardous Materials	Increased domestic waste, infectious waste, sharps, cytotoxic waste, pharmaceutical waste,	3 (Medium Term - Impact persists for months to several years	4 (Likely - Expected to occur regularly during project activities)	2 (Affects a small group or localized habitat)	2 (Immediate Local Area - Limited to adjacent	Moderate (11)	Moderate	Moderate

No	E & S Risk/Impact	Project activities that cause Risks/ Impacts	Nature & Duration of Risks/Impacts	Risks/Impacts Likelihood	Risk/Impact Scope	Spatial Scale	Risks/Impacts Magnitude (Total Score)	Receptor Sensitivity	Risk/Impact Significance
		radioactive waste, chemical waste, and domestic/hazardous-waste transport/storage risks.	with moderate recovery effort required)			project surrounding)			
6	Radiation Safety and Radioactive Waste Management Risks	Occupational and patient exposure to ionising radiation, generation and management of radioactive waste (solid waste, radioactive wastewater, contaminated linen, and gaseous radioactive emissions), radioactive isotope handling (I-131, Tc-99m, Sm-153), shielding failure, and potential radioactive contamination associated with Nuclear Medicine and Cancer Center operations.	2 (Short Term - Impact lasts weeks to months and recovery occurs naturally within a short period)	3 (Possible - May occur under certain operational conditions)	2 (Affects a small group or localized habitat)	1 (Site-specific - Restricted entirely within project footprint)	Low (8)	High	Moderate
7	Energy and Resource Consumption	Increased electricity, water, HVAC, medical gas, cooling, and utility demand associated with expanded hospital operations.	3 (Medium Term - Impact persists for months to several years with moderate recovery effort required)	4 (Likely - Expected to occur regularly during project activities)	2 (Affects a small group or localized habitat)	1 (Site-specific - Restricted entirely within project footprint)	Moderate (10)	Moderate	Moderate

No	E & S Risk/Impact	Project activities that cause Risks/ Impacts	Nature & Duration of Risks/Impacts	Risks/Impacts Likelihood	Risk/Impact Scope	Spatial Scale	Risks/Impacts Magnitude (Total Score)	Receptor Sensitivity	Risk/Impact Significance
8	Occupational Health and Safety	Expanded hospital operations including increased patient and visitor volume, ambulance movement, hazardous-waste handling, wastewater treatment, nuclear medicine and radiation use, infection-control management, utility operation, and emergency healthcare services.	2 (Short Term - Impact lasts weeks to months and recovery occurs naturally within a short period)	3 (Possible - May occur under certain operational conditions)	2 (Affects a small group or localized habitat)	2 (Immediate Local Area - Limited to adjacent project surrounding)	Low (9)	High	Moderate
9	Community Health and Safety	Traffic pressure, infectious disease transmission pathways, hazardous-material release, vector proliferation, and public-health impacts on surrounding communities.	2 (Short Term - Impact lasts weeks to months and recovery occurs naturally within a short period)	3 (Possible - May occur under certain operational conditions)	2 (Affects a small group or localized habitat)	2 (Immediate Local Area - Limited to adjacent project surrounding)	Low (9)	Low	Low
10	Patient Safety, Privacy and Dignity	Confidentiality breaches, overcrowding, inadequate clinical segregation, isolation-system failure, and reduced patient comfort or dignity in specialized care services.	2 (Short Term - Impact lasts weeks to months and recovery occurs naturally within a short period)	4 (Likely - Expected to occur regularly during project activities)	2 (Affects a small group or localized habitat)	2 (Immediate Local Area - Limited to adjacent project surrounding)	Moderate (10)	Moderate	Moderate

Table 7.18. Summary of Environmental and Social Impact Assessment

No	E & S Risk/Impact	Project activities that cause Risks/ Impacts	Nature & Duration of Risks/Impacts	Risks/Impacts Likelihood	Risk/Impact Scope	Spatial Scale	Risks/Impacts Magnitude (Total Score)	Receptor Sensitivity	Risk/Impact Significance
Pre-Construction									
1	ACM Demolition	Demolition of existing buildings and supporting structures with asbestos containing material induces asbestos removal related risks, as well as occupational and community health risk	2 (Short Term - Impact lasts weeks to months and recovery occurs naturally within a short period)	4 (Likely - Expected to occur regularly during project activities)	2 (Affects a small group or localized habitat)	3 (Affecting nearby villages, waterways, or ecosystems)	Moderate (11)	High	Moderate-High
2	Waste and dust generation and increase of noise level during demolition and preparation of relocated area	Demolition of existing buildings and supporting structures and preparation of relocated area, induced dust generation, elevated noise and vibration levels, increased construction waste including hazardous construction waste.	1 (Very Short Term - Impact lasts days to weeks with rapid recovery and no lasting change)	5 (Expected to occur frequently or continuously)	2 (Affects a small group or localized habitat)	1 (Site-specific - Restricted entirely within project footprint)	Low (9)	Moderate	Low
3	Relocation of Hospital Service	Temporary transfer of affected departments, medical equipment, administrative functions, healthcare personnel, and associated support	1 (Very Short Term - Impact lasts days to weeks with rapid recovery and no lasting change)	5 (Expected to occur frequently or continuously)	2 (Affects a small group or localized habitat)	1 (Site-specific - Restricted entirely within project footprint)	Moderate (10)	Moderate	Moderate

No	E & S Risk/Impact	Project activities that cause Risks/ Impacts	Nature & Duration of Risks/Impacts	Risks/Impacts Likelihood	Risk/Impact Scope	Spatial Scale	Risks/Impacts Magnitude (Total Score)	Receptor Sensitivity	Risk/Impact Significance
		services to designated temporary facilities							
4	Livelihood Impact of Tenant Relocation	Tenant contract termination and resettlement due to demolishment of the existing building and construction of three buildings	3 (Medium Term - Impact persists for months to several years with moderate recovery effort required)	5 (Expected to occur frequently or continuously)	2 (Affects a small group or localized habitat)	2 (Immediate Local Area - Limited to adjacent project surrounding)	Moderate (12)	Moderate	Moderate
Construction									
1	Air Quality and Dust	Dust emissions from demolition, excavation, hauling, concrete works, and vehicle movement; diesel exhaust emissions from heavy equipment.	2 (Short Term - Impact lasts weeks to months and recovery occurs naturally within a short period)	4 (Likely - Expected to occur regularly during project activities)	2 (Affects a small group or localized habitat)	2 (Immediate Local Area - Limited to adjacent project surrounding)	Moderate (10)	High	High
2	Noise and Vibration	Piling, demolition, excavation, heavy equipment operation, and truck movement affecting hospital operations and surrounding urban receptors.	2 (Short Term - Impact lasts weeks to months and recovery occurs naturally within a short period)	4 (Likely - Expected to occur regularly during project activities)	3 (Affect several communities, habitat, or receptor groups)	2 (Affects a small group or localized habitat)	Moderate (10)	Moderate	High
3	Traffic and Access	Construction vehicle movement, temporary road obstruction, ambulance-access disruption, and congestion on Jalan	2 (Short Term - Impact lasts weeks to months and recovery occurs naturally	4 (Likely - Expected to occur regularly during	2 (Affects a small group or localized habitat)	3 (Affecting nearby villages, waterways, or ecosystems)	Moderate (11)	Moderate	Moderate

No	E & S Risk/Impact	Project activities that cause Risks/ Impacts	Nature & Duration of Risks/Impacts	Risks/Impacts Likelihood	Risk/Impact Scope	Spatial Scale	Risks/Impacts Magnitude (Total Score)	Receptor Sensitivity	Risk/Impact Significance
		Fatmawati Raya and TB Simatupang corridor.	within a short period)	project activities)					
4	Surface Water, Groundwater and Drainage	Sediment runoff, drainage obstruction, contaminated stormwater, excavation dewatering and groundwater disturbance.	2 (Short Term - Impact lasts weeks to months and recovery occurs naturally within a short period)	3 (Possible - May occur under certain operational conditions)	2 (Affects a small group or localized habitat)	2 (Affects a small group or localized habitat)	Low (8)	Moderate	Low
5	Construction Waste and Hazardous Materials	Demolition waste, spoil disposal, hazardous residues, fuel/oil spills, concrete washwater, and temporary waste storage.	2 (Short Term - Impact lasts weeks to months and recovery occurs naturally within a short period)	4 (Likely - Expected to occur regularly during project activities)	2 (Affects a small group or localized habitat)	2 (Affects a small group or localized habitat)	Low (8)	High	Moderate
6	Radioactive Waste	Demolition of Nuclear Medicine Temporary Unit	2 (Short Term - Impact lasts weeks to months and recovery occurs naturally within a short period)	4 (Likely - Expected to occur regularly during project activities)	2 (Affects a small group or localized habitat)	1 (Site-specific - Restricted entirely within project footprint)	Low (7)	High	Moderate
7	Occupational Health and Safety	Work-at-height risks, crane operation, excavation hazards, electrical risks, confined spaces, heavy equipment interaction, and worker exposure to hazardous materials.	3 (Medium Term - Impact persists for months to several years with moderate recovery effort required)	4 (Likely - Expected to occur regularly during project activities)	2 (Affects a small group or localized habitat)	1 (Site-specific - Restricted entirely within project footprint)	Moderate (10)	High	High

No	E & S Risk/Impact	Project activities that cause Risks/ Impacts	Nature & Duration of Risks/Impacts	Risks/Impacts Likelihood	Risk/Impact Scope	Spatial Scale	Risks/Impacts Magnitude (Total Score)	Receptor Sensitivity	Risk/Impact Significance
8	Community Health and Safety	Dust, noise, traffic accidents, falling objects, restricted access, emergency-access disruption, and accidental hazardous-material release affecting nearby communities and hospital users.	2 (Short Term - Impact lasts weeks to months and recovery occurs naturally within a short period)	3 (Possible - May occur under certain operational conditions)	2 (Affects a small group or localized habitat)	2 (Immediate Local Area - Limited to adjacent project surrounding)	Low (9)	High	Moderate
9	Labour Influx and Working Conditions	Worker accommodation, worker welfare, labor-rights compliance, communicable disease transmission, grievance management, and contractor workforce conduct.	2 (Short Term - Impact lasts weeks to months and recovery occurs naturally within a short period)	3 (Possible - May occur under certain operational conditions)	2 (Affects a small group or localized habitat)	2 (Immediate Local Area - Limited to adjacent project surrounding)	Low (9)	Moderate	Low
10	Hospital Service Continuity	Disruption to ongoing clinical operations, utility interruption, vibration-sensitive medical services, emergency response access, and temporary relocation of hospital functions.	2 (Short Term - Impact lasts weeks to months and recovery occurs naturally within a short period)	4 (Likely - Expected to occur regularly during project activities)	2 (Affects a small group or localized habitat)	2 (Immediate Local Area - Limited to adjacent project surrounding)	Moderate (10)	High	High
11	Heritage and Archaeologi	Potential disturbance to historically significant structures, vibration effects on	2 (Short Term - Impact lasts weeks to months and recovery	3 (Possible - May occur under certain	2 (Affects a small group or localized habitat)	1 (Site-specific - Restricted entirely	Low (8)	Moderate	Low

No	E & S Risk/Impact	Project activities that cause Risks/ Impacts	Nature & Duration of Risks/Impacts	Risks/Impacts Likelihood	Risk/Impact Scope	Spatial Scale	Risks/Impacts Magnitude (Total Score)	Receptor Sensitivity	Risk/Impact Significance
	cal Resources	adjacent buildings, and accidental discovery of archaeological or cultural materials.	occurs naturally within a short period)	operational conditions)		within project footprint)			
		Operation							
1	Air Quality, Stack Emission and Indoor Infection Control	Boiler/genset emissions, hazardous-waste treatment emissions, HVAC failure, inadequate ventilation, airborne infection transmission, and nosocomial disease spread.	3 (Medium Term - Impact persists for months to several years with moderate recovery effort required)	3 (Possible - May occur under certain operational conditions)	2 (Affects a small group or localized habitat)	2 (Immediate Local Area - Limited to adjacent project surrounding)	Low (8)	Moderate	Low
2	Noise and Vibration	Operational noise from generators, chillers, HVAC systems, ambulances, and vibration from MRI, PET Scan, and Hybrid Cath Lab equipment affecting diagnostic integrity and surrounding receptors.	2 (Short Term - Impact lasts weeks to months and recovery occurs naturally within a short period)	3 (Possible - May occur under certain operational conditions)	2 (Affects a small group or localized habitat)	2 (Immediate Local Area - Limited to adjacent project surrounding)	Low (10)	Moderate	Low
3	Traffic, Accessibility and Parking	Increased patient, visitor, ambulance, logistics, and staff traffic causing congestion, parking pressure, and emergency-access constraints.	3 (Medium Term - Impact persists for months to several years with moderate recovery effort required)	3 (Possible - May occur under certain operational conditions)	2 (Affects a small group or localized habitat)	2 (Immediate Local Area - Limited to adjacent project surrounding)	Moderate (11)	Moderate	Moderate

No	E & S Risk/Impact	Project activities that cause Risks/ Impacts	Nature & Duration of Risks/Impacts	Risks/Impacts Likelihood	Risk/Impact Scope	Spatial Scale	Risks/Impacts Magnitude (Total Score)	Receptor Sensitivity	Risk/Impact Significance
4	Surface Water, Groundwater and Drainage	Increased wastewater generation, IPAL loading, stormwater runoff, drainage overload, groundwater abstraction pressure, and treated-effluent compliance risks.	3 (Medium Term - Impact persists for months to several years with moderate recovery effort required)	3 (Possible - May occur under certain operational conditions)	2 (Affects a small group or localized habitat)	2 (Immediate Local Area - Limited to adjacent project surrounding)	Moderate (10)	Moderate	Moderate
5	Domestic Waste and Hazardous Materials	Increased domestic waste, infectious waste, sharps, cytotoxic waste, pharmaceutical waste, radioactive waste, chemical waste, and domestic/hazardous-waste transport/storage risks.	3 (Medium Term - Impact persists for months to several years with moderate recovery effort required)	4 (Likely - Expected to occur regularly during project activities)	2 (Affects a small group or localized habitat)	2 (Immediate Local Area - Limited to adjacent project surrounding)	Moderate (11)	Moderate	Moderate
6	Radiation Safety and Radioactive Materials	Occupational and patient exposure to ionising radiation, radioactive wastewater, isotope handling, shielding failure, and radioactive contamination risks associated with nuclear medicine services.	2 (Short Term - Impact lasts weeks to months and recovery occurs naturally within a short period)	3 (Possible - May occur under certain operational conditions)	2 (Affects a small group or localized habitat)	1 (Site-specific - Restricted entirely within project footprint)	Low (8)	High	Moderate
7	Energy and Resource Consumption	Increased electricity, water, HVAC, medical gas, cooling, and utility demand associated	3 (Medium Term - Impact persists for months to several years with	4 (Likely - Expected to occur regularly	2 (Affects a small group or localized habitat)	1 (Site-specific - Restricted entirely	Moderate (10)	Moderate	Moderate

No	E & S Risk/Impact	Project activities that cause Risks/ Impacts	Nature & Duration of Risks/Impacts	Risks/Impacts Likelihood	Risk/Impact Scope	Spatial Scale	Risks/Impacts Magnitude (Total Score)	Receptor Sensitivity	Risk/Impact Significance
		with expanded hospital operations.	moderate recovery effort required)	during project activities)		within project footprint)			
8	Occupational Health and Safety	Sharps injuries, infection and biological exposure, cytotoxic/chemical exposure, radiation exposure, ergonomic and psychosocial risks, workplace violence, and emergency/fire risks among healthcare workers.	2 (Short Term - Impact lasts weeks to months and recovery occurs naturally within a short period)	3 (Possible - May occur under certain operational conditions)	2 (Affects a small group or localized habitat)	2 (Immediate Local Area - Limited to adjacent project surrounding)	Low (9)	High	Moderate
9	Community Health and Safety	Traffic and parking pressure, infectious disease transmission, hazardous-material release, vector proliferation, emergency access risks (including fire emergency), and patient/visitor/community safety and security risks	2 (Short Term - Impact lasts weeks to months and recovery occurs naturally within a short period)	3 (Possible - May occur under certain operational conditions)	2 (Affects a small group or localized habitat)	2 (Immediate Local Area - Limited to adjacent project surrounding)	Low (9)	Low	Low
10	Patient Safety, Privacy and Dignity	GBV/SEAH related risk, Confidentiality breaches, overcrowding, inadequate clinical segregation, isolation-	2 (Short Term - Impact lasts weeks to months and recovery occurs naturally	4 (Likely - Expected to occur regularly during	2 (Affects a small group or localized habitat)	2 (Immediate Local Area - Limited to adjacent project surrounding)	Moderate (10)	Moderate	Moderate

No	E & S Risk/Impact	Project activities that cause Risks/ Impacts	Nature & Duration of Risks/Impacts	Risks/Impacts Likelihood	Risk/Impact Scope	Spatial Scale	Risks/Impacts Magnitude (Total Score)	Receptor Sensitivity	Risk/Impact Significance
		system failure, and reduced patient comfort or dignity in specialized care services.	within a short period)	project activities)					

Table 7.19. Summary of Environmental and Social Mitigation Measure

No	E & S Risk/ Impact	Project activities that cause Risks/ Impacts	Inherent Significance Impact	Receptor Sensitivity	Proposed Mitigation Measures	Project Stage/ Responsibilities	Estimates Cost (IDR)	Residual Impact	Monitoring Plan	KPI
Pre Construction										
1	ACM Demolition	Demolition of existing buildings and supporting structures with asbestos containing material induces asbestos removal related risks, as well as occupational and community health risk	High	High	Implement consistently and effectively on demolition management procedures, ACM management plan, hazardous material management plans and occupational health and safety protocols. The ACM management measures include, but are not limited to: Maintaining a suspect ACM inventory (asbestos register) that includes location, material type, condition, photographs, risk level, and follow-up actions through pre-demolition survey; Label suspect ACM locations and restrict access to high-risk materials such as damaged, friable, or exposed substances. Prohibition of uncontrolled disturbance (cutting, drilling, sanding, dry sweeping, abrasive cleaning, manual demolition, and uncontrolled relocation). Confirmatory laboratory testing (XRD phase matching and/or PLM/TEM) prior to demolition or removal of suspect materials. Safe work procedures for any work that may disturb suspect ACM: task-specific risk assessment, permit-to-work, wet methods where feasible, work-area segregation, dust control, appropriate respiratory and body PPE, and competent supervision. Engineering controls (encapsulation or enclosure) for suspect ACM remain in place. Management of removed suspect ACM as hazardous (B3) waste under PP 22/2021 and Permen LHK 6/2021: sealed packaging,	Contractor + Fatmawati Hospital K3RS	IDR 150,000,000	Low-Moderate	Site inspections; review of demolition permits, AMP implementation, environmental, OHS compliance.	Approved plans in place; zero major incidents

No	E & S Risk/ Impact	Project activities that cause Risks/ Impacts	Inherent Significance Impact	Receptor Sensitivity	Proposed Mitigation Measures	Project Stage/ Responsibilities	Estimates Cost (IDR)	Residual Impact	Monitoring Plan	KPI
					labeling, secure temporary storage, and transport and final management by licensed and competent parties, with full documentation for traceability. A periodic inspection program tied to risk level: every 1 to 3 months for high-risk materials, every 6 months for medium-risk materials, and every 12 months for low-risk materials, with re-inspection triggered by any damage, disturbance, or planned works. Risk communication and training for K3RS, IPSRS, sanitation, cleaning, security, planning units, and contractors. Integration of the asbestos register into planning and permitting of all maintenance, renovation, relocation, and demolition works, so that no work proceeds in a registered area without prior asbestos risk review					
2	Waste and dust generation and increase of noise level during demolition and preparation of relocated area	Demolition of existing buildings and supporting structures and preparation of relocated area, induced dust generation, elevated noise and vibration levels, increased construction waste including hazardous construction waste.	Low	Moderate	Dust generation and increase noise level measures including: Ensure that the PIU implement mitigation measures to reduce dust generation and increase of noise level during preparation of relocated area for health services and tenants, including use vacuum to clean dust, limit the working hour during daytime, install temporary barrier, apply wet suppression, schedule high-noise activities (including concrete breaking, mechanical cutting, and pneumatic tool use) within the most restrictive sub-window of daytime hours. Waste generation measures including: Strictly prohibit mixing of hazardous and non-hazardous waste streams at any stage of collection, storage, or transport, implement waste management plan for anticipated waste streams, store all	Fatmawati Hospital	IDR 100,000,000	Low	Biweekly air quality and dust level monitoring at sensitive areas and monthly outside sensitive areas, compliance with applicable standards, quarterly reporting to AIIB	Air quality and dust level comply with relevant standards. All waste is managed according to applicable regulations

No	E & S Risk/ Impact	Project activities that cause Risks/ Impacts	Inherent Significance Impact	Receptor Sensitivity	Proposed Mitigation Measures	Project Stage/ Responsibilities	Estimates Cost (IDR)	Residual Impact	Monitoring Plan	KPI
					construction waste in designated enclosed or covered temporary storage areas within the work zone or at an agreed staging point within the hospital site.					
3	Relocation of Hospital Service	Temporary transfer of affected departments, medical equipment, administrative functions, healthcare personnel, and associated support services to designated temporary facilities	Moderate	Moderate	Phased construction sequencing; utility protection protocols; clinical schedule coordination with RSUP Fatmawati management; ensure that relocated health service areas are fully fitted, equipped, and operationally commissioned before patient-facing services are transferred from the original location; no patient-facing service shall be relocated to an area that has not been cleared, cleaned, and verified as fit for clinical use; and maintain full accessibility to all critical health services throughout the relocation period.	Fatmawati Hospital	IDR 1,152,000,000	Low	Monitor implementation of relocation plan, service continuity, patient access, emergency access, and stakeholder complaints (GRM).	Zero interruption to critical services; grievances resolved
4	Resettlement of tenants	Tenant contract termination and resettlement due to demolishment of the existing building and construction of three buildings	Moderate	Moderate	Early notification of construction plans, timelines, and GRM access; priority for in-campus relocation options; Ensure that temporary relocation areas allocated to tenants are provided with adequate utilities (electricity, water, sanitation) and are accessible to hospital staff, patients, and visitors to minimise disruption to tenant income during the transition period.	Fatmawati Hospital	IDR 212,000,000	Low	Monitor socioeconomic survey prior construction and after relocation throughout construction phase	All tenants get a meaningful information
Construction										
1	Air Quality and Dust	Dust emissions from demolition, excavation, hauling, concrete works, and vehicle movement; diesel exhaust emissions from heavy equipment.	Moderate	High	Limit the working hours during daytime, apply wet suppression or water spraying, wheel-wash station, covered vehicles, regular dust and PM monitoring and reporting to AIIB.	Contractor	IDR 200,000,000	Low	Biweekly air quality and dust level monitoring at sensitive areas and monthly outside sensitive areas, compliance with applicable standards, quarterly reporting to AIIB.	Air quality and dust level comply with relevant standards.
2	Noise and Vibration	Piling, demolition, excavation, heavy equipment operation, and truck movement affecting	Moderate	High	Restricted working hours; low-noise and low-vibration piling methods; bore-pile method;	Contractor	IDR 200,000,000	Low	Continuous during piling and compaction, weekly during heavy works, compliance	Noise and vibration level comply with relevant standards.

No	E & S Risk/ Impact	Project activities that cause Risks/ Impacts	Inherent Significance Impact	Receptor Sensitivity	Proposed Mitigation Measures	Project Stage/ Responsibilities	Estimates Cost (IDR)	Residual Impact	Monitoring Plan	KPI
		hospital operations and surrounding urban receptors.			low-noise equipment; acoustic barriers; monitoring of sensitive receptor buildings.				with applicable standards, quarterly reporting to AIIB.	
4	Traffic and Access	Construction vehicle movement, temporary road obstruction, ambulance-access disruption, and congestion on Jalan Fatmawati Raya and TB Simatupang corridor.	Moderate	Moderate	Preparation and compliance to Andalalin, Off-peak haulage, designated truck routes, traffic marshals, ambulance-access protection, Dishub/Polantas coordination	Contractor + Transport Specialist	IDR 100,000,000	Low	Biweekly traffic counting during peak mobilization and demobilization, quarterly reporting to AIIB.	No traffic obstruction
5	Surface Water, Groundwater and Drainage	Sediment runoff, drainage obstruction, contaminated stormwater, excavation dewatering and groundwater disturbance.	Moderate	Moderate	Runoff erosion controls (e,g. silt fencing, sediment traps); dewatering management plan including dewatering water filtering; drainage channel maintenance	Contractor + Hydrology Specialist	IDR 114,000,000	Low	Monthly monitoring of water quality and compliance with applicable standards, regular monitoring of drainage channel condition, quarterly reporting to AIIB.	Dewatering and drainage kept functional; zero uncontrolled contaminated discharge.
6	Construction Waste and Hazardous Materials	Demolition waste, spoil disposal, hazardous residues, fuel/oil spills, concrete washwater, and temporary waste storage.	Moderate	High	For construction waste; construction waste SOP, waste segregation, licensed transport/disposal, temporary storage controls, waste manifest system. For hazardous waste; B3 storage standards, spill-response procedures, hazardous-material handling SOPs, licensed B3 contractors	Contractor + Fatmawati Hospital Kesling	IDR 100,000,000	Low	Monthly monitoring of treated waste water quality meet stringent standards Monthly hazardous waste records and its manifestation Daily self-monitoring (pH, flow rate, temperature, TDS) Quarterly reporting to AIIB.	All waste is managed according to applicable regulations
7	Occupational Health and Safety	Work-at-height risks, crane operation, excavation hazards, electrical risks, confined spaces, heavy equipment interaction, and worker exposure to hazardous materials.	Moderate	High	CESMP and SMK3 implementation; task-specific risk assessments and method statements; PPE; toolbox meetings; work-at-height, excavation, lifting/crane, confined-space and electrical safety controls; hazardous-material controls; emergency response procedures.	Contractor	IDR 30,000,000	Low	Weekly OHS monitoring	100% workers inducted/trained and provided required PPE 100% high-risk activities covered by approved risk assessment/permit Zero fatalities and major OHS incidents
8	Community Health and Safety	Dust, noise, traffic accidents, falling objects, restricted access, emergency-access disruption, and accidental hazardous-material release affecting nearby communities and hospital users.	High	High	Contractor to prepare and implement a Construction Environmental and Social Management Plan (C-ESMP), including a Hospital Interface Management Plan (HIMP). Conduct PCRA and ICRA prior to each construction stage.	Contractor + Fatmawati Hospital	IDR 258,000,000	Moderate	PCRA/ICRA compliance and hospital-interface inspections before, during and after construction	100% construction stages covered by PCRA/ICRA before work starts 100% construction–hospital interface inspections completed as scheduled

No	E & S Risk/ Impact	Project activities that cause Risks/ Impacts	Inherent Significance Impact	Receptor Sensitivity	Proposed Mitigation Measures	Project Stage/ Responsibilities	Estimates Cost (IDR)	Residual Impact	Monitoring Plan	KPI
					Maintain critical services, emergency access, and utility continuity through coordination with hospital operations. Establish clear segregation between construction and hospital operational areas using hoarding/barriers, controlled access, and safety signage. Assign traffic marshals/flagmen to manage construction vehicle movements and maintain safe pedestrian and ambulance access.					Zero uncontrolled disruption to emergency access/critical hospital services Zero major CHS incidents involving patients, staff, visitors or community
9	Labour Influx and Working Conditions	Worker accommodation, worker welfare, labor-rights compliance, communicable disease transmission, GBV/SEAH related risks, and contractor workforce conduct.	Moderate	Moderate	Worker accommodation provision; Code of Conduct enforcement; labour-rights compliance monitoring; gender-sensitive induction training, GBV/SEAH awareness training, prioritize local worker's absorption.	Contractor	IDR 75,000,000	Low	Monthly worker welfare audit	100% workers covered by Code of Conduct/induction
10	Hospital Service Continuity	Disruption to ongoing clinical operations, utility interruption, vibration-sensitive medical services, emergency response access, and temporary relocation of hospital functions.	Low	Moderate	Phased construction sequencing; utility protection protocols; clinical schedule coordination with RSUP Fatmawati management, early notification of construction plans	Fatmawati Hospital + Contractor	IDR 54,000,000	Low	Regular hospital–contractor coordination; review of utility/service interruptions and emergency-access incidents	Zero unplanned critical-service interruptions
11	Potential Heritage and Archaeological Resources	Potential disturbance to historically significant structures, vibration effects on adjacent buildings, and accidental discovery of archaeological or cultural materials.	High	High	Submission of a letter and request for guidance from the relevant authorities regarding the cultural heritage status of the *Gedung Induk*, as well as preventive measures to preserve its structure in accordance with the original building.	Contractor + Cultural Heritage Specialist	IDR 50,000,000	Moderate	Follow-up on authority consultation and documentation of the formal response/guidance.	Formal guidance/response from the relevant authority obtained before works affecting the building.
Operational										
1	Air Quality, Stack Emission and Indoor Infection Control	Boiler/genset emissions, hazardous-waste treatment emissions, HVAC failure, inadequate ventilation, airborne infection transmission, and nosocomial disease spread.	Moderate-High	High	HEPA filtration systems; HVAC preventive maintenance; compliance via Technical Approval and SLO; periodic air quality monitoring per applicable regulations	Fatmawati Hospital PPI + K3RS	IDR 889,140,000 (Embedded within hospital operational budget)	Moderate	Annual and after major maintenance, biannual boiler emission monitoring, periodic genset emission monitoring, periodic reporting to relevant regulator authorities or per Technical Approval	Air emission quality monitoring and indoor air quality comply with relevant standards

No	E & S Risk/ Impact	Project activities that cause Risks/ Impacts	Inherent Significance Impact	Receptor Sensitivity	Proposed Mitigation Measures	Project Stage/ Responsibilities	Estimates Cost (IDR)	Residual Impact	Monitoring Plan	KPI
2	Noise and Vibration	Operational noise from generators, chillers, HVAC systems, ambulances, and vibration from MRI, PET Scan, and Hybrid Cath Lab equipment affecting diagnostic integrity and surrounding receptors.	Moderate	Moderate	Vibration and noise isolation systems; low-noise equipment specifications; acoustic barriers in sensitive areas, periodic noise and vibration level monitoring	Fatmawati Hospital	IDR 546,000,000 (Embedded within hospital operational budget)	Low	Biannual 48-hr noise monitoring	Noise generation meet IFC EHS Guidelines and national regulation
3	Traffic, Accessibility and Parking	Increased patient, visitor, ambulance, logistics, and staff traffic causing congestion, parking pressure, and emergency-access constraints.	Moderate	Moderate	Implement the approved Traffic Impact Management (Andalalin), including parking management, internal circulation, emergency access, traffic signage, and periodic traffic monitoring.	Fatmawati Hospital + Dishub	IDR 500,000,000 (Embedded within hospital operational and parking-management budget)	Low	Biannual observation monitor traffic flow, parking utilization, emergency access, and traffic-related complaints.	Emergency access maintained at all times. Parking occupancy maintained within design capacity. Zero traffic incidents attributable to hospital operations. Andalalin implemented and periodically reviewed.
4	Effluent, Water Supply and Drainage	Increased wastewater generation, IPAL loading, stormwater runoff, drainage overload, groundwater abstraction pressure, and treated-effluent compliance risks.	Moderate	Moderate	IPAL capacity upgrading; periodic effluent, water and groundwater monitoring per applicable regulations; drainage, IPAL and water supply infrastructure maintenance; compliance through SIPA, Technical Approval and SLO; emergency response procedures, and preventive maintenance requirements.	Fatmawati Hospital Kesling	IDR 1,949,688,000 (IPAL upgrade subject to DED; routine monitoring under annual operational budget)	Low	Monthly effluent, water and groundwater quality monitoring or per Technical Approval	Effluent, water and groundeater quality meet standards, updated WWTP SOP implemented prior to operation.
5	Domestic Waste and Hazardous Materials	Increased domestic waste, infectious waste, sharps, cytotoxic waste, pharmaceutical waste, radioactive waste, chemical waste, and hazardous-waste transport/storage risks.	Moderate	Moderate	Existing SOPs for domestic and hazardous waste management (SPO No HK 01.07/VIII.4/2010/2022 153 IKK – Penatalaksanaan Limbah Padat (Infeksius dan Non-Infeksius) di Rumah Sakit) covers waste, handling guidelines for infectious and cytotoxic waste, internal transit, temporary storage, trash weighing, and housekeeping. It also focuses on workplace health and infection prevention. Domestic waste: SOP Pengolahan Limbah Daur Ulang & Penyerahan ke Pihak Lain (SPO No. HK 01.07.VIII.4/2002/2022 153/IKK & SPO No. HK 01.07/VIII/4/1414/2022 153/IKK) cover collection, weighing and record keeping, decontamination and preparation of recylable non-infectious healthcare waste,	Fatmawati Hospital Kesling + PPI	IDR 28,860,000,000 (Annual domestic & B3 management and licensed disposal costs - subject to operational waste volume)	Low	Quarterly waste records and its manifestation or per Technical Details	All waste is managed according applicable regulations

No	E & S Risk/ Impact	Project activities that cause Risks/ Impacts	Inherent Significance Impact	Receptor Sensitivity	Proposed Mitigation Measures	Project Stage/ Responsibilities	Estimates Cost (IDR)	Residual Impact	Monitoring Plan	KPI
					temporary storage, transfer to licensed contractors, and reporting. Hazardous waste: SOP Pengelolaan Limbah Tajam & Penatalaksanaan Paska Pajanan Limbah Tajam (SPO No. HK 01.07/VIII.4/1423/2022 (011/PPI) & SPO No. HK 01.07/VIII.4/1436.2022 (011.PPI)) cover sharp waste handling, safety box management, internal transfer to sanitation personnel, occupational exposure response, incident reporting, and post-exposure documentation. SOP Penyimpanan Limbah B3 di TPS & Penyerahan Limbah B3 ke Pihak Ketiga (SPO No. HK 01.07/VIII.4/1999/2022 153/IKK & SPO No. HK 01.07/VIII.4/2003/2022 153/IKK) cover hazardous waste classification, segregation and temporary storage, waste acceptance and inventory control, documentation and handover procedures, licensed transportation, off-site treatment and disposal by authorized third-parties contractors, and record keeping. Emergency procedure (SPO No. HK 01.07/VIII/4/1993/2022 153/IKK) covers spill prevention and emergency responses, hazardous waste material exposure management, incident reporting, and recovery procedures. Rintek B3 compliance Procurement of new licensed transport and treatment contractors for general hazardous waste following expiry of the existing contract.					
6	Radiation Safety and Radioactive Materials	Occupational and patient exposure to ionising radiation, radioactive wastewater, isotope handling, shielding failure, and radioactive contamination risks associated with nuclear medicine services.	Moderate	High	Radiation shielding, BAPETEN licensing, radioactive-waste handling SOPs, dosimetry monitoring	Fatmawati Hospital K3RS liise with Bapeten	IDR 282,000,000 (Embedded within nuclear medicine operational and compliance budget)	Low	Biannual radioactive waste monitoring	No radioactive waste releases to environment

No	E & S Risk/ Impact	Project activities that cause Risks/ Impacts	Inherent Significance Impact	Receptor Sensitivity	Proposed Mitigation Measures	Project Stage/ Responsibilities	Estimates Cost (IDR)	Residual Impact	Monitoring Plan	KPI
7	Energy and Resource Consumption	Increased electricity, water, HVAC, medical gas, cooling, and utility demand associated with expanded hospital operations.	Moderate	Moderate	Green Hospital measures, LED systems, HVAC efficiency, water-efficiency measures, utility monitoring	Fatmawati Hospital	IDR 1.3 85.000.000 (Embedded within utility operational expenditure and Green Hospital programme)	Low	Monthly electricity, water and utility consumption monitoring	100% monthly utility consumption recorded and reviewed
8	Occupational Health and Safety	Sharps injuries, infection and biological exposure, cytotoxic/chemical exposure, radiation exposure, ergonomic and psychosocial risks, workplace violence, and emergency/fire risks among healthcare workers.	Moderate	High	Implement K3RS programme; vaccination and PPE; sharps and infection-exposure controls; radiation and cytotoxic/chemical handling controls; ergonomic and psychosocial risk management; workplace-violence prevention; emergency and fire preparedness.	Fatmawati Hospital K3RS	IDR 150,000,000 per year (Annual K3RS and occupational-health operational budget)	Moderate	Periodic K3RS/OHS inspection; review occupational injuries and exposure incidents, vaccination/training records, radiation/cytotoxic exposure records, and emergency preparedness.	100% occupational exposure/incidents recorded and managed; 100% relevant workers trained and provided required PPE; zero fatal occupational incidents.
9	Community Health and Safety	Traffic and parking pressure, infectious disease transmission, hazardous-material release, vector proliferation, emergency access risks (including fire emergency), and patient/visitor/community safety and security risks	Low	Low	Strengthen hospital emergency preparedness; implement vector-control programme; manage traffic and parking; implement hospital security and security-personnel protocols; maintain hazardous-material/spill response; operationalize patient/community grievance mechanism.	Fatmawati Hospital	IDR 150,000,000 per year (Embedded within hospital operational and emergency-preparedness budget)	Low	Periodic monitoring of community health, vector control, traffic/parking, security and hazardous-material incidents; review patient/community complaints and emergency preparedness.	100% reported complaints/incidents addressed; emergency preparedness measures implemented; zero major community health, security or hazardous-material incidents.

No	E & S Risk/ Impact	Project activities that cause Risks/ Impacts	Inherent Significance Impact	Receptor Sensitivity	Proposed Mitigation Measures	Project Stage/ Responsibilities	Estimates Cost (IDR)	Residual Impact	Monitoring Plan	KPI
10	Patient Dignity, Privacy, and Gender (GBV/SEAH) related risks	GBV/SEAH related risk, Confidentiality breaches, overcrowding, inadequate clinical segregation, isolation-system failure, and reduced patient comfort or dignity in specialized care services.	Moderate	Moderate	Measures for gender related issues including establishment and operationalization of the Gender Mainstreaming (PUG) Working Group, operationalization of complaint mechanisms for GBV Patient confidentiality and dignity are protected per the following procedures: Standard Operational Procedures on Patient Safety/Privacy from Physical Attack / SPO Perlindungan Pasien dari Serangan Kekerasan Fisik (HK.01.07/VIII.4/2670/2022): CCTV monitoring of all care areas, identification and restricted access for vulnerable patients (infants, post-operative, children, persons with disability, unconscious/ICU-ICCU-NICU-PICU patients, elderly, patients with mental/emotional disturbance, and patients with hearing, vision, literacy or language limitations), and visitor identity logging with ID exchange. Clinical segregation and isolation-system integrity maintained per SPO Ketentuan Jam Besuk (HK.01.07/VIII.4/2668/2022): ICU/ICCU/HCU/NICU/PICU/PACU access restricted to viewing through a glass partition on a rostered basis, with direct room entry permitted only to family members and only following confirmation from the attending nurse. Overcrowding and reduced patient comfort controlled per SPO Tata Tertib Penunggu Pasien (HK.01.07/VIII.4/2672/2022): one attendant per patient (exceeding only on documented medical indication), mandatory attendant identification card,	Fatmawati Hospital Management	IDR 15,000,000 / year (Embedded within hospital management and service-quality programme)	Low	Periodic review of GBV/SEAH, confidentiality, visitor access and patient segregation controls; patient satisfaction rate.	100% complaints/incidents addressed; zero confirmed confidentiality/GBV/SEAH breaches; patient satisfaction maintained.

No	E & S Risk/ Impact	Project activities that cause Risks/ Impacts	Inherent Significance Impact	Receptor Sensitivity	Proposed Mitigation Measures	Project Stage/ Responsibilities	Estimates Cost (IDR)	Residual Impact	Monitoring Plan	KPI
					prohibition on photographing patients or the hospital premises, and enforced visiting-hour windows (11:30–13:00 and 17:00–19:00 WIB). Access and confidentiality further reinforced per SPO Identifikasi Tamu (HK.01.07/VIII.4/2768/2022): all visitors outside official visiting hours are identified, logged in the visitor book, and required to exchange personal identification for a visitor pass before entry. These four SOPs are reviewed and reissued by Hospital Management on a periodic basis (per SOP revision cycle) and reinforced through staff training and signage at ward entry points.					

Table 7.20. Summary of Identified Climate Risk, Future Trends, and Proposed Adaptation Responses for Fatmawati Hospital Project (Swiss Re CatNet 2026)

Climate Risk Category	Climate Hazard	Baseline / Existing Vulnerability	Future Climate Projection / Risk Trend	Potential Impact on Fatmawati Hospital	Adaptation / Resilience Response
Acute Physical Risk	Extreme rainfall and urban flooding	DKI Jakarta experiences high rainfall intensity and lowland flood vulnerability, although the Project Area is currently categorized outside major fluvial and pluvial flood zones in the Swiss Re CatNet® baseline assessment	Increased rainfall variability and more frequent extreme precipitation events projected under future climate scenarios	Localized inundation, drainage overload, disruption to hospital access and emergency mobility	Drainage system designed for climate-adjusted storm capacity; retention/detention ponds; routine drainage maintenance and cleanout protocol
Acute Physical Risk	Storm-related power outage	Extreme weather may disrupt regional electricity supply and emergency response systems	Increasing heat-wave and storm intensity may increase strain on power systems	Interruption of critical healthcare services and medical equipment operation	Back-up genset capacity sized for critical loads (ICU, operating theatre, isolation wards, vaccine cold chain); fuel reserve maintained for >72 hours
Acute Physical Risk	Vector-borne disease outbreak	Jakarta remains vulnerable to dengue and climate-sensitive disease transmission	Climate change may increase vector habitat suitability and disease transmission periods	Increased healthcare demand and pressure on hospital surge capacity	Vector surveillance and control program; surge capacity for DBD and infectious disease wards; coordination with Dinas Kesehatan
Chronic Physical Risk	Heat wave and rising temperature	Existing urban heat exposure and high humidity conditions in metropolitan Jakarta	Swiss Re CatNet projects heat-wave risk reaching “Extreme” levels under SSP2-4.5 and SSP5-8.5 scenarios from approximately 2040 onward	Increased HVAC load, higher cooling demand, thermal stress for staff and patients	HVAC system sized with climate-adjusted cooling load assumptions; shaded outdoor spaces, increase green spaces, and passive thermal comfort measures
Chronic Physical Risk	Drought and water stress	Seasonal dry anomalies occasionally affect Jakarta water availability	Drought risk projected to increase progressively under higher-emission scenarios toward 2085	Pressure on water supply reliability for hospital operations and sanitation	Reserve water storage capacity; supplementary water supply arrangements (SIPA); consideration of rainwater harvesting

Climate Risk Category	Climate Hazard	Baseline / Existing Vulnerability	Future Climate Projection / Risk Trend	Potential Impact on Fatmawati Hospital	Adaptation / Resilience Response
Chronic Physical Risk	Sea-level rise and regional flood interaction	Jakarta drainage systems are interconnected with lowland river and coastal systems, although the Project Area is currently outside direct storm surge zones	Storm surge and sea-level rise risks increase toward the later projection period, especially under SSP5-8.5	Reduced drainage efficiency, prolonged flood recession, regional accessibility disruption	Integration with Jakarta flood resilience planning; elevated critical infrastructure and flood-responsive drainage design
Acute Physical Risk	Earthquake hazard	Swiss Re CatNet® identifies significant earthquake exposure for the Project Area, with PGA 0.246 g and MMI VII intensity	Seismic hazard is considered a persistent regional geophysical risk rather than climate-driven risk	Structural damage risk and operational disruption during seismic events	Compliance with Indonesian seismic design standards; structural engineering review; emergency preparedness and evacuation procedures
Acute Physical Risk	Localized slope instability / erosion	Swiss Re CatNet® categorizes landslide hazard as negligible under baseline conditions	Higher rainfall intensity may increase localized erosion and drainage instability	Minor structural or drainage instability during heavy rainfall	Geotechnical assessment; retaining structures; stormwater channeling away from vulnerable areas
Acute Physical Risk	Windstorm	Baseline windstorm hazard categorized as very low (<20 m/s peak gust)	Potential increase in localized storm intensity under future climate variability	Minor façade, roofing, or utility disruption	Wind-resistant façade and roofing design; emergency inspection and maintenance procedures
Acute Physical Risk	Fire / wildfire risk during extended dry periods	Swiss Re CatNet® categorizes wildfire hazard as negligible for the metropolitan Project Area	Extended dry periods and heat anomalies may marginally increase localized fire risk	Operational disruption and fire safety risk	Fire-defensible perimeter; on-site firefighting systems; coordination with local fire services (Damkar)

7.7. GREENHOUSE GAS INVENTORY AND RESOURCE EFFICIENCY

An indicative GHG inventory framework follows the GHG Protocol Corporate Standard, with Scope 1 (direct emissions from on-site combustion: genset diesel, boiler fuel, WWTP, HVAC, operational vehicle), Scope 2 (purchased electricity from PLN), and Scope 3 (selected categories with material relevance: patien & visitors travel, business travel, employee commuting, supply chain emissions for medical equipment and consumables, food supply). The full quantification will be developed by the climate specialist using site-specific fuel and electricity consumption data once available from Fatmawati Hospital operational records.

This GHG inventory was developed to quantify emissions associated with the existing conditions (baseline) and the proposed redevelopment project at RSUP Fatmawati. The inventory provides an understanding of the current emission profile and the potential changes resulting from operation of the proposed development. Emissions are reported as carbon dioxide equivalent (ton CO_2-eq) using Global Warming Potentials (GWP) from the Intergovernmental Panel on Climate Change (IPCC).

7.7.1. Baseline Greenhouse Gas Inventory

Scope and Boundary

The baseline inventory represents emissions associated with the existing hospital facilities and supporting infrastructure prior to project implementation. The assessment boundary covers activities occurring within the RSUP Fatmawati operational area and includes:

- Scope 1 emissions from stationary fuel combustion, emergency generators, hospital-owned vehicles, medical gas consumption, and refrigerant leakage;
- Scope 2 emissions from purchased electricity supplied through the national grid;
- Scope 3 (selected) emissions associated with water consumption, wastewater treatment, pharmaceutical procurement, food supply, waste management, employee commuting, patient transportation, and other relevant upstream and downstream activities where data were available.

Methodology

Baseline emissions were estimated using an activity-based approach:

GHG Emissions = Activity Data × Emission Factor

Activity data were obtained from hospital operational records, utility bills, procurement records, waste management data, and stakeholder consultations. Emission factors were sourced from nationally recognized databases, IPCC Guidelines, Ministry of Environment and Forestry (KLHK) references, and internationally accepted lifecycle databases where local factors were unavailable.

7.7.1.1. Baseline GHG Inventory Scope 1

As previously described, the sources of Scope 1 greenhouse gas (GHG) emissions at RSUP Fatmawati include generators (gensets), boilers, HVAC systems, wastewater treatment plant (WWTP) operations, and hospital-owned vehicles. The calculation methodology and estimated emissions for each source are described below and summarized in Table 7.21.

RSUP Fatmawati currently operates 11 generators and two boilers, both of which are fueled by diesel. Based on the latest diesel consumption data provided for the period of January to April 2026, the boilers and generators consumed an average of 14,959 L/month and 104 L/month of diesel, respectively. Using an emission factor of 2.68 kgCO_2-eq/L of diesel, the resulting annual GHG emissions are estimated at approximately 962 tonnes CO_2-eq and 37 tonnes CO_2-eq, respectively.

HVAC systems represent another significant source of GHG emissions at RSUP Fatmawati. Given the numbers of hospital buildings and the tropical climate conditions, cooling systems are essential for maintaining patient comfort and supporting hospital operations. The hospital provided annual refrigerant procurement records covering the period from 2023 to 2025, which included three refrigerant types: R-32, R-410A, and R-134A. For the purpose of this assessment, annual refrigerant procurement was assumed to represent annual refrigerant leakage and was therefore treated as a source of fugitive GHG emissions. The average annual consumption of R-32, R-410A, and R-134A was 143 kg, 433 kg, and 204 kg, respectively. Emissions were calculated by multiplying the annual consumption of each refrigerant by its respective Global Warming Potential (GWP) based on IPCC AR6 values. The resulting annual emissions are estimated at 111 tonnes CO_2-eq for R-32, 977 tonnes CO_2-eq for R-410A, and 311 tonnes CO_2-eq for R-134A.

Wastewater treatment processes generate non-fossil methane (CH_4), which has a Global Warming Potential (GWP) of 27 kgCO_2-eq/kg CH_4 according to IPCC AR6. Based on baseline environmental data, the WWTP treats approximately 510 m^3/day of wastewater with an average biochemical oxygen demand (BOD) concentration of 4.93 mg/L. This corresponds to an estimated total organic weight (TOW) of 918 kg/year. Methane generation was calculated in accordance with the IPCC 2006 Guidelines for National Greenhouse Gas Inventories, Volume 5, Tier 1 methodology for partially aerobic treatment systems, using a maximum methane production capacity (B_o) of 0.6 kgCH_4/kgBOD and a methane correction factor (MCF) of 0.25, consistent with aerobic or sequencing batch reactor (SBR) treatment systems. Based on this approach, annual emissions from wastewater treatment are estimated at 3.84 tonnes CO_2-eq per year.

RSUP Fatmawati also provided data on its fleet of hospital-owned vehicles, including operational cars, ambulances, and motorcycles. The inventory consists of 14 gasoline-powered operational cars, four gasoline-powered ambulances, and five motorcycles, each with recorded annual travel distances. Emissions were calculated following the IPCC 2006 Guidelines using an assumed fuel economy of 10 km/L, a gasoline (Octane 87) energy content of 32 MJ/L, and emission factors of 69,300 kg/TJ for CO_2, 33 kg/TJ for CH_4, and 3.2 kg/TJ for N_2O. Based on the reported annual travel distances, estimated emissions are 28 tonnes CO_2-eq/year for operational cars, 2.6 tonnes CO_2-eq/year for ambulances, and 7 tonnes CO_2-eq/year for motorcycles.

Overall, the baseline Scope 1 GHG inventory for RSUP Fatmawati is estimated to be slightly below 2,440 tonnes CO_2-eq per year, with refrigerant leakage from HVAC systems and boilers' diesel consumption representing the largest contributor to total direct emissions.

Table 7.21. Scope 1 Baseline GHG Inventory of RSUP Fatmawati

Scope	Emission Source	Activity	Value	Unit	Total CO2eq (t/y)	Contribution
1	Gensets	Diesel Consumption (EF=2.68 kg CO_2-eq/L*)	13,728	L/y	36.79	1.508%
	Boilers	Diesel Consumption (EF=2.68 kg CO_2-eq/L*)	359,016	L/y	962.16	39.440%
	HVAC refrigerant	R-32 (EF=771 kg CO_2-eq/kg*)	143.33	kg/y	110.51	4.530%
	HVAC refrigerant	R-410A (EF=2256 kg CO_2-eq/kg**)	433.17	kg/y	977.22	40.058%
	HVAC refrigerant	R-134A (EF=1530 kg CO_2-eq/kg*)	203.50	kg/y	311.36	12.763%
	WWTP	Total Organic Weight	918	kg/y	3.84	0.158%
	Staff Operational Vehicle	Gasoline consumption	12,370	L/y	28.14	1.154%
	Ambulance	Gasoline consumption	1,125	L/y	2.56	0.105%
	Motorcycle	Gasoline consumption	3,057	L/y	6.96	0.285%
		Total Scope 1 GHG Emission			**2,439.54**	**100%**

*Data taken from IPCC AR 6
** Data taken from https://carbonly.ai/emission-factors/australia/refrigerant-r410a following IPCC AR 6

7.7.1.2. Baseline GHG Inventory Scope 2

Scope 2 emissions comprise indirect greenhouse gas (GHG) emissions associated with the consumption of purchased electricity supplied through the PLN Java–Madura–Bali (Jamali) grid. Based on electricity consumption records provided by RSUP Fatmawati for the period of January to May 2026, the hospital recorded an average monthly electricity consumption of 1,676,346 kWh. This value was adopted as the baseline monthly electricity demand, considering the relatively stable climatic conditions in Jakarta, which generally do not experience significant seasonal temperature variations that would substantially affect electricity consumption patterns.

Scope 2 emissions were estimated using the PLN Jamali grid emission factor of 0.874 kgCO_2/kWh, as stipulated in the Directorate General of New, Renewable Energy and Energy Conservation (EBTKE) Decree of the Ministry of Energy and Mineral Resources (MEMR) issued in 2023. As the referenced emission factor only provides a CO_2 component and does not include emission factors for CH_4 or N_2O, total CO_2-equivalent (CO_2-eq) emissions were assumed to be represented solely by CO_2 emissions.

Based on the above methodology, the estimated annual Scope 2 GHG emissions associated with purchased electricity consumption at RSUP Fatmawati are approximately 17.5 kilotonnes CO_2-eq per year (Table 7.22).

Table 7.22. Baseline Scope 2 GHG Inventory of RSUP Fatmawati

Scope	Emission Source	Activity	Value	Unit	Total CO2eq (t/y)	Contribution
2	Purchased Electricity	Electricity Consumption (EF = 0.874 kg CO_2/kWh*)	20,116,152	kWh/y	17,581.52	100%
		Total Scope 2 GHG Emission			**17,581.52**	**100%**

*Value taken from Directorate General of New, Renewable Energy and Energy Conservation (EBTKE) Decree of the Ministry of Energy and Mineral Resources (MEMR) issued in 2023

7.7.1.3. Baseline GHG Inventory Scope 3

Scope 3 GHG emissions are reported to provide a comprehensive assessment of the Project's value chain emissions and have been estimated using the best available activity data, recognised emission factors, and documented assumptions where primary data were unavailable. In accordance with the GHG Protocol Corporate Value Chain (Scope 3) Standard, individual categories were screened and prioritised based on their materiality, relevance to the Project, and data availability, with the assessment focusing on the most significant emission sources. While reporting Scope 3 emissions improves transparency and supports the identification of long-term value chain reduction opportunities, the primary focus of the Project's GHG mitigation strategy remains on Scope 1 and Scope 2 emissions, as these are under the Project's direct operational control and offer the greatest potential for effective and measurable emission reductions.

Table 7.23. Baseline Scope 3 GHG Inventory of RSUP Fatmawati

Scope	Emission Source	Activity & Estimation Method	Value	Unit	Total CO_2-eq (t/y)	Contribution
3	Patient, visitor & caregiver transport	Number of person, travel distance and mode of transport [1 patient or visitor + 1 caregiver*50km/trip*EF (aggregated 0.114 kgCO_2-eq/passanger.km)]	313804	person	651,838.38	98.43%
	Staff commuting	Number of person, travel distance and mode of transport [50km/day trip*240 working days*EF (aggregated 0.114 kgCO_2-eq/passanger.km)]	2738	person	3,739.67	0.56%
	B3 waste transport to PT PPLI/PT WPLI (~40 km)	Overall distance trip [624 trips/y*40km/trip*10 km/L*EF (2.68 kg CO_2eq/L)]	24960	km/y	6.69	0.00%
	Medical Gas Supply Chain	Purchased N_2O [EF=275.43 kgCO_2/kg]#	2,258.33	kg/y	622.00	0.09%
	Medical Gas Supply Chain	Purchased CO_2 [EF=1.788 kgCO_2/kg] #	616.67	kg/y	1.10	0.00%

Scope	Emission Source	Activity & Estimation Method	Value	Unit	Total CO_2-eq (t/y)	Contribution
	Medical Gas Supply Chain	Purchased Sevoflurane [EF=546.14 kgCO_2/kg] #	329.75	L/y	180.09	0.03%
	Medical Gas Supply Chain	Purchased Isoflurane [EF=876.96 kgCO_2/kg] #	35.00	L/y	30.69	0.00%
	Medicine Supply Chain	Purchased Medicine [EF=6.56E-06 kgCO_2/Rp] ##	107,630,003,688.35	Rp/y	706.49	0.11%
	Medicine Supply Chain	Purchased Medical Consumables [EF=2.36E-05 kgCO_2/Rp] ##	176,100,021,656.92	Rp/y	4,154.15	0.63%
	Food supply	Meals over a year [EF=1.49 kg CO_2-eq/meals] ###	654,588.00	meals/y	975.34	0.15%
		Total Scope 3 GHG Emission			**662,254.61**	**100%**

#Care Pathways: Guidance on Appraising Sustainability, Surgical Procedure Module (November 2023)
##Mixed transport EF were estimated based on Jakarta commuting pattern with each EFs referring to UK DESNZ/DEFRA 2025
###Jenny et.al. (2025). Climate-based meal pricing in hospital catering: a field study on consumer behaviour and environmental impact.

7.7.1.4. Summary of Greenhousegas Inventory of RSUP Fatmawati

The results indicate total annual GHG emissions of approximately 2,400 tons CO_2-eq for Scope 1, 17,600 tons CO_2-eq for Scope 2, and 662,000 tons CO_2-eq for Scope 3. Accordingly, the total annual GHG emissions of RSUP Fatmawati are estimated at approximately 682,000 tons CO_2-eq, of which approximately 97% originate from indirect Scope 3 emission sources.

Focusing on the operational boundary, the combined Scope 1 and Scope 2 GHG emissions are estimated at approximately 20,000 tons CO_2-eq per year. Of these operational emissions, approximately 88% are attributable to purchased electricity (Scope 2), 7% to refrigerant leakage from the HVAC system, and 5% to diesel consumption in the hospital boilers.

As purchased electricity represents the dominant source of operational GHG emissions, it also serves as the primary indicator for evaluating the hospital's operational carbon performance. During the baseline year, annual electricity consumption was 20.1 GWh. Based on the existing 851 licensed beds and a total building floor area of 203,916.6 m², the operational GHG intensity is estimated at 20.66 tons CO_2-eq per licensed bed per annum, while the energy intensity is estimated at 98.65 kWh/m² per annum. These baseline performance indicators provide a reference for evaluating the effectiveness of future energy efficiency and decarbonisation measures associated with the Phase 1 development. The summary of the baseline evaluation is presented in Table 7.24.

Table 7.24. GHG and Energy Intensity of RSUP Fatmawati

Parameters	RSUP Fatmawati	Reference/Benchmark	Status - Action
GHG Intensity (t CO_2-eq/bed/year)	20.66	38*	**Low**

Parameters	RSUP Fatmawati	Reference/Benchmark	Status - Action
Energy Intensity (kWh/m^2/year)	98.65	40**	**High –** Implementation of energy efficient building concept
Parameters	RSUP Fatmawati	Reference/Benchmark	Status - Action
GHG Intensity (t CO_2-eq/bed/year)	20.66	38*	**Low**
Energy Intensity (kWh/m^2/year)	98.65	40**	**High –** Implementation of energy efficient building concept

*Facility-level greenhouse gas emissions in US hospitals with machine learning imputation of incomplete self-reported data (https://doi.org/10.1016/j.cesys.2026.100461)
** A benchmark of 40 kWh/m²/year is adopted as a conservative proxy for education facilities in southern China (https://a434.tongji.edu.cn/__local/8/C8/16/55DFFCCD4EE3F64D4749D58562B_1B35D8F5_B67DA.pdf.)

The baseline assessment indicates that the operational GHG intensity of RSUP Fatmawati is lower than values reported for comparable hospitals in published international studies, whereas the building energy intensity is approximately twice the benchmark adopted from educational facilities in southern China. The lower operational GHG intensity reflects differences in hospital characteristics and operational demands between RSUP Fatmawati and the benchmark hospitals. Tertiary hospitals in the United States generally have higher energy consumption per bed due to larger floor areas, greater use of energy-intensive medical equipment and diagnostic facilities, higher ventilation and indoor environmental control requirements, and the need for space heating in temperate climates. In contrast, while RSUP Fatmawati operates continuously and has substantial cooling requirements, the absence of space heating and relatively lower energy demand per licensed bed contribute to a lower operational carbon intensity.

The higher energy intensity per unit floor area reflects the inherently energy-intensive nature of tertiary healthcare facilities compared with educational buildings and highlights opportunities to improve building energy performance through optimisation of building systems, high-efficiency HVAC equipment, lighting upgrades, operational energy management, and the integration of renewable energy. These measures are expected to reduce both energy consumption and operational GHG emissions over the Project lifecycle.

7.7.2. Projected GHG and Energy Intensity after Project Development

Based on the information currently available, a simplified GHG assessment was undertaken focusing on operational energy use, as annualized construction-related emissions are expected to be immaterial compared with the lifetime operational emissions of the buildings. Since detailed energy modelling is not yet available, electricity consumption was estimated using floor area and representative sector energy intensity benchmarks.

The Project comprises new campus facilities consisting of Tower 1A (17 floors) and a five-storey Podium, with a combined gross floor area of 73,445 m². As demonstrated in the baseline assessment, electricity consumption represents the dominant source of operational GHG emissions. Accordingly, projected operational emissions were estimated using the following equation:

GHG Emissions = Electricity Consumption × Grid Emission Factor

Table 7.25 GHG Emission Reduction

Descriptions	Baseline	Remark
Baseline electricity demand	7,245,259 kWh/year	Baseline building- the proposed buildings are estimated to consume approximately 7,245,259 kWh/year of electricity. Applying the PLN Jamali grid emission factor results in annual operational emissions of approximately 6,308.38 tCO_2e/year. Note: PLN Jamali Emission Factor: 0.0874 $kgCO_2$/kWh
Electricity intensity without energy efficiency measures	98.65 kWh/m2/year	
GHG emissions without energy efficiency measures	6,308.38 tCO_2e/year	
Electricity demand of green campus project	4,347,155 kWh/year	After the implementation of the proposed green campus measures, including: ▪ improved building energy efficiency with decrease of electric intensity of 20% ▪ The operation of on-site solar PV system of 10 MWp may potentially generate electricity of 1,449,052 kWh/year. Note: The proposed 10 MWp solar PV installation is estimated to generate approximately 10 GWh/year, assuming a conservative specific yield of 1,000 kWh/kWp/year. For the new campus buildings alone, only about 15% of the available solar generation would be required to meet the projected electricity demand after efficiency improvements. PLN Jamali Emission Factor: 0.0874 $kgCO_2$/kWh. Reference: The reduced energy intensity reflects the project's planned compliance with GB/T 50378-2019 (Assessment Standard for Green Building) and is consistent with published policy and industry references indicating 15–20% energy savings for high-performance public buildings. (https://www.chinesestandard.net/PDF.aspx/GBT50378-2019; https://resourcehub.bakermckenzie.com/en/resources/global-sustainable-buildings/asia-pacific/china/topics/incentives-for-green-retrofit)
Electricity intensity (green campus project)	78.92 kWh/m2/year (20% reduction)	
Annual GHG emissions of green campus project	3,782.03 tCO_2e/year	The remaining grid electricity demand would be approximately 4,347,155 kWh/year, resulting in annual emissions of approximately 3,782.03 tCO_2e/year

Descriptions	Baseline	Remark
GHG emission reduction	2,521.35 tCO_2e/year	this represents an estimated emissions reduction, compared with the baseline scenario.

Considering the wider hospital campus, the Phase 1 development will include demolition of approximately 41,069 m² of existing buildings (Griya Husada, IRJ, Azalea, Pharmacy, Amarilis, and the prayer room behind Griya Husada) and construction of 152,960 m² of new facilities, resulting in a total post-development gross floor area of approximately 315,808 m².

At the current electricity intensity of 98.65 kWh/m²/year, the expanded hospital campus is projected to consume approximately 31 GWh/year of electricity. Under this scenario, the proposed 10 MWp solar PV system would supply approximately 32% of the campus electricity demand. If the campus-wide energy efficiency measures achieve a further 20% reduction in electricity intensity, solar generation would meet approximately 40% of the total annual demand, corresponding to an estimated GHG emissions reduction of approximately 8,700 tCO_2e/year.

7.8. Climate Adaptation and Mitigation Strategy: Integrated Climate-Resilient Hospital Strategy

Climate adaptation measures are integrated into the project design rather than appended as separate measures. In this chapter, a suggestion was made to adopt an "*Integrated Climate-Resilient Hospital Strategy*" that combines the principles of Smart Hospital, Green Hospital, climate adaptation, and greenhouse gas mitigation into a unified framework for the planning, design, construction, operation, and maintenance of RSUP Fatmawati. The strategy responds to the climate risks identified in the assessment while addressing the significant GHG emission hotspots, particularly purchased electricity and HVAC systems. The approach is aligned with AIIB ESF, IFC Performance Standard 3, IFC EHS Guidelines for Health Care Facilities, WHO guidance on climate-resilient and environmentally sustainable healthcare facilities, and relevant Indonesian regulations.

Additionally, the climate adaptation and mitigation strategy has been committed in the Master Plan (Masterplan KMK 1673/2024 pp. 132, 273) - including energy-efficient envelope and systems, water efficiency through Reverse Osmosis treatment and rainwater harvesting potential (Masterplan pp. 132), solar water heating where compatible (Masterplan pp. 132), daylighting and natural ventilation per modern fasad strategy (Masterplan pp. 273), environmentally preferable materials, and consideration of on-site PV where structurally viable on building roof. The combined adaptation-mitigation strategy is detailed in Annex E.

- Energy efficiency: high-performance building envelope, LED lighting, variable-speed drives on HVAC, demand-controlled ventilation in non-clinical zones; integrated information systems per Smart Hospital strategy (Masterplan KMK 1673/2024 pp. 21, Bab II A.1).
- On-site renewable: roof-mounted PV evaluated for (especially the 5-storey Podium or planned Apartment/Hotel during phase 4) (large flat roof potential per Masterplan KMK 1673/2024 pp. 250-251); solar water heating per Masterplan pp. 132.
- Water efficiency: Reverse Osmosis treatment and potential rainwater harvesting (Masterplan KMK 1673/2024 pp. 132); wastewater reused for flushing and landscape gardening (Masterplan pp. 133).

- Material efficiency: low-embodied-carbon concrete mixes; locally sourced materials where compatible with technical specifications.
- Waste-to-energy potential: potential future evaluation of waste-to-energy or other low-carbon utility optimization measures subject to future policy, technical, and economic feasibility considerations.

The strategy integrates four pillars: (i) climate-resilient infrastructure, (ii) smart hospital systems, (iii) green hospital and resource efficiency, and (iv) low-carbon energy. Together these measures enhance operational resilience while reducing environmental impacts.

7.8.1. Pillar 1 - Climate Resilient Infrastructure

The climate risk assessment (Section **Error! Reference source not found.**) indicates that RSUP Fatmawati is primarily exposed to increasing extreme rainfall, higher ambient temperatures, localized flooding, heat stress, and potential disruptions to electricity and water supply associated with climate change. As a national referral hospital, uninterrupted operation of critical healthcare services is essential during climate-related emergencies. Therefore, climate resilience should be integrated into the detailed engineering design to enhance operational continuity throughout the facility's design life.

Flood Resilient Stormwater Management

The stormwater management system should be designed using projected future rainfall conditions rather than historical climate records alone. Recommended design measures include enlarged drainage channels, detention and retention ponds, bioswales, rain gardens, porous asphalt or permeable pavements, and other Sustainable Urban Drainage Systems (SuDS) that temporarily retain and infiltrate stormwater before discharge to the municipal drainage network.

International experience demonstrates that these measures can substantially reduce stormwater runoff and peak discharge. Porous asphalt or permeable pavements typically reduce annual runoff volumes by 50–80%, depending on soil permeability and system design, while detention basins may reduce peak discharge by approximately 30–80% during major rainfall events. Similarly, bioswales and rain gardens commonly reduce runoff volumes by 20–60%, while improving water quality through sediment and pollutant removal. Collectively, these measures improve drainage performance, reduce localized flooding, and maintain access to emergency facilities during extreme rainfall events.

For RSUP Fatmawati, integrating these systems into the site design would enhance flood resilience by maintaining access to emergency departments, minimizing disruption to hospital operations, reducing pressure on Jakarta's urban drainage network, and lowering long-term maintenance requirements.

Heat Resilient Building Envelope

Projected increases in ambient temperature and more frequent heatwaves are expected to increase cooling demand and thermal stress within healthcare facilities. Accordingly, the building envelope should be designed to minimize solar heat gain while maintaining indoor thermal comfort and reducing operational energy consumption.

Passive design measures may include optimized building orientation, high-performance thermal insulation, external shading devices, low-emissivity (Low-E) glazing, reflective roofing materials, and natural shading through landscape vegetation.

Studies conducted in tropical climates indicate that external solar shading can reduce building cooling loads by approximately 10–30%, while Low-E glazing may reduce solar heat gain by 30–70% depending on glazing specification. High-performance roof and wall insulation may further reduce cooling energy demand by approximately 10–20%. When combined through integrated passive building design, total cooling energy savings of approximately 15–35% have been reported for commercial and institutional buildings in warm climates.

These measures not only reduce electricity consumption and greenhouse gas emissions but also improve thermal comfort for patients, visitors, and healthcare workers, thereby reducing reliance on mechanical cooling during temporary power interruptions.

Water Resource Security

Projected increases in rainfall variability and longer dry periods may place increasing pressure on municipal water supplies over the lifetime of the hospital. To enhance operational resilience, the hospital should incorporate integrated water resource management measures, including rainwater harvesting, additional potable water storage, greywater recycling, leak detection systems, and high-efficiency plumbing fixtures.

International experience indicates that rainwater harvesting systems may supply approximately 10–30% of non-potable water demand, while greywater recycling systems can reduce potable water consumption by 20–40%, particularly where recycled water is used for toilet flushing, landscape irrigation, and cooling tower make-up water. High-efficiency plumbing fixtures may further reduce water demand by 20–50% compared with conventional fixtures.

Given the projected wastewater generation of approximately 1445.5 m^3/day at RSUP Fatmawati, implementation of these measures could potentially reduce potable water demand by approximately 290–578 m^3/day, equivalent to approximately 105,850–210,970 m^3/year, subject to detailed engineering assessment.

Green Infrastructures and Climate Responsive Landscaping

Where structurally feasible, vegetated roofs, green walls, therapeutic gardens, and expanded green open spaces should be incorporated into the hospital masterplan to improve climate resilience while enhancing patient well-being.

Green roofs reduce roof surface temperatures through evapotranspiration and shading, lowering roof temperatures by approximately 20–40°C relative to conventional roofs during peak solar exposure. This may reduce indoor temperatures by approximately 1–3°C and lower annual cooling energy demand by approximately 5–15%. Extensive green roof systems may also retain 50–80% of annual rainfall, thereby reducing stormwater runoff and contributing to flood mitigation.

Green walls (vertical greenery systems) provide additional shading to building façades, reducing solar heat gain and lowering external wall surface temperatures by approximately 10–20°C depending on orientation, plant density, and irrigation. They also improve local air quality by filtering airborne particulates, contribute to urban biodiversity, and provide supplementary thermal insulation that can further reduce cooling demand.

Tree canopy and landscape vegetation further reduce surrounding air temperatures through shading and evapotranspiration, with localized temperature reductions typically ranging between 1–2°C.

Suitable shade trees for hospital landscapes in Indonesia include Angsana (*Pterocarpus indicus*), Rain Tree (*Samanea saman*), Ketapang Kencana (*Terminalia mantaly*), Tanjung (*Mimusops elengi*), and Pulai (*Alstonia scholaris*), which provide broad canopies while being widely adapted to tropical urban environments. For green walls, suitable species include Golden Pothos (*Epipremnum aureum*), Boston Fern (*Nephrolepis exaltata*), Philodendron spp., Bird's Nest Fern (*Asplenium nidus*), and Monstera spp., all of which perform well under Indonesia's humid tropical climate.

Therapeutic gardens additionally contribute to improved patient recovery, reduced stress levels, enhanced staff well-being, and increased opportunities for passive recreation and contact with nature, supporting both climate adaptation and healthcare outcomes.

Protection of Critical Hospital Infrastructure

Critical hospital functions, including emergency departments, operating theatres, intensive care units, medical gas systems, electrical substations, communication infrastructure, and data centres, should be designed with sufficient redundancy to maintain continuous operation during climate-related disruptions.

Critical electrical infrastructure should be elevated above anticipated flood levels where appropriate, while emergency power systems should provide sufficient capacity to maintain essential healthcare services during prolonged grid outageIs. International healthcare guidance generally recommends emergency power systems capable of sustaining critical hospital operations for a minimum of 72 hours, particularly where prolonged disaster response may be required.

Flood protection of electrical equipment has been shown to substantially reduce flood-related equipment damage, while redundant utility systems improve operational reliability during emergency conditions.

7.8.2. Pillar 2 - Smart Hospital Systems

Digital technologies provide an important enabling function for both climate adaptation and greenhouse gas mitigation by improving operational efficiency, optimizing resource consumption, and strengthening the hospital's capacity to respond to climate-related emergencies. Rather than functioning as standalone technologies, Smart Hospital systems should be integrated into the overall facility management framework to support evidence-based decision-making throughout the hospital lifecycle.

Intelligent Building Management System

An evaluation of opportunities to incorporate a centralized Building Management System (BMS) integrated with Internet of Things (IoT) sensors to continuously monitor and optimize energy consumption, HVAC performance, lighting systems, water use, indoor environmental quality, and critical building services. Real-time operational data can support predictive maintenance, improve equipment reliability, and reduce unnecessary energy consumption while maintaining patient safety and comfort.

Continuous commissioning through the BMS enables facility managers to identify equipment operating outside design conditions and optimize system performance. International experience indicates that continuous building commissioning supported by smart monitoring can reduce whole-building energy consumption by approximately 10–20%, while advanced building automation systems

typically reduce HVAC energy consumption by 10–30%, depending on system integration and operational practices.

For a large tertiary hospital where HVAC systems commonly account for 40–60% of total electricity consumption, optimizing HVAC operation represents one of the most effective opportunities for reducing operational greenhouse gas emissions while maintaining thermal comfort and infection control requirements.

Digital Healthcare Systems

Digital healthcare technologies can indirectly contribute to climate mitigation by improving operational efficiency and reducing unnecessary travel, paper consumption, and resource use.

The proposed Smart Hospital concept will have a design of Integrated Hospital Information System (SiMRS) which may include:

- Electronic Medical Records (EMR);
  - digital patient registration;
  - electronic prescribing;
  - digital pharmacy management;
  - laboratory information systems;
  - telemedicine;
  - remote patient monitoring;
  - electronic document management; and
  - paperless administration.

Although the greenhouse gas reductions associated with digital healthcare systems are project-specific, studies have shown that telemedicine consultations can reduce patient travel-related emissions by approximately 40–70%, depending on travel distance and transport mode. Electronic medical records may also reduce paper consumption by 60–90%, improving administrative efficiency while reducing operational resource use.

Digital systems additionally strengthen climate resilience by enabling continuity of healthcare services during floods, extreme weather events, or disease outbreaks that restrict patient mobility. Additionally, with the significance of patients or visitors travel emissions of RSUP Fatmawati (more than 95% of Scope 3 emissions) this measure could produce substantial emission footprint reduction.

Predictive Maintenance and Asset Management

Predictive maintenance utilizes continuous equipment monitoring, sensor data, and analytics to identify deteriorating equipment performance before system failure occurs. Compared with conventional reactive maintenance, predictive maintenance improves operational reliability, reduces emergency repairs, and minimizes equipment downtime during extreme climate events.

International studies report that predictive maintenance can:

- reduce maintenance costs by approximately 10–40%;
- reduce equipment downtime by 35–50%;
- extend equipment lifespan by 20–40%; and

- reduce energy consumption by 5–15% through timely maintenance and optimized equipment performance.

For hospitals, predictive maintenance is particularly beneficial for critical systems such as chillers, emergency generators, medical gas equipment, elevators, and electrical infrastructure, where equipment failure may directly affect patient safety.

7.8.3. Pillar 3 - Green Hospital and Resource Efficiency

The Green Hospital concept emphasizes the efficient use of energy, water, materials, and other natural resources throughout the planning, design, construction, operation, maintenance, and eventual refurbishment of the hospital. In accordance with IFC Performance Standard 3 (Resource Efficiency and Pollution Prevention), resource efficiency should be integrated into the project lifecycle to minimize environmental impacts while improving operational performance, reducing greenhouse gas emissions, and enhancing patient well-being.

For RSUP Fatmawati, the Green Hospital concept complements the Smart Hospital system by combining sustainable building design, efficient engineering systems, responsible procurement, and circular resource management. Collectively, these measures reduce operational costs, improve environmental performance, and strengthen the hospital's resilience to future resource constraints associated with climate change. International studies indicate that:

- LED lighting: typically reduces electricity consumption by 50–75% compared with conventional fluorescent lighting.
- Variable-speed drives (VSDs): can reduce electricity consumption of pumps and fans by approximately 20–50%, depending on operating conditions.
- High-efficiency chillers: may reduce cooling energy consumption by approximately 15–30% compared with conventional systems.
- Daylight harvesting controls: can reduce lighting energy consumption by approximately 20–40% by automatically adjusting artificial lighting based on available daylight.
- Occupancy sensors: may reduce lighting energy consumption by approximately 20–40% in intermittently occupied spaces such as meeting rooms, offices, toilets, and storage areas.

Considering that HVAC systems typically account for approximately 40–60% of electricity consumption in tropical hospitals, improving cooling system efficiency could significantly reduce both operational costs and greenhouse gas emissions.

Smart HVAC and Environmental Quality

HVAC systems are expected to be the largest electricity consumer (approximately 40-60%) within the proposed hospital development due to Jakarta's tropical climate and the stringent ventilation requirements for healthcare facilities. Smart HVAC technologies can optimize cooling demand while maintaining indoor environmental quality and infection prevention standards.

Recommended technologies include occupancy-based ventilation control, variable-speed drives, smart thermostats, demand-controlled ventilation, predictive chiller optimization, and automated fault detection.

International studies indicate that:

- occupancy sensors may reduce lighting energy consumption by approximately 20–40%;
- demand-controlled ventilation may reduce ventilation energy use by approximately 10–30% in areas with variable occupancy;
- variable-speed drives typically reduce fan and pump electricity consumption by 20–50%, depending on operating conditions;
- predictive maintenance may reduce unexpected equipment failures by approximately 30–50% while extending equipment service life by 20–40%.

These technologies contribute to both climate mitigation through reduced electricity consumption and climate adaptation by improving system reliability during periods of extreme heat when cooling demand is highest.

Water Resource Efficiency

Climate change is expected to increase rainfall variability and place greater pressure on urban water supplies. Although Jakarta experiences relatively high annual rainfall, future periods of drought and increasing water demand may affect long-term water security.

An integrated water management approach should be adopted to improve water efficiency and strengthen resilience to future climate variability. This should include an Integrated Water Balance Assessment to evaluate water demand, identify opportunities for reducing potable water consumption, and optimize the use of alternative water sources throughout the hospital lifecycle.

Appropriate measures may include rainwater harvesting, greywater recycling, high-efficiency plumbing fixtures, leak detection systems, and water-efficient landscaping. Typical performance improvements reported internationally include:

- Low-flow plumbing fixtures: may reduce potable water consumption by approximately 20–50% compared with conventional plumbing fixtures.
- Dual-flush toilets: can reduce water consumption for toilet flushing by approximately 20–60%, depending on usage patterns and flushing volumes.
- Greywater recycling systems: may reduce potable water demand by approximately 20–40% by reusing treated wastewater for non-potable applications such as toilet flushing, cooling tower make-up, and landscape irrigation.
- Rainwater harvesting systems: can supply approximately 10–30% of non-potable water demand, depending on rainfall patterns, roof catchment area, and storage capacity.
- Smart water metering and leak detection systems: may reduce overall water consumption by approximately 5–15% through early leak identification, real-time monitoring, and improved operational management.

Rainwater harvesting can supplement non-potable water demand for applications such as landscape irrigation, toilet flushing, and general cleaning, while also reducing stormwater runoff during heavy rainfall events. Greywater recycling can further reduce freshwater demand by treating and reusing wastewater from suitable non-clinical sources for non-potable purposes. Together, these measures improve water security, reduce reliance on municipal water supplies, and support sustainable resource management under changing climate conditions.

For RSUP Fatmawati, these measures would reduce dependence on municipal water supplies while improving resilience during future water shortages.

Sustainable Materials and Green Procurement

Construction materials contribute substantially to the embodied carbon of healthcare facilities. Material selection should therefore consider environmental performance alongside durability, functionality, and infection prevention requirements.

Detailed engineering design should prioritize materials with recycled content, Environmental Product Declarations (EPDs), responsibly sourced timber, locally manufactured products where feasible, and low-carbon concrete mixes. Interior finishes should utilize low-volatile organic compound (VOC) products to improve indoor environmental quality.

During hospital operation, procurement policies should prioritize environmentally preferable products, reusable medical equipment where clinically appropriate, sustainable packaging, and suppliers with recognized environmental management systems.

International studies suggest that:

- supplementary cementitious materials can reduce embodied carbon of concrete by approximately 20–50%, depending on mix design;
- locally sourced materials may reduce transportation-related emissions by 10–30% compared with imported alternatives;
- low-VOC materials significantly improve indoor air quality by reducing concentrations of formaldehyde and other volatile organic compounds.

Circular Waste Management

Hospitals generate significant quantities of municipal, recyclable, hazardous, pharmaceutical, and infectious waste. In accordance with IFC Performance Standard 3, waste management should follow the hierarchy of **avoidance, reduction, reuse, recycling, recovery, and disposal**.

- Hospital should provide facilities that support waste segregation at source, temporary storage, recycling collection, safe hazardous waste handling, and future expansion of recycling initiatives.
- Refrigerant management should also be incorporated into the HVAC design through selection of refrigerants with lower Global Warming Potential (GWP), leak detection systems, and maintenance procedures that minimize fugitive emissions throughout equipment life.
- Effective waste segregation can substantially reduce the quantity of waste requiring high-cost infectious waste treatment. Healthcare studies indicate that when segregation is properly implemented, only approximately 10–25% of total hospital waste requires hazardous treatment, with the remainder managed through conventional recycling or municipal waste streams.

Green Open Spaces as Therapeutic Landscaping

Beyond resource efficiency, Green Hospital design should provide a therapeutic environment that supports patient recovery and staff well-being. Green open spaces, healing gardens, shaded pedestrian routes, and natural daylight contribute to both environmental sustainability and healthcare outcomes.

Landscape vegetation reduces localized air temperatures through shading and evapotranspiration while improving stormwater infiltration and biodiversity. Exposure to natural environments has also been associated with reduced patient stress, shorter recovery periods, and improved staff satisfaction.

Where site conditions permit, the DED Consultant should incorporate therapeutic gardens, shade outdoor waiting areas, and interconnected green spaces as part of the hospital masterplan. These features complement climate adaptation measures by mitigating urban heat island effects and improving outdoor thermal comfort.

7.8.4. Pillar 4 - Low Carbon Strategy

To achieve long-term reduction of operational greenhouse gas emissions through a staged decarbonization pathway that progressively minimizes energy demand, increases the use of renewable energy, reduces direct emissions, and continuously improves carbon performance throughout the operational life of the hospital.

The greenhouse gas inventory indicates that purchased electricity from the PLN Java–Madura–Bali (Jamali) grid is the dominant source of operational emissions, accounting for the majority of Scope 2 emissions. Additional emissions arise from diesel consumption associated with emergency power generation and hospital vehicles (Scope 1), together with fugitive refrigerant emissions from cooling and air-conditioning systems. Accordingly, the Project should adopt a structured decarbonization pathway that prioritizes energy demand reduction before transitioning to cleaner energy sources and lower-carbon technologies. This approach follows the internationally recognized Energy Hierarchy, which emphasizes reducing energy demand, improving operational efficiency, supplying remaining demand through renewable energy, minimizing direct emissions, and continuously monitoring performance. The strategy is consistent with the principles of IFC Performance Standard 3, the IFC Environmental, Health and Safety Guidelines for Health Care Facilities, and ISO 50001 Energy Management Systems.

Decarbonization Pathway

The proposed Low Carbon Strategy consists of five sequential stages that progressively reduce greenhouse gas emissions throughout the hospital's operational life.

1. Reduce Energy Demand

The first priority is to minimize overall energy demand through the Green Hospital and Resource Efficiency measures described in Section 5.3. Improvements in building envelope performance, energy-efficient HVAC systems, lighting, and other engineering systems reduce electricity consumption before additional energy supply is considered. Reducing demand at the source provides the greatest long-term emissions reduction while lowering operational costs.

2. Optimize Operational Performance

Once energy demand has been minimized, Smart Hospital technologies described in Section 5.2 should be utilized to optimize building operation. A centralized Building Management System, real-time monitoring, predictive maintenance, and data-driven operational controls enable building systems to operate efficiently under varying occupancy and climatic conditions while maintaining patient comfort and healthcare service requirements.

3. Deploy Renewable Energy

Following implementation of energy demand reduction and operational optimization measures, the remaining electricity demand should be progressively supplied through renewable energy technologies. Based on the current project planning, solar photovoltaic (PV) systems represent the most feasible on-site renewable energy source for RSUP Fatmawati due to Jakarta's favourable solar resource and the phased redevelopment of the hospital campus.

The Project proposes the installation of approximately 10 MWp of solar PV. Based on current industry practice, rooftop photovoltaic systems generally require approximately 7–10 m² of installation area per kWp of installed capacity, including allowances for module spacing, maintenance access, roof setbacks, and mounting systems. Accordingly, a 10 MWp installation would require an estimated 7–10 ha of equivalent installation area.

The existing RSUP Fatmawati campus occupies approximately 13.5 ha. However, this represents the total site area, which includes hospital buildings, internal roads, parking facilities, landscaped areas, utility corridors, open spaces, and other supporting infrastructure. Consequently, the total available roof area is substantially smaller than the overall site area and is further constrained by rooftop mechanical equipment, helipads, emergency access requirements, fire safety setbacks, and structural limitations. It is therefore unlikely that the planned 10 MWp capacity can be accommodated through conventional rooftop PV systems alone.

To maximize on-site renewable energy generation, the Project should adopt a combination of rooftop photovoltaic (PV) systems and Building-Integrated Photovoltaics (BIPV) as part of the overall renewable energy strategy. The phased redevelopment of the hospital provides opportunities to progressively integrate renewable energy into new buildings as they are constructed. Rooftop PV should be installed on suitable roof areas with adequate structural capacity and minimal shading, while BIPV technologies—including photovoltaic façade panels, curtain walls, spandrel panels, canopies, and external shading devices—should be incorporated into new building envelopes where technically and economically feasible. In addition to generating renewable electricity, BIPV can also reduce solar heat gain by functioning as part of the building envelope, thereby contributing to lower cooling demand and improved building energy performance.

The four-phase development programme provides an opportunity to progressively increase installed renewable energy capacity as new roof areas and building façades become available. In addition, photovoltaic canopies over parking areas and other suitable structures may further supplement available installation space. The final distribution between rooftop PV, BIPV, and other photovoltaic applications should be optimized during detailed design based on architectural integration, structural capacity, solar exposure, electrical integration, lifecycle cost, and long-term maintenance considerations. Where feasible, battery energy storage systems may also be incorporated to improve energy resilience, optimize peak demand management, and maximize the utilization of on-site renewable electricity.

4. Reduce Direct Emissions

In parallel with reducing electricity-related emissions, opportunities should be pursued to reduce direct (Scope 1) emissions from hospital operations. This includes transitioning to refrigerants with lower Global Warming Potential (GWP), implementing refrigerant leak detection and maintenance programmes, improving the efficiency of emergency backup power systems, and progressively

electrifying the hospital vehicle fleet where operationally and economically feasible. These measures reduce emissions that cannot be addressed through electricity decarbonization alone.

5. Monitor and Continuously Improve Performance

Long-term decarbonization requires ongoing monitoring and periodic review of energy and greenhouse gas performance. Annual greenhouse gas inventories should be prepared to quantify Scope 1 and Scope 2 emissions and assess progress against established reduction targets. Key performance indicators such as electricity consumption, renewable energy contribution, energy use intensity, refrigerant leakage, and carbon emissions should be regularly reviewed to identify further opportunities for improvement and ensure that the hospital continues to adapt to evolving technologies and future climate commitments.

7.9. Climate Resilient Hospital Action Plan

The Climate Action Plan (

Table 7.26) summarizes the key adaptation and mitigation measures recommended for the Project to enhance climate resilience, improve resource efficiency, and reduce operational greenhouse gas emissions. The proposed actions are categorized according to their implementation priority to facilitate decision-making during the detailed design, construction, and operational phases.

The priority ranking reflects the relative importance of each measure based on its contribution to reducing identified climate risks, improving the resilience of critical hospital functions, reducing greenhouse gas emissions, supporting compliance with international good practice (including IFC Performance Standards), and the feasibility of implementation within the Project. **High** Priority measures represent fundamental interventions that are considered essential to ensure resilient and sustainable hospital operation. **Medium** Priority measures provide significant environmental and operational benefits but may depend on technical feasibility, budget availability, or detailed engineering assessment. **Low** Priority measures are considered enhancement opportunities that further improve environmental performance and long-term sustainability but are generally implemented where practicable.

Table 7.26. Summary of Climate Action Plan for Integrated Climate Resilient Hospital Concept of RSUP Fatmawati

Strategic Pillar	Key Action	Climate Objective	Expected Benefit	Priority	Project Phase
Pillar 1- Climate-Resilient Infrastructure	Design flood-resilient drainage systems, detention facilities, and permeable surfaces	Adaptation	Reduce flood risk and maintain site accessibility during extreme rainfall	High	DED & Construction
	Incorporate heat-resilient building envelope (high-performance insulation, external shading, Low-E glazing, reflective roofs)	Adaptation & Mitigation	Reduce cooling demand while improving indoor thermal comfort	High	DED & Construction
	Enhance utility resilience through elevated critical equipment, redundant power systems, and emergency water storage	Adaptation	Ensure continuity of critical healthcare services during climate-related disruptions	High	DED & Construction
	Implement integrated water management, including rainwater harvesting and greywater recycling where feasible	Adaptation	Improve water security and reduce dependence on municipal water supply	Medium	DED & Operation
Pillar 2 - Smart Hospital Systems	Deploy a centralized Building Management System (BMS) integrated with IoT sensors	Mitigation	Optimize energy, water, and building system performance through real-time monitoring	High	DED & Operation
	Apply predictive maintenance and automated system controls	Adaptation & Mitigation	Improve equipment reliability, reduce downtime, and enhance operational efficiency	Medium	Operation
	Expand digital healthcare systems (EMR, telemedicine, paperless administration)	Mitigation	Improve operational efficiency while reducing resource consumption and unnecessary travel	Medium	Operation
Pillar 3 - Green Hospital and	Install energy-efficient HVAC systems, LED lighting, and variable-speed drives	Mitigation	Reduce electricity consumption and operational greenhouse gas emissions	High	DED & Operation

Strategic Pillar	Key Action	Climate Objective	Expected Benefit	Priority	Project Phase
Resource Efficiency	Adopt water-efficient fixtures and smart water management systems	Adaptation & Mitigation	Reduce potable water consumption and improve resource efficiency	High	DED & Operation
	Promote sustainable procurement, low-carbon materials, waste segregation, recycling, and environmentally preferable products	Mitigation	Minimize resource consumption and pollution throughout the project lifecycle	Medium	Construction & Operation
	Incorporate green open spaces and landscape vegetation	Adaptation	Improve outdoor thermal comfort, reduce urban heat island effects, and enhance patient well-being	Low	DED & Operation
Pillar 4 - Low Carbon Strategy	Prioritize energy demand reduction through passive design and efficient building systems	Mitigation	Lower electricity demand and reduce Scope 2 emissions	High	DED & Operation
	Install rooftop solar photovoltaic (PV) systems and evaluate battery energy storage where feasible	Mitigation	Increase renewable energy use and reduce dependence on grid electricity	Medium	DED & Operation
	Transition to lower-GWP refrigerants and strengthen refrigerant leak management	Mitigation	Reduce fugitive greenhouse gas emissions from cooling systems	High	Operation
	Improve the efficiency of backup power systems and progressively adopt lower-carbon transport solutions where feasible	Mitigation	Reduce Scope 1 greenhouse gas emissions	Medium	Operation
	Conduct annual GHG inventories and monitor energy performance indicators	Monitoring	Track emissions reduction and support continual improvement	High	Operation

8. STAKEHOLDER ENGAGEMENT

This Chapter sets out the stakeholder engagement architecture for the project - covering stakeholder identification and analysis, the two-phase consultation programmed, and the information disclosure approach. Detailed implementation including stakeholder register, engagement modalities, and phase calendar is set out in Annex C (SEP).

8.1. Stakeholder Identification and Analysis

Stakeholders are identified and characterized across institutional, community, professional, and academic dimensions, and prioritized through an interest-influence matrix consistent with AIIB ESS1. The identification process recognizes that different stakeholder groups have different levels of interest in and influence over the project, and that engagement approaches must be tailored accordingly. Stakeholder identification at this stage has been desk-based and preliminary; Phase 1 of the formal Stakeholder Engagement Plan (Annex C) will operationalize systematic engagement once v0.2 is disclosed for internal review. The stakeholder list will be updated progressively through each version of this Living Document. Principal stakeholder groups are summarized in **Table 8.1**.

Table 8.1. Principal stakeholder groups and engagement phases

Category	Examples / Specific Entities	Engagement Phase
National executive	Ministry of Health (Directorate General of Tertiary Health Services, PIU TRUST); Bappenas; Ministry of Public Works and Housing; Ministry of Environment and Forestry	Throughout
Lender	AIIB Safeguards Team, AIIB Beijing	Throughout
Provincial	Pemprov DKI Jakarta (Disbudpar DKI Jakarta, DLH Jabar, Bappeda Jabar), DPRD Jabar	Phase 1 + Phase 2
DKI Jakarta Province	Bappeda DKI Jakarta; DLH DKI Jakarta; DPMPTSP DKI Jakarta; Dinas Kesehatan DKI Jakarta; Dinas Perhubungan DKI Jakarta; Dinas PUPR DKI Jakarta; Dinas Kebudayaan dan Pariwisata DKI Jakarta; Camat Cilandak; DPRD DKI Jakarta	Phase 1 + Phase 2
Local government	Mayor of South Jakarta (Walikota Jakarta Selatan); Camat Cilandak; Lurah Cilandak Barat; Polsek Cilandak; Koramil Cilandak	Phase 1 + Phase 2
Directly affected community	Cilandak Barat Sub-district residents; MRT users; road users on Jalan Raya TB Simatupang and Jalan Raya Fatmawati Raya; neighbouring institutions including BBPK Cilandak and Cilandak Town Square mall; MSMEs and tenants operating within the hospital campus	Phase 1 and Phase 2 — direct community engagement
Cultural heritage authorities	Dinas Kebudayaan dan Pariwisata DKI Jakarta Province; Directorate of Cultural Protection, Kemendikbudristek	Phase 1 — heritage status confirmation
Hospital internal	Fatmawati Hospital Board of Directors; Directorate Medic and Nursery (including all installation, working groups, doctors, midwives, nurses, and all	Throughout

Category	Examples / Specific Entities	Engagement Phase
	workers), Bagian Kesling and IKLK3; K3 and PPI Installations; Directorate of Human Resources, Education and Research (in; Bagian Humas; Diklat	
Patients and vulnerable groups	Cancer patient peer groups; transplantation patient peer groups; TB patient peer support; maternal and child health patient groups; persons with disabilities networks	Phase 1 — vulnerable group consultation
Professional associations	Indonesian Medical Association (IDI); Indonesian Lung Physicians Association (PDPI); Indonesian Nurses Association (PPNI); Indonesian Pharmacists Association (IFI)	Phase 1
Academic and teaching partners	Universitas Indonesia; UIN Syarif Hidayatullah; Universitas Padjadjaran; and other PPDS partner universities per Pre-FS, p. 117	Phase 1 — RSPPU integration
Operational partners	PMI Kota Jakarta Selatan (blood supply); BPJS Kesehatan	Phase 1 — service continuity
Media and civil society	National and local print and broadcast media; Yayasan Stop TB Indonesia; environmental NGOs in Jakarta; South Jakarta traffic forum	Phase 2 — public disclosure

8.2. Consultation Programme

The consultation programme is structured in two phases consistent with the AIIB ESS1 requirement for meaningful, ongoing, and two-way engagement with affected and interested parties across the project lifecycle. Phase 1 focuses on information gathering and preliminary engagement during ESIA preparation, while Phase 2 covers formal public disclosure and consultation following issuance of the draft document. Both phases are documented in the Stakeholder Engagement Plan (Annex C), which sets out the engagement modalities, activity calendar, responsible parties, and feedback management procedures.

Table 8.2. Two-phase consultation programme

Phase	Activities	Expected Output
Phase 1 — During ESIA preparation (May 2026 – Aug 2026)	Institutional interviews with Kemenkes, AIIB, Bappeda DKI Jakarta, Dinas Kebudayaan dan Pariwisata DKI Jakarta (heritage status confirmation), and Dinas Perhubungan DKI Jakarta; focus group discussions in Cilandak Barat Sub-district (community-level engagement); consultation with patient and vulnerable group representatives including cancer patient peer groups, transplantation patient peer groups, TB patient peer support, and maternal and child health groups; engagement with MSME and tenant representatives regarding temporary relocation arrangements; academic partner workshops with PPDS universities; workforce briefings for Fatmawati Hospital internal staff	Stakeholder engagement log covering institutional, community, and vulnerable group consultations; preliminary issues register; recommendations
Phase 2 — Disclosure (post v0.5)	Public disclosure of v0.5 ESIA on Fatmawati Hospital and in physical copies at Fatmawati Hospital, Camat Cilandak office, and Lurah Cilandak Barat office; formal public hearing at the time of ANDAL submission to KPA DKI Jakarta Province; minimum 30-day feedback period; written feedback compilation and response register	Formal disclosure record; public hearing minutes; written feedback summary; and Fatmawati Hospital

Phase	Activities	Expected Output
		response register; version updates

Both phases are underpinned by the principle that consultation is not a one-time event but a continuous process. Feedback received at each stage is recorded in the stakeholder engagement log, reviewed by the Fatmawati Hospital Operational Manager, and used to inform successive versions of this Living Document. Stakeholders who raise concerns through Phase 1 or Phase 2 consultation are informed of how their inputs have been considered, consistent with the GRM procedures set out in Chapter 10 and Annex D.

8.3. Information Disclosure

Information disclosure follows the AIIB ESF requirement that draft and final ESIA documents be made available to affected and interested parties in accessible languages and formats prior to the financing decision. Disclosure is treated not as a procedural endpoint but as an ongoing commitment to transparency throughout the project lifecycle, consistent with the GRM principles established in Chapter 10. The disclosure arrangements are summarised below.

Languages. The full ESIA-ESMP document is prepared in English. A Bahasa Indonesia executive summary and key chapters are prepared for each substantive version to ensure accessibility for the local community, regulatory authorities, and Indonesian-language stakeholders. Oral summaries in Bahasa Indonesia are provided at community focus group discussions in Cilandak Barat Sub-district. For vulnerable groups requiring additional language or communication support, including persons with disabilities, low-literacy community members, and patients with limited mobility, tailored briefing materials in plain language are prepared by Fatmawati Hospital's Public Relations and Health Promotion Unit.

Channels. The draft and final ESIA-ESMP are made available through the following channels: the Fatmawati Hospital official website (URL to be confirmed and inserted prior to the subsequent version of this document); and physical copies at Fatmawati Hospital's Public Relations Unit (Bagian Humas), the Camat Cilandak office, the Lurah Cilandak Barat office, DPMPTSP DKI Jakarta Province, Bappeda DKI Jakarta Province, and DLH DKI Jakarta Province. Physical copies are made available free of charge. For vulnerable groups with mobility constraints, digital access is facilitated through Fatmawati Hospital's patient support channels.

Timeline. The draft ESIA-ESMP is disclosed to affected and interested parties within seven calendar days of issuance of each substantive version. A minimum 30-day feedback period is provided before submission of the final version to AIIB. Feedback received during the disclosure period is compiled, reviewed, and responded to by Fatmawati Hospital, with the response register made available to stakeholders upon request. The disclosure timeline is aligned with the two-phase consultation programme described in Section 9.2 and the full schedule in Annex C.

Vulnerable group access. Tailored briefings are provided for cancer patient peer groups, transplantation patient peer groups, women's groups in Cilandak Barat Sub-district, and persons with disabilities through disability organisation networks. These briefings are conducted in accessible formats, including verbal presentation, simplified visual materials, and, where needed, sign language interpretation, to ensure that disclosure reaches groups who may face barriers to accessing written documents.

9. GRIEVANCE REDRESS MECHANISMS

This chapter establishes the Project Grievance Redress Mechanism (GRM), including its objectives and principles, the existing baseline at Fatmawati Hospital with which the GRM integrates, the channels and procedures, the complaint-handling stages and timelines, the institutional roles and KPIs, and the hospital-specific adaptations that respond to the special nature of the setting.

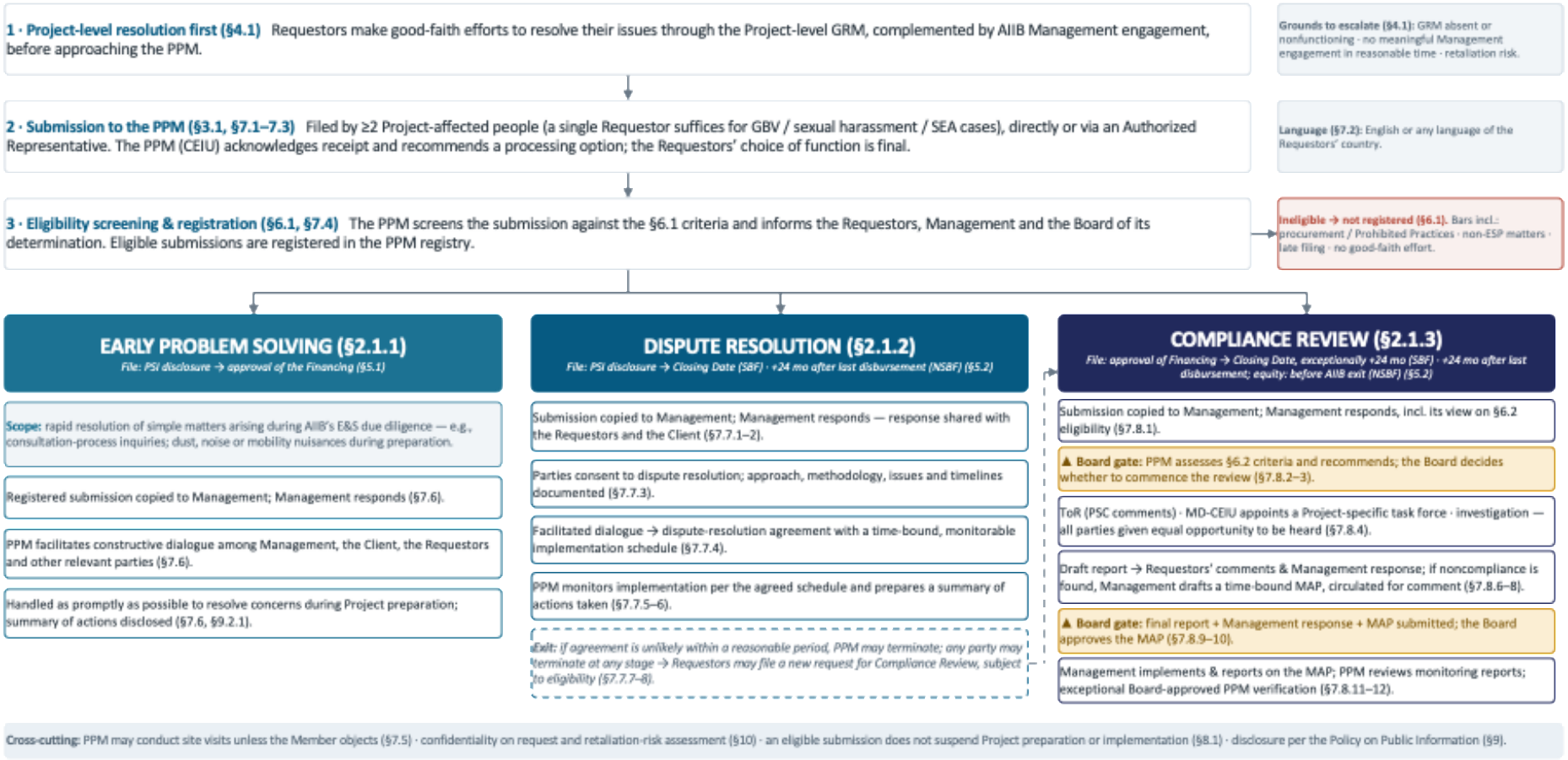
Project-affected people may channel their grievances through the Project-Affected People's Mechanism (PPM) [9] if they believe their concerns about the adverse failure of ESP implementation cannot be satisfactorily addressed through the Project-level Grievance Redress Mechanism (the Hospital GRM) or through AIIB Management processes. This PPM – administered by AIIB's Complaints-resolution – covers the following key functions (see Figure 9-1):

- Early Problem Solving, for rapid resolution of simple concerns arising during Project preparation (e.g., consultation-related inquiries or nuisances such as dust, noise, or mobility restrictions);
- Dispute Resolution, which facilitates dialogue between AIIB, the Project-affected people, and/or the Client to agree on actions mitigating material adverse environmental or social impacts; and
- Compliance Review, which investigates allegations that AIIB has failed to comply with its ESP obligations in its due diligence or oversight of the Project.

Access to the PPM requires Requestors—which are usually two or more people affected by the Project, possibly represented by an Authorized Representative—to first attempt to resolve their concerns in good faith through the Project-level GRM and AIIB Management. Valid reasons for escalation include the absence or malfunction of the Project-level GRM, Limited management's meaningful engagement within a reasonable time, or potential retaliation. Requestors may submit their issues in English or their native language, may request confidentiality (including to avoid retaliation), and must submit within the deadlines specified in the Policy, typically before the Closing Date for non-sovereign or sovereign-backed financings.

[9] https://www.aiib.org/en/about-aiib/who-we-are/project-affected-peoples-mechanism/how-we-assist-you/index.html

Figure 9-1 Project Affected Peoples Mechanism (PPM)



9.1. Objectives and Principles

The GRM provides a project-specific channel for receiving, recording, evaluating, resolving, and reporting grievances raised by any stakeholder regarding the project's environmental and social performance. The mechanism operates alongside (not instead of) other available remedies (complaint to Fatmawati Hospital management, formal regulatory complaint to DLH DKI Jakarta Province or Sudin LH Jakarta Selatan, judicial recourse). The GRM is designed to be accessible, responsive, transparent, fair, predictable, and free of charge for complainants.

- Accessible: multiple channels (in-person, telephone, WhatsApp, e-mail, written) with no fee or technical barrier.
- Responsive: defined timelines for acknowledgement, investigation, resolution, and feedback to complainant.
- Transparent: published procedure, regular reporting on volumes and resolution.
- Fair: investigation by an officer not directly accused; appeal pathway.
- Predictable: published stages; complainant always informed of next step and expected timing.
- Confidential and safe: protection from retaliation; option for anonymous submission for harassment / GBV/SEAH cases.

9.2. Existing Baseline at Fatmawati Hospital

Pre-existing complaint-handling and public communication mechanisms at Fatmawati Hospital will be integrated into the Project GRM framework. In accordance with SK SOTK No. HK.10447/2025 Chapter VIII.A, the Legal, Public Relations, Health Promotion, and Marketing Working Team under the Directorate of Operational Services functions as the principal institutional coordinator for public complaints and stakeholder communication within the Hospital.

Existing communication and complaint channels currently include:

- the Fatmawati Hospital main telephone line (021-7660552) as listed in the Hospital operational registration documents;
- the Environmental Health and Occupational Health & Safety (K3RS) complaint email channel (sanitasifatmawati@gmail.com) for environmental and sanitation-related complaints;
- the Fatmawati Hospital website and associated online feedback platforms;
- patient-service and marketing feedback channels coordinated through the Public Relations Working Team; and
- direct complaint submission through hospital administrative and operational units.

The existing complaint-management system is coordinated internally with relevant institutional committees, depending on the nature of the complaint, including the Hospital Quality Committee for service quality and administrative matters, the Infection Prevention and Control (PPI) Committee for infection control and environmental health issues, and the Research Ethics Committee for research-related ethical concerns.

The Project GRM will therefore build upon an already established institutional framework with existing communication channels, operational procedures, and administrative personnel.

9.3. GRM Channels and Procedures

Multiple complaint channels are provided to ensure accessibility for stakeholders with different communication preferences and capacities. The full operating procedure including escalation pathways and quarterly reporting templates is set out in Annex D.

Table 9.1. GRM Channel

Channel	Detail
In-person	Fatmawati Hospital Bagian Humas + Project Liaison Officer; Fatmawati Hospital Information Desk; on-site GRM Officer at construction site
Telephone	021-7501524 / 021-7660552
Digital	humas@fatmawatihospital.com
Written	Complaint box at Fatmawati Hospital entrance, Camat Cilandak office, Lurah Cilandak Barat office
Anonymous	Locked complaint box; web form with anonymity option; particularly relevant for GBV/SEAH
Workforce	Worker grievance procedure (in C-ESMP); union channel (where applicable); Toolbox feedback sessions

9.4. Complaint Handling Stages

Complaint handling progress through seven defined stages with target timelines for each. Tier 1 (straightforward) complaints close within 21 working days; complex complaints may extend to 30 days with appropriate complainant communication. Each stage is recorded in the GRM Register

Table 9.2. Complain Handling Stages

Stage	Action	Timeline (target)
Receipt and registration	Complaint logged in GRM register (date, channel, complainant or anonymous, summary, category)	Within 1 working day
Acknowledgement to complainant	Acknowledgement (where contactable); reference number issued	Within 3 working days
3. Triage and routing	Categories (clinical / safeguards / labor / community / GBV-SEAH); route to responsible officer	Within 5 working days
4. Investigation	Documented investigation; site visit if needed; consult complainant	Within 14 working days for Tier 1; 30 days for complex
5. Resolution and response	Action taken; written or verbal response to complainant; complainant satisfaction recorded	Within 21 working days for Tier 1
6. Appeal (if dissatisfied)	Appeal to Fatmawati Hospital Direksi or AIIB safeguards channel	Within 14 working days of original response
7. Reporting and learning	Quarterly GRM report; trend analysis; corrective system actions	Quarterly

9.5. Roles and KPIs

The institutional roles and KPIs below distribute responsibility across the Fatmawati Hospital operational departments, the Fatmawati Hospital safeguards team, and the PIU. Each role-holder is briefed during the project induction and KPIs are tracked in the monthly safeguards dashboard.

- Fatmawati Hospital Bagian Humas: receipt, registration, complainant liaison.
- Fatmawati Hospital Bagian Kesling / K3 / PPI: investigation for environment-, OHS-, and infection-related complaints.
- Operational Manager: oversight of safeguards-related GRM performance; quarterly trend analysis.
- Project Liaison Officer: on-site presence during construction; first-line community contact for Cilandak Barat Sub-district residents and adjacent receptors.
- PIU Safeguards Officer: monthly GRM dashboard; escalation pathway to AIIB if unresolved at project level.

9.6. Hospital Specific Adaptations

Hospital-specific GRM dimensions reflect the special nature of the patient-hospital relationship and the heightened sensitivity around oncology, transplantation, pediatric, and obstetric services in a Class A National Referral Hospital.

- Patient confidentiality: clinical complaints handled through clinical governance pathway with complaint anonymisation in safeguards register.
- Sensitive populations: complainants from oncology, transplantation, TB (where present), and HIV/ODHA cohorts handled with explicit confidentiality and trauma-informed approach.
- Vulnerable groups access: language support, disability access, gender-aware handling of GBV/SEAH complaints (separate intake by trained female officer where preferred).
- Bereavement and loss: separate pathway for complaints related to death or serious harm, with protocol for family liaison.

10. IMPLEMENTATION ARRANGEMENTS

This Chapter sets out the institutional arrangements for implementation - the roles and responsibilities of the parties involved, and the capacity-building programme designed to ensure that the safeguards architecture is operationalised effectively at all tiers (institutional, operational, and contractor / supplier).

10.1. Institutional Roles and Responsibilities

Implementation responsibility is distributed across the parties identified in Section 2.2, with day-to-day execution led by the PIU and Fatmawati Hospital underFatmawati Hospitalsafeguards oversight. The institutional architecture reflects the three-tier structure characteristic of AIIB-financed projects: the executing and implementing agencies at the top tier provide policy direction and budget authority; the PIU and Fatmawati Hospital at the operational tier manage day-to-day implementation and reporting; and the consultants and contractors at the delivery tier execute technical and physical works under defined safeguards obligations. Principal entities and their roles are set out in Table 10.1.

Table 10.1. Institutional roles and responsibilities

Entity	Role
Ministry of Health (Kemenkes)	**Executing Agency; PMU host; budget and procurement authority**. The Ministry of Health is key in ensuring that environmental and social safeguards are integrated into healthcare infrastructure projects. It oversees project compliance with health sector regulations, incorporates E&S considerations into planning and operations, and collaborates with relevant ministries to manage health-related environmental impacts. Additionally, the MoH supervises the implementation of the ESMP at hospitals and provides training for staff on E&S procedures
Ministry of Environment	**Environmental Policy and Regulation Maker.** The Ministry of Environment and Forestry (KLHK) is the primary authority in charge of environmental protection and sustainability. It ensures that the Environmental and Social Impact Assessment (ESIA) meets national standards, grants environmental permits (AMDAL/UKL-UPL), and monitors compliance with environmental regulations throughout the project lifecycle. The ministry may also provide technical support and conduct inspections to verify that mitigation measures are effectively implemented.
Project Implementation Unit (PIU) – **Fatmawati Hospital**	**Day-to-day implementation; safeguards reporting to PMU of MoH and AIIB; coordination across all project components.**
Project Implementation Unit (PIU) – **Fatmawati Hospital** : Executive Director (Dr. dr. Wahyu Widodo, Sp.OT(K), S.H.)	**On-site implementation authority; operational decision-making; staff coordination.** Oversee the progress of ESIA-ESMP preparation and implementation. Appoint officials as Environmental and Social Safeguard Officers. Offer guidance on the Environmental and Social Policy at Fatmawati Hospital. Provide direction for ESMP implementation.
Fatmawati Hospital Bagian Kesling and IKLK3 – Environmental Officer	**Operational safeguards execution; environmental baseline compilation; monitoring and reporting.** **During the preparation of bidding documents and work contracts (for demolishment and construction contractors)**: Conduct screening and scoping of environmental risks and impacts based on the contract package. Ensure that provisions related to the contractor's responsibilities for preparing the

Entity	Role
	Contractor's ESMP and managing environmental risks and impacts are included in the bidding documents and the Contractor's Work Contract. **Before construction begins**: Require main and subcontractor Contractors to prepare and submit a site-specific ESMP to the PIU and the PIU's Construction Supervision Consultant. Confirm that the Contractor's site-specific ESMP aligns with the identified E&S risks and impacts in the ESIA/ESMP. Provide environmental training for: a) relevant hospital staff, b) contractors, and c) subcontractors. **During construction**: Monitor the environmental management processes and results for: a) main contractors, b) subcontractors (if any), and c) the PIU's Construction Supervision Consultant. Lead stakeholder engagement activities, including information disclosure, consultations, and reporting, in accordance with the SEP (Annex in ESIA/ESMP). Collaborate with relevant ministries, local governments, and authorities as needed for environmental risk and impact management. Prepare monthly reports summarizing environmental implementation for the PMU.
Fatmawati Hospital Bagian Kesling and IKLK3 – Social Officer	**During the preparation of bidding documents and work contracts:** conduct screening and scoping of social risks and impacts based on the contract package, such as risks related to community safety, occupational health and safety, and SEA/SH. Clearly reflect provisions regarding the contractor's responsibilities in the bidding documents and Work Contract, including: a) preparing the Contractor's Environmental and Social Management Plan (ESMP) and managing environmental and social risks; b) ensuring the contractor develops a Labor Management Plan as part of the ESMP; c) monitoring impacts on the livelihoods of street vendors and informal workers during construction, with mitigation included in social performance obligations; d) incorporating gender issues and monitoring the Gender Action Plan (GAP) as part of contractor duties and oversight. **Before construction** begins, ensure both main contractors and subcontractors prepare and submit a site-specific ESMP to the PIU and its Construction Supervision Consultant, based on the social risks identified in the ESIA/ESMP. Conduct social training for hospital staff, contractors, and subcontractors. **During construction**, monitor the social management processes and outcomes of the main contractor, subcontractors, and the Construction Supervision Consultant (CSC). Lead stakeholder engagement activities, including information sharing, consultations, and reporting, as outlined in the SEP (Annex in the ESIA/ESMP). Collaborate with relevant ministries, local governments, and authorities to manage social risks and impacts. Prepare monthly social implementation reports for the PMU (Ministry of Health) Environmental & Social Officer.
Fatmawati Hospital K3 and PPI Installations	**OHS and infection control safeguards; incident reporting; radiation protection coordination.** Continuously monitor the socio-economic impacts on relocated and non-relocated street vendors during and after project implementation, ensuring their livelihoods are not adversely affected and that necessary adjustments or support measures are provided.

Entity	Role
	Ensure that during the operation of the project, IT equipment is used appropriately and disposed of in accordance with the E-Waste Management Plan.
Fatmawati Hospital Bagian Humas	GRM administration; community liaison; public disclosure coordination
AIIB Safeguards Team	Lender oversight; supervision mission visits; review of Living Document updates
Detailed Engineering Design Consultant (DEDC)	DED finalisation; technical specifications incorporating ESMP requirements
Construction Management and Project Management Supervision Consultant (CMC/PMSC)	Construction supervision; C-ESMP enforcement; contractor performance monitoring. ▪ At least one qualified Environmental Expert: Responsible for monitoring environmental compliance, adherence to mitigation measures, and correct implementation of the Environmental Management Plan (ESMP). ▪ At least one qualified Social Expert: Responsible for supervising social safeguard aspects, including occupational health and safety, gender-based violence prevention, labor conditions, community engagement, and the grievance redress process. The CSC will also: ▪ Monitor and verify the contractor's full compliance with the Environmental and Social Impact Assessment (ESIA) and the Abbreviated Resettlement Action Plan (ARAP) commitments. ▪ Conduct regular field inspections and document contractor performance, reporting gaps and non-compliance to the PIU for corrective action. ▪ Provide ongoing capacity-building and technical advice to both the contractor and PMU on best practices for environmental and social risk management during project implementation.
Equipment Consultant (EQC)	Medical equipment specification and procurement support
Main construction contractor	Construction execution under C-ESMP and SMK3 obligations. ▪ Responsible for developing a detailed Contractor Environmental and Social Management Plan (Contractor ESMP) that aligns with the project's approved ESMP, covering all identified environmental, health, safety, and social risks. ▪ Responsible for implementing ESMP measures during construction, including specific mitigation actions, monitoring, and reporting procedures. ▪ Must adhere to environmental, health, and safety (EHS) guidelines and relevant legal and regulatory standards. ▪ Required to submit periodic reports on ESMP compliance, including progress on mitigation actions, accident/incident logs, and corrective measures taken. ▪ Conduct worker orientation and ongoing training on environmental and social safeguards, including gender-based violence (GBV) awareness, grievance redress procedures, and community relations.
KPA DKI Jakarta Province	ANDAL assessment and approval authority.
DLH DKI Jakarta Province	Review and approval of Pertek BMAL, Pertek BMUE, and Rintek B3
DPMPTSP DKI Jakarta Province	Spatial Utilisation Conformity Approval (KKPR); business licensing integration; PBG and SLF issuance

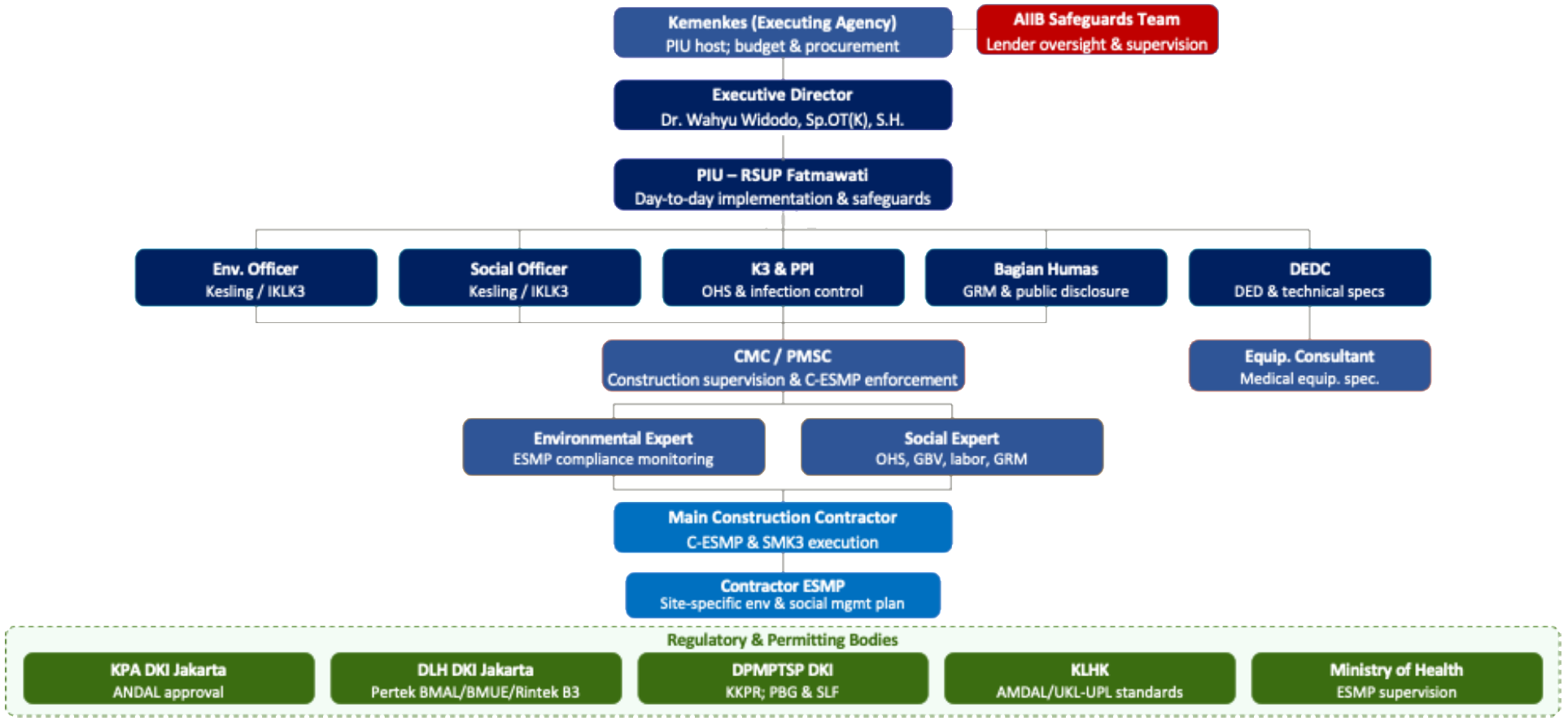


Figure 10-1. Organizational Chart

10.2. Capacity Building

Effective implementation of the ESMP requires that all parties with safeguards responsibilities have the knowledge, skills, and institutional systems to fulfil their obligations. A structured capacity building programme is therefore established at three tiers: institutional (PIU and Fatmawati Hospital management), operational (Fatmawati Hospital safeguards staff), and external (contractor, supplier, and community). The programme is treated as a living instrument, reviewed and updated at each project milestone to reflect emerging needs and lessons learned. Principal targets, topics, and indicative coverage are summarised in **Table 10.2**.

Table 10.2. Capacity building programme: targets, topics, and indicative coverage

Target Audience	Topics	Indicative Coverage
PIU and Fatmawati Hospital Board of Directors	AIIB ESF; ESS1 application and reporting obligations; Living Document discipline; AMDAL interface and regulatory compliance	Half-day workshop at project inception; repeated annually throughout the construction period
Fatmawati Hospital Bagian Kesling and IKLK3	Updated BMAL, BMUE, and B3 regulations; IPAL operations and effluent quality management; emission test protocols; PPI procedures for TB and infectious disease	One-day briefings quarterly; supplementary sessions following regulatory updates
Fatmawati Hospital Bagian Humas	GRM operating procedures; trauma-informed complaint intake; escalation criteria; GBV and SEAH complaint handling protocols	One-day training at project inception; repeated annually
Fatmawati Hospital SDM + Diklat	Workforce planning for expanded service portfolio; gender-disaggregated workforce metrics; vulnerable group integration in HR planning	Half-day briefings every semester
Contractor management	C-ESMP induction; SMK3 obligations; chance-find protocol for heritage and archaeological resources; GBV and SEAH Code of Conduct; community interaction protocols	Mandatory full-day induction on mobilisation; quarterly refreshers throughout construction
Contractor workforce	Daily safety toolbox; environmental awareness induction; community interaction protocol; GRM access for workers	Daily toolbox talks; weekly environmental briefing
MSMEs and tenants	Temporary relocation arrangements; access to GRM for livelihood concerns; communication channels during construction; directional signage and utilities at relocation sites	Briefing prior to construction mobilisation; follow-up sessions as needed
Local community (Cilandak Barat Sub-district)	Project briefing and construction schedule; GRM access and complaint channels; community safety during construction; temporary traffic and access changes	Pre-mobilisation community briefing; quarterly updates through Phase 1 and Phase 2 consultation

11. MONITORING ARRANGEMENTS

11.1. Monitoring Institutional Arrangement

This Chapter sets out the monitoring architecture for the project - covering pre-construction phase, construction-phase parameters with their reference standards and monitoring frequencies, and operational-phase parameters with their respective standards. The full monitoring parameter sheet, including sampling location and laboratory accreditation requirements, is set out in Table 11.1.

Table 11.1. Mitigation and Monitoring Arrangement

IMPACT ASPECT (Impact Scope)	PRE-CONSTRUCTION PHASE		CONSTRUCTION PHASE		OPERATION PHASE	
	DED Consultant (Design Responsibility)	Contractor (Planning Responsibility)	DED Consultant (Design Support / Review)	Contractor (Implementation Responsibility)	DED Consultant (Design Provisions Handover)	Contractor (Defects / Warranty Obligations)
Asbestos (ACM) *(Demolition)*	• Review ACM survey results and design demolition methodology • Specify asbestos removal and disposal requirements in design	• Prepare Asbestos Management Plan • Plan licensed removal, access control and disposal arrangements	• Review demolition/asbestos removal method and drawings • Approve any design changes affecting asbestos management	• Implement asbestos removal plan • Maintain restricted access zones • Dispose ACM through licensed B3 facility	• Provide as-built records and ACM removal documentation	• Rectify any defects or incomplete removal within warranty period
Dust & Noise *(Air quality; noise level)*	• Design low-dust and low-noise construction approach (e.g. site layout, barriers, scheduling windows)	• Prepare Dust & Noise Management Plan	• Review adequacy of mitigation measures in method statements	• Implement dust suppression • Use vacuum for cleaning • Limit high-noise works to restricted daytime hours • Install temporary barrier • Monitor dust & noise	• Provide building design with acoustic measures (for permanent sources)	• Rectify deficiencies related to excessive dust/noise during defect liability period
Waste Generation *(Waste management)*	• Design waste storage areas (B3 and non-B3) and waste transport routes	• Prepare Waste Management Plan • Plan licensed waste transport & disposal	• Review waste management provisions and layouts	• Segregate waste streams • Store in designated areas • Transport and dispose through licensed parties	• Provide waste storage facilities as designed	• Rectify leakages or deficiencies in waste facilities
Hospital Service Continuity *(Health services disruption)*	• Design phased construction and service relocation requirements • Provide temporary connections and access provisions	• Prepare Construction Sequencing Plan with RSUP Fatmawati	• Review construction phasing against design assumptions • Approve utility protection measures	• Coordinate with hospital departments • Maintain access to operational areas • Implement utility protection protocols	• Provide operational systems as designed for continuity	• Correct any construction impacts affecting services during warranty period
Tenant Relocation *(Social / livelihood)*	• Design temporary relocation areas (utilities, accessibility)	• Prepare Relocation Plan • Conduct early notification and GRM access plan	• Review adequacy of temporary facilities and access	• Provide temporary facilities • Support relocation and GRM implementation	• Provide permanent facilities as designed	• Rectify defects in relocated facilities
Labour Influx *(Worker management)*	• Consider worker accommodation area and site access in design	• Prepare Labour Management Plan • Provide worker accommodation Enforce Code of Conduct	• Review worker facilities layout and integration with design	• Implement Code of Conduct • Provide gender-sensitive induction • Prioritise local worker absorption	• Design provisions to support local employment during operations	• No ongoing obligation (unless part of O&M scope)
Occupational Health & Safety *(Worker safety)*	• Apply safe design principles (layouts, access, fall protection anchor points where applicable)	• Prepare OHS Plan (SMK3) • Provide PPE and toolbox meetings • Prepare SOPs and emergency procedures	• Review OHS plan adequacy • Review temporary works and fall protection design	• Implement SMK3 • Implement confined space and height safety controls • Conduct emergency drills	• Provide O&M manuals including safety systems and equipment	• Rectify unsafe conditions or failed safety installations
Community Health & Safety *(Public safety)*	• Design construction access routes to minimise community disruption	• Prepare Community Health & Safety (CHS) Plan • Appoint Construction Liaison Officer	• Review mitigation for dust, vibration, traffic, and community interface	• Implement CHS Plan • Manage traffic, dust and vibration • Operate GRM	• Provide community facilities (e.g. parking, access, pedestrian facilities) as designed	• Rectify issues affecting public safety arising from construction
Liquid Effluent *(Wastewater)*	• Design WWTP (IPAL) capacity upgrade • Design effluent treatment systems and monitoring points	• Prepare Environmental Management Plan for liquid effluent	• Review WWTP design and compliance with SLO/permits	• Implement erosion and sediment control • Prevent discharge to environment • Conduct sampling during construction	• Provide WWTP as designed with monitoring points	• Rectify leaks or system failures under warranty
Non-Hazardous Solid Waste	• Design waste segregation areas and collection system	• Prepare waste management SOP	• Review waste segregation and collection system	• Implement waste segregation • Use licensed third-party hauler	• Provide waste collection systems in operation	• Rectify defects in waste collection facilities
Hazardous Waste (B3) *(Hazardous waste)*	• Design B3 storage facility and spill response infrastructure	• Prepare B3 Waste Management Plan	• Review B3 storage design and compliance with regulations	• Store B3 waste safely • Use licensed B3 transporter • Maintain manifests	• Provide B3 storage facility as designed	• Rectify defects in B3 storage facilities
Radioactive Waste *(Radiation safety)*	• Design radioactive waste storage, shielding, and management system	• Coordinate with Radiation Protection Officer (PPR) • Prepare Radioactive Waste Management Plan	• Review shielding design and compliance with BAPETEN	• Protect existing nuclear medicine facilities during construction • Manage waste in compliance with BAPETEN	• Provide radioactive waste storage and shielding as designed	• Rectify defects affecting radiation safety systems
Indoor Air Quality *(Indoor air)*	• Design HVAC with HEPA filtration and ventilation standards	• Plan dust control and IAQ management	• Review IAQ provisions and system specifications	• Implement dust control • Protect HVAC openings and ducts	• Provide IAQ/HVAC systems as designed	• Rectify IAQ/HVAC defects
Noise & Vibration *(Noise / vibration)*	• Design vibration and noise isolation systems	• Plan low-noise equipment and construction methods	• Review vibration/noise isolation details	• Use low-noise equipment • Implement vibration and noise control • Monitor vibration and noise	• Provide acoustic and vibration isolation systems as designed	• Rectify excessive noise/vibration caused by defects
Traffic & Parking *(Traffic / parking)*	• Design parking supply and vehicle circulation system	• Prepare Traffic Management Plan	• Review parking and circulation design	• Implement traffic routing • Maintain access for ambulances and public	• Provide parking and traffic management systems as designed	• Rectify access or parking deficiencies
Energy & Water Resources *(Resource efficiency)*	• Design energy-efficient systems (e.g. solar, efficient HVAC) • Design water efficiency and rainwater harvesting	• Plan resource efficiency measures	• Review energy/water efficiency design	• Implement efficiency measures during construction	• Provide systems as designed for efficient operation	• Rectify system failures under warranty
Community Health & Safety Benefits *(Community well-being)*	• Design facilities that improve healthcare capacity and safety	• Plan community benefit and awareness activities	• Review community benefit integration	• Support health & safety awareness • Manage vector control during works	• Provide healthcare and safety facilities as designed	• No ongoing obligation (unless part of O&M scope)

11.2. Capacity Building

Effective implementation of the ESMP requires that all parties with safeguards responsibilities have the knowledge, skills, and institutional systems to fulfil their obligations. A structured capacity building programme is therefore established at three tiers: institutional (PIU and Fatmawati Hospital management), operational (Fatmawati Hospital safeguards staff), and external (contractor, supplier, and community). The programme is treated as a living instrument, reviewed and updated at each project milestone to reflect emerging needs and lessons learned. Principal targets, topics, and indicative coverage are summarised in Table 11.2.

Table 11.2. Capacity building programme: targets, topics, and indicative coverage

Target Audience	Topics	Indicative Coverage
PIU and Fatmawati Hospital Board of Directors	AIIB ESF; ESS1 application and reporting obligations; Living Document discipline; AMDAL interface and regulatory compliance	Half-day workshop at project inception; repeated annually throughout the construction period
Fatmawati Hospital Bagian Kesling and IKLK3	Updated BMAL, BMUE, and B3 regulations; IPAL operations and effluent quality management; emission test protocols; PPI procedures for TB and infectious disease	One-day briefings quarterly; supplementary sessions following regulatory updates
Fatmawati Hospital Bagian Humas	GRM operating procedures; trauma-informed complaint intake; escalation criteria; GBV and SEAH complaint handling protocols	Half-day training at project inception; repeated annually
Fatmawati Hospital SDM + Diklat	Workforce planning for expanded service portfolio; gender-disaggregated workforce metrics; vulnerable group integration in HR planning	Half-day briefings every semester
Contractor management	C-ESMP induction; SMK3 obligations; chance-find protocol for heritage and archaeological resources; GBV and SEAH Code of Conduct; community interaction protocols	Mandatory full-day induction on mobilisation; quarterly refreshers throughout construction
Contractor workforce	Daily safety toolbox; environmental awareness induction; community interaction protocol; GRM access for workers	Daily toolbox talks; weekly environmental briefing
MSMEs and tenants	Temporary relocation arrangements; access to GRM for livelihood concerns; communication channels during construction; directional signage and utilities at relocation sites	Briefing prior to construction mobilisation; follow-up sessions as needed
Local community (Cilandak Barat Sub-district)	Project briefing and construction schedule; GRM access and complaint channels; community safety during construction; temporary traffic and access changes	Pre-mobilisation community briefing; quarterly updates through Phase 1 and Phase 2 consultation

12. MONITORING PLAN

This Chapter sets out the monitoring architecture for the project - covering construction-phase parameters with their reference standards and monitoring frequencies, and operational-phase parameters with their respective standards. The full monitoring parameter sheet, including sampling location and laboratory accreditation requirements, is set out in Annex B (Monitoring Plan).

12.1. Pre-construction Phase Monitoring

Preconstruction-phase monitoring covers air quality, noise, asbestos containing materials, livelihood of relocated tenants, and hospital continuity for construction activities. Frequencies are tuned to the risk profile of each parameter. Full parameter sheet in **Table 12.1.**

Table 12.1 Pre-Construction Phase Monitoring Details

Parameter	Frequency	Reference Standard	Location	Responsibilities
Ambient PM10/PM2.5 at demolition/relocation work-site boundary and nearest sensitive receptors	Monthly grab following IFC General EHS Guideline	PP 22/2021 IFC General EHS Guideline	Demolition sites and nearest local residential area	Contractors PIU ES Focal Point
Pre-demolition ACM survey/inspection, confirmation of ACM status, and verification of implementation of the Asbestos Management Plan (AMP)	One-time, prior to demolition of each building/package	Project AMP (Annex J)	All structures scheduled for demolition, particularly Azalea, IRJ (Anyelir), and Wijaya Kusuma	Contractor (ACM-qualified officer)
Ambient noise level (Leq) at preparation/demolition site boundary and nearest sensitive receptors	Monthly continuous 48-hour monitoring	MoE Decree No. 48/1996 IFC General EHS Guideline	UA-5 and UA-6 (see **Error! Reference source not found.**)	Contractor PIU ES Focal Point

Parameter	Frequency	Reference Standard	Location	Responsibilities
Ground-borne vibration at demolition site boundary and structures in proximity to demolition works	Monthly	MOE Decree LH No. 49/1996 on Vibration Quality Standards	Demolition site boundary; Gedung Induk/R. Soehasim and other structures adjacent to demolition works	Contractor PIU ES Focal Point
Waste segregation, temporary storage and disposal records for waste generated during preparation of relocated areas	Weekly during preparation works	Project Waste Management Plan / applicable B3 regulations	Relocation areas and temporary storage areas	Contractor / PIU ES Focal Point
Business continuity and concerns of affected commercial tenants (24 tenants) following temporary relocation	Quarterly	Project Tenant Relocation Plan (Annex I)	Temporary relocation areas: Basement Gedung Anggrek, Masjid Area, Gedung Teratai Level 1	Hospital Management PIU ES Focal Point
Number, nature, and resolution status of grievances related to demolition, hospital service relocation, and tenant relocation	Throughout construction (continuous log)	Project Grievance Redress Mechanism (GRM)	Hospital-wide (project area)	Hospital Management PIU ES Focal Point
Status of critical utility continuity, emergency access, clinical service relocation readiness and unresolved service interruptions	Weekly during relocation/preparation works and at relocation milestones	Hospital Service Continuity / Relocation Plan	Affected hospital areas and temporary relocation areas	RSUP Fatmawati PIU / Hospital Management + Contractor

12.2.Construction Phase Monitoring

Construction-phase monitoring covers air quality, noise, vibration, water quality, waste management, traffic, and OHS performance. Frequencies are tuned to the risk profile of each parameter. Full parameter sheet in **Table 12.2**.

Table 12.2. Construction Phase Monitoring Details

Parameter	Frequency	Reference Standard	Location	Responsibilities
Ambient PM10 / PM2.5 at [no protected area in metropolitan vicinity]-facing boundary	Monthly grab	PP 22/2021	Construction sites and nearest local residential area	Contractors PIU ES Focal Point
Noise (Leq, L10, L90, Lmax)	Weekly during heavy works; monthly otherwise	KepMen LH 48/1996	Construction sites and nearest local residential area	Contractors PIU ES Focal Point
Vibration at heritage receptors	Continuous during piling/compaction; weekly otherwise	DIN 4150-3 (or equivalent)	Gedung Induk	Contractors PIU ES Focal Point
Surface water quality at outlet	Monthly + post-storm-event	MOEF Regulation 68/2016 / BMAL, MOEF Regulation 11/2025 BMAL	IPAL Sentral outlet and outfall drainage channel	Contractors PIU ES Focal Point
Waste manifest reconciliation	Monthly	MOEF Regulation 6/2021	Temporary hazardous waste	Contractors PIU ES Focal Point
Construction traffic — truck count and route compliance	Daily log; weekly review	Andalalin commitments	Intersection of the access road to Fatmawati Hospital. Gate of Fatmawati Hospital	Contractors
OHS leading indicators (toolbox attendance, near-miss reports, PPE compliance)	Weekly	SMK3 / WBG EHS	Construction area	Contractors
OHS lagging indicators (LTIFR, severity)	Monthly	SMK3	Construction area	Contractors

Parameter	Frequency	Reference Standard	Location	Responsibilities
GRM — receipt and resolution KPIs	Monthly	Project-specific KPIs	Fatmawati office Construction area	Contractors PIU ES Focal Point
Tenant livelihood restoration during construction phase	Monthly socioeconomic surveys: ▪ Record that all 24 tenants notified in writing with minimum required notice period ▪ Lawson relocation to ex-Kantin Dharma Wanita completed and operational ▪ Number of grievances received and resolved within timeline ▪ Individual income assessments ▪ Livelihood recovery transition support for affected tenants at the end of their contracts and preparing temporary relocation plans, especially for MSMEs in the area around Fatmawati Hospital.	Project-specific KPIs	Existing location prior to demolition New area designated for relocation	Contractors PIU ES Focal Point

12.3.Operational Phase Monitoring

Operational-phase monitoring covers wastewater quality, stack emissions, B3 manifest tracking, ambient air, indoor air for sensitive clinical areas (operating theatres, isolation rooms, Cancer Center), energy and water consumption, and operational OHS / PPI indicators. Full parameter sheet in Annex B.

Table 12.1 Operational Phase Monitoring Details

Parameter	Frequency	Reference Standard	Location	Responsibilities
IPAL inflow / outflow — BOD, COD, TSS, NH3-N, total coliform, fecal coliform, pH, fosfat	Monthly	To be confirm in Pertek BMAL	IPAL Sentral inflow and outflow	PIU Fatmawati Hospital
Stack emissions from combustion sources (boiler/gensets) — applicable parameters	Annual + after major maintenance	To be confirm in Pertek BMUE	Existing Emission Stacks	PIU Fatmawati Hospital
Ambient PM2.5 / PM10 at hospital boundary	Quarterly	PP 22/2021	Near new building Existing ambient air monitoring point Nearest residential area	PIU Fatmawati Hospital
Indoor pressure differential — TB isolation rooms	Continuous (control panel) + monthly verification	WHO 2019 + CDC 2005	New buildings	PIU Fatmawati Hospital
Energy intensity (kWh per bed-day)	Monthly	Green Hospital target	New buildings	PIU Fatmawati Hospital
Water intensity (litre per bed-day)	Monthly	MOH Regulation 7/2019	New building	PIU Fatmawati Hospital
GRM dashboard	Monthly	Project-specific KPIs	Fatmawati office	PIU Fatmawati Hospital

Parameter	Frequency	Reference Standard	Location	Responsibilities
Tenant livelihood restoration after construction is completed	Quarterly report: First quarterly report (due at/around commissioning trigger): ▪ Confirm all tenants, including the 24 tenants identified in the the June 2026 socio-economic baseline survey were notified in writing of relocation at leas 90 days prior to commissioning; retain notification records (date, recipient, acknowledgment). ▪ Record the number and proportion of tenants relocated to the designated Podium space, and confirm lease/occupancy terms (rent, size, duration) are no less favourable than pre-relocation arrangements. ▪ Establish or confirm individual baseline socio-economic and income data for each of the 24 tenants (income level, business type, dependents, vulnerability status incl. female-headed households, persons with disabilities, elderly) prior to relocation, to enable before/after comparison in later reports. ▪ 3 months prior to commissioning: record that all tenants (including 24 existing tenants) notified in	▪ 100% of the 24 tenants notified in writing within the required notice period, with documentary evidence retained. ▪ 100% of tenants relocated to Podium with occupancy terms verified as comparable to pre-relocation conditions. ▪ 100% of relevant grievances resolved within the SOP-defined timeline, each quarter. ▪ Minimum 80% of tenants (disaggregated by gender) with income ≥ pre-displacement baseline within 24 months of relocation	New building of Phase I	PIU Fatmawati Hospital

Parameter	Frequency	Reference Standard	Location	Responsibilities
	writing with minimum required notice period. ▪ Number of grievances received, disaggregated by type and by gender of complainant, and number resolved within 30 days; number outstanding beyond timeline, with reason. ▪ Individual income assessments for each relocated tenant, compared against the established baseline. ▪ Livelihood recovery transition support for affected tenants at the end of their contracts and preparing temporary relocation plans, especially for MSMEs in the area around Fatmawati Hospital. Second quarterly report onward, through the operational phase, until restoration is confirmed and sustained for one consecutive reporting periods: ▪ All tenants, including the 24 tenants, have been relocated and are then operating from the Podium site. ▪ Grievances received and resolved within SOP timeline; trend (increasing/decreasing) and any unresolved or escalated cases.			

Parameter	Frequency	Reference Standard	Location	Responsibilities
	▪ Individual income assessments benchmarked against the baseline, disaggregated by gender and vulnerability status, showing the proportion of tenants restored to at least pre-displacement income levels. ▪ Implementation status of the livelihood restoration plan for MSMEs, including support provided (e.g., business registration assistance, access to credit/training) and uptake rates.			
Non-B3 waste generation, segregation, collection and disposal records	Monthly	Hospital Waste Management SOP / applicable requirements	Hospital-wide / waste collection areas	PIU Fatmawati Hospital
Waste segregation and temporary storage inspection	Monthly	Hospital Waste Management SOP	Waste storage/collection areas	PIU Fatmawati Hospital
Radioactive waste generation, decay-storage records and disposal/transfer records	Monthly	BAPETEN requirements / hospital radioactive waste SOP	Nuclear Medicine / Radioactive Waste Storage	PIU Fatmawati Hospital / RPO
Radiation levels of radioactive solid, liquid and contaminated linen prior to release/disposal	As required by SOP / before release	BAPETEN requirements	Nuclear Medicine / radioactive waste storage	RPO

Parameter	Frequency	Reference Standard	Location	Responsibilities
Radiation exposure monitoring (TLD badge / survey meter)	Monthly / according to radiation protection programme	BAPETEN requirements	Radiation workers / relevant facilities	RPO
Radiation monitoring of relevant exhaust/ventilation system	Periodic, according to approved programme	BAPETEN requirements	Nuclear Medicine / relevant exhaust system	RPO
Calibration and conformity testing of radiation monitoring equipment	According to BAPETEN requirements	BAPETEN requirements	Relevant equipment	RPO
Ambient noise level (Leq) at sensitive hospital areas	Quarterly / following significant equipment changes	Applicable Indonesian standards / IFC EHS Guidelines	Sensitive areas of new buildings	PIU Fatmawati Hospital
Vibration at vibration-sensitive medical areas, where applicable	As required / following equipment commissioning	Applicable standards	Sensitive medical areas	PIU Fatmawati Hospital
Parking occupancy, traffic circulation, emergency access and traffic incidents	Monthly	Andalalin / approved traffic management requirements	Hospital access roads and parking areas	RSUP Fatmawati Management + PIU

Parameter	Frequency	Reference Standard	Location	Responsibilities
Occupational injuries, exposure incidents, sharps injuries and occupational disease	Monthly	K3RS / applicable OHS requirements	Hospital-wide	K3RS Fatmawati
K3 training, vaccination and PPE compliance	Quarterly	K3RS programme	Hospital-wide / high-risk units	K3RS Fatmawati
Radiation/cytotoxic/chemical occupational exposure records	Monthly	Relevant hospital SOP / BAPETEN requirements	Relevant clinical units	K3RS + RPO
Community health complaints, security incidents, traffic incidents and hazardous-material incidents	Monthly	Hospital emergency/security/GRM procedures	Hospital and surrounding community interface	RSUP Fatmawati Management
Vector-control activities and findings	Monthly	Hospital vector-control programme	Hospital premises	RSUP Fatmawati
Emergency preparedness and response drills	At least annually / according to hospital programme	Hospital emergency response procedures	Hospital-wide	RSUP Fatmawati

Parameter	Frequency	Reference Standard	Location	Responsibilities
Patient complaints/incidents relating to confidentiality, visitor access, violence/GBV-SEAH and patient protection	Monthly	Relevant hospital SOPs / GRM	Hospital-wide	Hospital Management
Compliance with patient segregation, visitor identification and access controls	Quarterly	Relevant hospital SOPs	Sensitive/high-risk patient areas	Hospital Management
Patient HAI rate (incl. TB nosocomial transmission)	Monthly	PPI / KARS standard	New building	PIU Fatmawati Hospital

12.4.Indicative ESMP Budget

The indicative ESMP budget is framed against the total capital expenditure for the Multibuilding Plan of Rp 1,508,462,816,423 (approximately USD 95.5 million at Rp 15,800/USD; Pre-FS, Table 50, pp. 163–164). Based on the current project design and the indicative cost allocations presented in Table 1.2, the overall ESMP safeguards envelope is estimated at approximately Rp 80–100 billion over the three-year ESMP implementation horizon, subject to confirmation through detailed engineering design (DED), procurement, contractor mobilisation, and final operational requirements.

The principal cost components include:

- Environmental and social consultancy and compliance: ESIA/ESMP implementation, AMDAL and permitting support, Pertek BMAL and BMUE compliance, Rintek B3, Andalalin, and associated environmental and social advisory services.
- Contractor C-ESMP implementation: environmental, social, occupational health and safety, and community health and safety measures implemented by the contractor and embedded within the civil works contract.
- Environmental quality monitoring: ambient air, noise and vibration, water quality, and stack-emission monitoring during construction and operation, including laboratory analysis and regulatory compliance monitoring.
- Waste management: incremental management of non-B3 and B3 waste associated with the expansion from 851 to 1,352 operational beds, including segregation, temporary storage, licensed transportation and treatment, manifesting, and related compliance requirements.
- Radioactive waste and radiation protection: management of radioactive waste generated by nuclear medicine services, including dedicated storage, radiation monitoring, equipment calibration, training, and licensed disposal/transfer in accordance with applicable BAPETEN requirements.
- Wastewater management: WWTP/IPAL capacity enhancement and associated environmental monitoring, with the final capital requirement to be confirmed through DED and the applicable Pertek BMAL.
- Emission compliance: new or revised Pertek BMUE requirements and associated stack-emission monitoring for applicable combustion/emission sources.
- Occupational health and safety: contractor and hospital K3/SMK3 implementation, PPE, training, emergency preparedness, and occupational health monitoring.
- Community health and safety: hospital–community interface management, traffic and parking management, security coordination, emergency preparedness, GBV/SEAH awareness, and GRM implementation.
- Tenant relocation and livelihood restoration: temporary relocation support, business continuity measures, GRM, monitoring of affected tenants, and livelihood restoration measures as applicable.

Table 1.2 Indicative ESMP Budget Allocation

Cost Category	Indicative Allocation	Notes
Environmental and Social Consultants	Per signed contract	ESIA-ESMP implementation, AMDAL, Pertek BMAL/BMUE, Rintek B3, Andalalin, environmental and social compliance support.
Contractor C-ESMP Implementation	Embedded in civil works contract	Contractor implementation of environmental, OHS, CHS, traffic, waste, erosion/drainage, community interface and other C-ESMP measures.
Pre-construction ESMP Measures	~Rp1.6 billion	ACM management, preparation of relocated areas, hospital service continuity, tenant relocation, GRM and related pre-construction controls.
Construction ESMP Measures	~Rp0.8 billion	Environmental, OHS and CHS mitigation and monitoring, including dust/noise, hydrology and drainage, waste, traffic, hospital service continuity and worker/community controls.
Operational ESMP Measures – Year 1	~Rp6.1 billion/year	Waste management, wastewater/environmental monitoring, radioactive waste management, indoor air quality, noise, traffic, energy/water efficiency and community health and safety measures.
WWTP Upgrade / Capacity Enhancement	Subject to DED scoping	Major capital expenditure for IPAL capacity enhancement; to be confirmed through DED and applicable Pertek BMAL requirements.
TB Isolation HVAC and HEPA Filtration	Subject to DED scoping	Negative-pressure isolation rooms and HEPA exhaust/filtration systems for TB and other relevant clinical areas, subject to final design and hospital infection-control requirements.
Green Building / Resource Efficiency Measures	Subject to DED scoping	Energy and water-efficiency measures, including rainwater harvesting, efficient HVAC and other Green Hospital/Green Building measures.
Radioactive Waste & Radiation Protection	~Rp350 million/year	Radioactive waste storage and management, radiation monitoring, equipment calibration, training and regulatory compliance under the

Cost Category	Indicative Allocation	Notes
		hospital's radiation protection programme.
Tenant Relocation & Livelihood Restoration	~Rp1.2 billion pre-construction	Temporary relocation and associated support for affected tenants; final requirement subject to confirmation of the affected tenant population and approved Relocation Plan.
Heritage / Chance-Find Compliance	Minimum allocation; subject to authority guidance	Administrative consultation, documentation and, if required, vibration/condition monitoring, archaeological chance-find response and conservation measures.
GRM and Community Engagement	Annual operational expense	GRM operation, stakeholder engagement, complaint handling and supervision by Hospital Management/PIU.
Capacity Building & Training	Subject to programme requirements	K3/SMK3, environmental management, radiation protection, GBV/SEAH, emergency preparedness and other competency/training requirements.
Contingency for Environmental & Social Requirements	Reserved budget	To address unforeseen environmental/social requirements, regulatory conditions, corrective actions or additional mitigation identified during implementation.
Overall Indicative ESMP Envelope (3-year horizon)	~Rp80–100 billion	Planning-level envelope against project CAPEX of approximately Rp1.508 trillion. Final allocation to be refined through DED, procurement, C-ESMP development and operational planning.

The indicative ESMP budget will be refined with operational unit costs based on the following references:

- Per-sample laboratory costs for WWTP effluent and other required environmental monitoring parameters.
- Annual stack-emission testing costs for applicable generators, boilers, and other regulated emission sources, based on the final Pertek BMUE requirements.
- Construction-phase noise and vibration monitoring and annual operational monitoring, in accordance with the ESMP monitoring schedule and applicable regulatory requirements.
- Application, compliance, and maintenance costs associated with Pertek BMUE, Pertek BMAL, and Rintek B3 requirements.

- Certified environmental and occupational health personnel, including required competency certification and refresher training.

Annual operational ESMP costs will be calculated for the 12-year post-construction operational window per the 15-year project life (Pre-FS, Table 74). Detailed costing will be prepared by the Operational Manager in coordination with the Hospital's Finance Working Team and IKLK3 prior to formal submission.

BIBLIOGRAPHY AND REFERENCES

The Bibliography compiles the legal, regulatory, framework, project-specific, and methodological sources cited in this ESIA-ESMP. It is organised by category to facilitate cross-reference from the body chapters, and updated synchronously with each Living Document version.

National Regulations of the Republic of Indonesia

The Indonesian regulatory framework applicable to hospital development projects spans health, environmental, spatial, labour, traffic, and cultural heritage disciplines. The principal instruments cited in this ESIA-ESMP are listed below in hierarchical order.

- Law No. 17 of 2023 on Health
- Law No. 32 of 2009 on Environmental Protection and Management (UU PPLH)
- Law No. 6 of 2023 on Enactment of Government Regulation in Lieu of Law No. 2 of 2022 on Job Creation (Cipta Kerja)
- Law No. 44 of 2009 on Hospitals
- Law No. 26 of 2007 on Spatial Planning
- Law No. 11 of 2010 on Cultural Heritage
- Law No. 13 of 2003 on Manpower
- Government Regulation No. 22 of 2021 on the Implementation of Environmental Protection and Management
- Government Regulation No. 28 of 2024 on the Implementation of Law No. 17 of 2023 on Health
- Government Regulation No. 21 of 2021 on the Implementation of Spatial Planning
- Government Regulation No. 50 of 2012 on the Implementation of the Occupational Safety and Health Management System (SMK3)
- Government Regulation No. 16 of 2021 on Implementing Regulations for Law No. 28 of 2002 on Buildings
- Presidential Regulation No. 60 of 2020 on the Spatial Plan for the Greater Jakarta Metropolitan Area (Jabodetabekpunjur)
- MOEF Regulation No. 4 of 2021 on the List of Businesses and/or Activities Required to Have AMDAL, UKL-UPL, or SPPL
- Minister of Environment and Forestry Regulation No. 18 of 2021 on Procedures for Issuance of Environmental Approval
- Minister of Environment and Forestry Regulation No. 6 of 2021 on Procedures and Requirements for Hazardous and Toxic Waste (B3 Waste) Management
- Minister of Environment and Forestry Regulation No. 68 of 2016 on Domestic Wastewater Quality Standards
- Decree of the Minister of Environment No. 48 of 1996 on Noise Level Standards
- Minister of Health Regulation No. 7 of 2019 on Hospital Environmental Health
- Minister of Health Regulation No. 40 of 2022 on Technical Requirements for Hospital Buildings, Infrastructure, and Health Equipment

- Minister of Health Regulation No. 26 of 2022 on the Organisation and Working Procedures of Hospitals within the Ministry of Health
- Minister of Health Regulation No. 27 of 2017 on Guidelines for Infection Prevention and Control (PPI) at Health Service Facilities
- Minister of Health No. 66 of 2016 on Occupational Safety and Health in Hospitals (K3RS)
- Minister of Health Regulation No. 11 of 2017 on Patient Safety
- Minister of Health Regulation No. 12 of 2025 on the Ministry of Health Strategic Plan 2025–2029
- Ministry of Transportation Regulation No. PM 17 of 2021 on Traffic Impact Analysis (Andalalin)
- Minister of Health Decree No. HK.01.07/MENKES/1673/2024 on the Master Plan for the Development of RSUP Fatmawati (28 October 2024)
- Minister of Health Decree on Re-designation of 13 Former State-Enterprise Hospitals as Ministry of Health Technical Implementation Units; PPK-BLU status since 2005 (SK Menkes No. 1243/Menkes/VIII/2005).
- Hospital Operational Permit No. 81200039721120002, issued via OSS Risk-Based Approach on 14 July 2022 (renewal of Operational Permit No. 9/1/10/KES/PMDN/2017); NIB 8120003972112, KBLI 86101 (Government Hospital Activity)
- Executive Director's Decree on Organisational Structure and Procedures (SK SOTK No. HK/10447/2025)
- Executive Director's Decree on Operational Bed Capacity (SK No. HK.02.03/D.XXI/11087/2025) — 851 operational beds

AIIB Environmental and Social Framework

The AIIB ESF and its supporting standards form the principal external safeguards reference for this project. The principal documents in the framework are listed below.

- Asian Infrastructure Investment Bank. (2022). Environmental and Social Framework — Environmental and Social Policy and Standards
- Asian Infrastructure Investment Bank. (2022). Environmental and Social Standard 1 — Environmental and Social Assessment and Management
- Asian Infrastructure Investment Bank. (2022). Environmental and Social Standard 2 — Involuntary Resettlement
- Asian Infrastructure Investment Bank. (2022). Environmental and Social Standard 3 — Indigenous Peoples
- Asian Infrastructure Investment Bank. (2022). Environmental and Social Exclusion List (ESEL)
- Asian Infrastructure Investment Bank. (Various). Sector and thematic guidance notes — Healthcare, Stakeholder Engagement, GRM, Climate Change Risk Assessment

International Standards and Good Industry Practice

Beyond AIIB and Indonesian national instruments, this ESIA references international standards and Good Industry Practice that AIIB ESS1 expects projects to apply.

- World Health Organization. (2019). WHO Guidelines on Tuberculosis Infection Prevention and Control (general TB IPC standard, applied to TB cases admitted across the Class A general hospital)
- World Health Organization. (2015). Safe Hospitals in Emergencies and Disasters: Structural, Non-structural and Functional Indicators
- World Health Organization. (2010). WHO Guidelines on Indoor Air Quality: Selected Pollutants
- World Health Organization. (2017). Guidelines for Drinking-water Quality, 4th edition incorporating the first addendum
- World Bank Group. (2007, with updates). Environmental, Health, and Safety Guidelines for Healthcare Facilities
- World Bank Group. (2007). Environmental, Health, and Safety General Guidelines
- International Finance Corporation. (2012). IFC Performance Standards on Environmental and Social Sustainability — referenced as supplementary
- International Labour Organization. ILO core conventions ratified by Indonesia (C087, C098, C100, C111, C138, C182, C190 GBV/SEAH)
- Centers for Disease Control and Prevention (US). (2005). Guidelines for Preventing the Transmission of Mycobacterium tuberculosis in Health-Care Settings
- UNFCCC Paris Agreement and Government of Indonesia Enhanced Nationally Determined Contribution (ENDC, 2022 update)
- UNDRR. (2015). Sendai Framework for Disaster Risk Reduction 2015–2030
- GHG Protocol Corporate Accounting and Reporting Standard (revised edition)
- Standar Nasional Indonesia (SNI) 1726:2019 — Tata Cara Perencanaan Ketahanan Gempa untuk Struktur Bangunan Building dan Non Building

Project Documents and Primary Data Sources

The project-specific document corpus underpinning this ESIA-ESMP comprises the following primary sources.

- Master Plan for the Development of Fatmawati Hospital Jakarta (Rencana Induk Pengembangan Bangunan Fatmawati Hospital Jakarta) — KMK No. HK.01.07/MENKES/1673/2024, 28 October 2024, 279 pp.

Comparable ESIA References and Methodological Sources

Comparable ESIA precedents under the TRUST Project portfolio inform the structural and methodological approach for Fatmawati Hospital, ensuring consistency across the consultancy delivery.

- ESIA-ESMP Draft v0.1 RSDK rev - RSUP Dr. Kariadi Semarang (TRUST Project, 2026) - methodological and structural reference
- ESIA-ESMP Draft v0.1 RSJRW - (TRUST Project) - comparable structure
- ESIA-ESMP Draft v0.1 RSST - (TRUST Project) - comparable structure
- BPS DKI Jakarta Province dan BPS Kota Jakarta Selatan (latest available editions) - DKI Jakarta Dalam Angka; Cilandak District Dalam Angka

- BMKG DKI Jakarta Provincial Climatology Station — climate observations 2015–2025 (to be obtained; 2023 baseline data available in Masterplan, p. 30).

ANNEXES

The Annexes below operationalise specific safeguards instruments referenced in the body chapters. Each Annex stands as its own deliverable instrument and will be updated synchronously with each Living Document version. Note: Annex I Cultural Heritage Management Plan is omitted per AIIB direction that no CHMP is required for this project.

Annex A — Stakeholder Engagement Plan (SEP)

Annex A operationalises the stakeholder engagement framing of Chapter 9 - with stakeholder register, engagement objectives by stakeholder group, engagement modalities (FGD, KII, workshop, public hearing, site visit), language and accessibility provisions, and a phase-by-phase activity calendar.

- Stakeholder register: institutional (national, provincial DKI Jakarta, Kota Jakarta Selatan, Cilandak District, Cilandak Barat Sub-district), community, professional, academic, civil society, media - per Chapter 9 mapping.
- Phase 1 calendar: May–August 2026.
- Phase 2 calendar: post-v0.5 disclosure window (target September–November 2026).
- Vulnerable group provisions: cancer patient peer groups; transplantation patient peer groups; women's groups; PWD networks.

STAKEHOLDER ENGAGEMENT PLAN (SEP)

TRUST Project – Fatmawati Hospital Redevelopment Project

Jakarta, Indonesia

1. INTRODUCTION

1.1. Background

The Government of Indonesia, through the Ministry of Health, is implementing the Transformation of Indonesia's Health System Strengthening (TRUST) Project to improve healthcare infrastructure, service quality, and institutional capacity throughout the country. One of the priority investments under the TRUST Project is the redevelopment and expansion of Fatmawati Hospital, a major national referral hospital located in South Jakarta.

The redevelopment program includes the construction of new healthcare facilities, demolition of existing structures, utility upgrades, supporting infrastructure improvements, and modernization of hospital services. The Project is expected to improve healthcare service capacity, strengthen referral systems, and support Indonesia's long-term healthcare transformation agenda.

As the Project is financed by the Asian Infrastructure Investment Bank (AIIB), implementation must comply with the requirements of the AIIB Environmental and Social Framework (ESF), including stakeholder engagement, information disclosure, grievance management, and meaningful consultation with affected and interested parties.

This Stakeholder Engagement Plan (SEP) has been prepared to establish a systematic framework for identifying stakeholders, facilitating meaningful engagement, disclosing project information, addressing stakeholder concerns, and ensuring transparency throughout the Project lifecycle.

1.2 Purpose of the SEP

The purpose of this Stakeholder Engagement Plan is to provide a structured approach for engaging stakeholders throughout project planning, construction, commissioning, and operational phases. The SEP aims to ensure that stakeholders are informed about project activities, have opportunities to participate in decision-making processes relevant to them, and can raise concerns through accessible grievance mechanisms.

The SEP seeks to foster constructive relationships between the Project and stakeholders, reduce social risks, improve project design and implementation, and enhance overall project sustainability.

1.3 Objectives

The specific objectives of the SEP are to:

a. Identify all stakeholders who may be affected by or have an interest in the Project;

b. Ensure timely, transparent, and accessible disclosure of project information;

c. Facilitate meaningful and inclusive consultation throughout the project lifecycle;

d. Incorporate stakeholder feedback into project planning and implementation where appropriate;

e. Establish mechanisms for addressing grievances and resolving concerns;

f. Promote participation of vulnerable and disadvantaged groups;

g. Support compliance with AIIB Environmental and Social Framework requirements;

h. Maintain positive relationships between the Project, affected communities, hospital users, and government agencies.

2. REGULATORY AND POLICY

2.1. National Regulatory

he Project shall implement stakeholder engagement activities in accordance with applicable Indonesian laws and regulations governing environmental management, public participation, information disclosure, healthcare facility development, public services, grievance management, and protection of stakeholder rights. These regulations establish the legal basis for meaningful consultation, transparent information disclosure, stakeholder participation in environmental assessment processes, and access to grievance redress mechanisms.

In addition to national regulatory requirements, stakeholder engagement activities shall be conducted in accordance with the principles of transparency, inclusiveness, accessibility, and accountability, with particular attention given to vulnerable groups and stakeholders potentially affected by project activities. The key national regulations applicable to stakeholder engagement for the Fatmawati Hospital Redevelopment Project are presented in **Table A.1** below.

Table A.1 Applicable National Regulations for Stakeholder Engagement

No.	Regulation	Relevance to Stakeholder Engagement
1	Law No. 32 of 2009 on Environmental Protection and Management (as amended by Law No. 6 of 2023 on Job Creation)	Establishes requirements for environmental management, public participation, transparency, and community involvement in environmental decision-making.
2	Government Regulation No. 22 of 2021 on the Implementation of Environmental Protection and Management	Regulates environmental approval processes, public consultation requirements, and stakeholder involvement in environmental assessments.
3	Minister of Environment and Forestry Regulation No. 17 of 2012 concerning Guidelines for Community Involvement in Environmental Impact Assessment (AMDAL) Process and Environmental Permit	Provides procedures for public consultation and stakeholder participation during AMDAL preparation.
4	Law No. 14 of 2008 on Public Information Disclosure	Establishes the public's right to obtain information and promotes transparency and accountability by public institutions.
5	Law No. 25 of 2009 on Public Services	Requires service providers to receive and respond to public complaints and stakeholder feedback.

No.	Regulation	Relevance to Stakeholder Engagement
6	Law No. 17 of 2023 on Health	Provides the legal framework for healthcare services and healthcare facility development, including stakeholder considerations in health sector projects.
7	Government Regulation No. 47 of 2021 on the Administration of the Health Sector	Governs the implementation and management of healthcare facilities and services.
8	Law No. 2 of 2012 on Land Acquisition for Development in the Public Interest	Establishes consultation and stakeholder engagement requirements related to land acquisition and compensation processes where applicable.
9	Government Regulation No. 19 of 2021 concerning Land Acquisition for Development in the Public Interest	Further regulates consultation, disclosure, and grievance handling processes associated with land acquisition activities.
10	Law No. 39 of 1999 on Human Rights	Protects public participation, access to information, and rights of affected communities.
11	Law No. 8 of 2016 on Persons with Disabilities	Requires inclusive participation and accessibility for persons with disabilities in public consultation and information disclosure processes.
12	Presidential Regulation No. 62 of 2018 concerning the National Strategy on Access to Justice	Supports access to grievance and complaint resolution mechanisms for affected stakeholders.
13	Minister of State Apparatus Empowerment and Bureaucratic Reform Regulation No. 46 of 2020 concerning Public Complaint Management	Provides guidance on grievance handling and complaint management mechanisms.

2.2. AIIB Environmental and Social Framework

This Stakeholder Engagement Plan (SEP) has been prepared in accordance with the requirements of the Asian Infrastructure Investment Bank (AIIB) Environmental and Social Framework (ESF). The ESF establishes the principles and requirements for managing environmental and social risks and impacts associated with AIIB-financed projects and promotes sustainable development through effective stakeholder engagement, transparency, accountability, and inclusive decision-making processes.

In accordance with the AIIB Environmental and Social Policy (ESP) and Environmental and Social Standard 1 (ESS 1) on Environmental and Social Assessment and Management, the Project is required to undertake meaningful stakeholder engagement throughout the project lifecycle. Stakeholder engagement is intended to facilitate the timely disclosure of relevant project information, promote informed participation of affected and interested stakeholders, and ensure that stakeholder concerns and recommendations are appropriately considered during project planning, implementation, and operation.

The AIIB ESF further requires that stakeholder engagement activities be inclusive, culturally appropriate, and accessible to all stakeholders, including vulnerable and disadvantaged groups who may be disproportionately affected by project activities or face barriers to participation. The Project is therefore committed to implementing consultation and information disclosure processes that

encourage broad stakeholder participation and provide opportunities for stakeholders to express their views and concerns.

In addition, the AIIB ESF requires the establishment of an effective project-level Grievance Redress Mechanism (GRM) to receive, assess, and resolve stakeholder complaints in a timely and transparent manner. The grievance mechanism shall be available throughout the project lifecycle and shall operate in a manner that is accessible, confidential where necessary, and free from retaliation.

The key AIIB Environmental and Social Framework requirements relevant to stakeholder engagement for the Fatmawati Hospital Redevelopment Project are summarized in **Table A.2** below. These requirements form the basis for the implementation, monitoring, and periodic review of this Stakeholder Engagement Plan.

Table A.2 Applicable AIIB Environmental and Social Framework Requirements for Stakeholder Engagement

AIIB Requirement	Description	Relevance to SEP
Environmental and Social Framework (ESF) (2025, as amended from time to time)	Establishes AIIB's overarching environmental and social requirements for borrowers and project implementation.	Provides the overall framework for stakeholder engagement, information disclosure, consultation, and grievance management.
Environmental and Social Policy (ESP)	Defines the responsibilities of the Client in identifying, assessing, and managing environmental and social risks and impacts.	Requires meaningful stakeholder engagement throughout the project lifecycle and integration of stakeholder feedback into project decision-making.
Environmental and Social Standard 1 (ESS 1): Environmental and Social Assessment and Management	Requires the identification and assessment of environmental and social risks and impacts and the implementation of management measures.	Requires stakeholder consultation during environmental and social assessment processes and ongoing engagement throughout project implementation.
Stakeholder Engagement Requirements under ESS 1	Establishes requirements for meaningful consultation, information disclosure, and inclusive participation of affected stakeholders.	Forms the basis for preparing and implementing the Stakeholder Engagement Plan (SEP).
Information Disclosure Requirements	Requires timely disclosure of relevant environmental and social information in a manner accessible to stakeholders.	Supports transparency and informed participation by stakeholders.
Project-Level Grievance Mechanism Requirements	Requires establishment of accessible and effective grievance mechanisms for affected stakeholders.	Provides the basis for the Project Grievance Redress Mechanism (GRM).
Vulnerable and Disadvantaged Groups Considerations	Requires identification and inclusion of vulnerable groups that may face barriers to participation.	Ensures that consultation and disclosure activities are inclusive and accessible to all stakeholder groups.

AIIB Requirement	Description	Relevance to SEP
Monitoring and Reporting Requirements	Requires ongoing monitoring and reporting of environmental and social performance, including stakeholder engagement activities.	Supports periodic reporting on SEP implementation and stakeholder engagement outcomes.

3. PROJECT DESCRIPTION

3.1. Project Overview

The Fatmawati Hospital Redevelopment Project forms part of the national healthcare transformation program aimed at strengthening healthcare infrastructure and improving access to high-quality healthcare services.

The Project includes the redevelopment and modernization of selected hospital facilities, construction of new healthcare buildings, demolition of existing structures, upgrading of utilities and support infrastructure, and enhancement of operational systems required to support future healthcare demands.

The Project will be implemented within an active hospital environment. Consequently, particular attention will be given to maintaining healthcare service continuity, ensuring patient safety, minimizing disruptions to hospital operations, and managing environmental and social impacts associated with construction activities.

3.2 Key Project Activities

Major project activities include:

a. Demolition of selected existing buildings;
b. Construction of Building A (BPJS Tower);
c. Construction of Podium Building;
d. Utility relocation and infrastructure upgrades;
e. Internal road improvements;
f. Landscape development;
g. Installation of hospital systems and supporting facilities;
h. Testing and commissioning.

4. STAKEHOLDER IDENTIFICATION AND ANALYSIS

4.1. Stakeholder Identification Methodology

Stakeholders were identified through a review of project documents, field surveys, stakeholder consultations conducted during the ESIA process, institutional mapping, and discussions with hospital management and government agencies.

Stakeholders have been categorized based on their relationship to the Project, degree of influence, level of interest, and potential exposure to project-related impacts.

The stakeholder mapping process distinguishes between Project-Affected Parties (PAPs), Other Interested Parties (OIPs), and Vulnerable Groups requiring additional attention during engagement activities.

4.2 Project-Affected Parties

Project-Affected Parties are individuals, groups, or organizations that may experience direct or indirect impacts from project implementation.

For the Fatmawati Hospital Redevelopment Project, Project-Affected Parties may include:

a. Hospital management;
b. Doctors and healthcare personnel;
c. Hospital employees;
d. Patients;
e. Patient caregivers and visitors;
f. Commercial tenants operating within affected buildings;
g. Employees of affected tenant businesses;
h. Nearby residents;
i. Local community representatives (RT/RW);
j. Road users around the hospital area;
k. Project workers and contractors.

Potential concerns among Project-Affected Parties include construction noise, vibration, dust, traffic disruptions, temporary relocation of tenants, occupational health and safety risks, patient safety, access restrictions, and continuity of healthcare services.

4.3 Other Interested Parties

Other Interested Parties include organizations and individuals with an interest in the Project but who may not be directly affected by project activities.

These stakeholders may include:

a. Ministry of Health;
b. South Jakarta Government;
c. Environmental Agency;

d. Transportation Agency;
e. Labor Agency;
f. Fire Department;
g. Police authorities;
h. Academic institutions;
i. Professional healthcare associations;
j. Civil society organizations;
k. Media organizations;
l. AIIB and project financiers.

These stakeholders may have interests related to project compliance, healthcare service delivery, environmental performance, traffic management, occupational health and safety, and overall project implementation.

4.4. Vulnerable Groups

The Project recognizes that certain groups may be disproportionately affected by project impacts or face barriers to participation in engagement activities.

Potential vulnerable groups associated with the Project may include:

a. Elderly patients;
b. Persons with disabilities;
c. Low-income patients and families;
d. Women-headed households;
e. Small-scale tenant operators;
f. Temporary workers;
g. Contract workers;
h. Individuals with limited mobility;
i. Individuals requiring long-term medical treatment.

Specific engagement measures shall be implemented to ensure that vulnerable groups have equitable access to information, consultation opportunities, and grievance mechanisms.

5. Stakeholder Engagement Activities by Project Phase

Stakeholder engagement is a continuous process that shall be implemented throughout the entire project lifecycle, from project planning and design through construction, commissioning, and operation. The nature, frequency, and objectives of stakeholder engagement activities will vary depending on the project phase, stakeholder group, and the potential environmental and social risks and impacts associated with specific project activities.

During the planning and pre-construction phase, stakeholder engagement will primarily focus on project disclosure, consultation on project design and anticipated impacts, collection of stakeholder feedback, and establishment of grievance management mechanisms. This phase is particularly

important for ensuring that stakeholders understand the project scope, schedule, and potential implications, while also providing opportunities for concerns and recommendations to be incorporated into project planning.

During the construction phase, engagement activities will focus on maintaining regular communication regarding construction schedules, traffic management arrangements, temporary access restrictions, occupational and community health and safety measures, environmental mitigation activities, and the management of construction-related disturbances such as noise, dust, and vibration. Attention will be given to maintaining communication with hospital management, healthcare personnel, patients, nearby communities, affected tenants, and project workers to ensure that concerns are identified and addressed in a timely manner.

Following completion of construction, stakeholder engagement will continue during the operational phase to support the transition to normal hospital operations, monitor the effectiveness of mitigation measures, address any residual concerns, and communicate information regarding the utilization of the new facilities and services. The Project will also continue to operate its grievance mechanism and maintain communication channels to ensure long-term stakeholder participation and transparency.

The stakeholder engagement activities planned for each project phase are summarized in Table A.4 below. The engagement program will remain flexible and may be updated throughout project implementation to reflect changes in project activities, stakeholder needs, or emerging issues identified through consultations and monitoring activities. The Stakeholder Engagement Activities by Project Phase can be seen in table below:

Table A.3 Stakeholder Engagement Activities by Project Phase

Activity	Planning	Construction	Operation
Stakeholder Mapping	✓	Update as needed	Update as needed
Information Disclosure	✓	✓	✓
Public Consultation	✓	✓	✓
Focus Group Discussions	✓	✓	As needed
Grievance Mechanism Operation	✓	✓	✓
Community Meetings	✓	Quarterly	Semi-annually
Worker Engagement	-	✓	✓
Emergency Preparedness Consultation	✓	✓	✓
Monitoring and Reporting	✓	✓	✓

6. Stakeholder Engagement Action Plan

The Stakeholder Engagement Action Plan provides a structured framework for implementing the stakeholder engagement commitments outlined in this Stakeholder Engagement Plan (SEP). The Action Plan translates the Project's stakeholder engagement objectives into specific, measurable, and time-bound activities to ensure that engagement processes are implemented consistently and effectively throughout the project lifecycle.

The Action Plan is intended to facilitate meaningful consultation, timely information disclosure, and effective communication with stakeholders who may be affected by or have an interest in the Fatmawati Hospital Redevelopment Project. It establishes clear responsibilities, performance indicators, implementation schedules, and monitoring mechanisms to support transparency, accountability, and continuous improvement of stakeholder engagement practices.

Given that the Project will be implemented within an active hospital environment, stakeholder engagement activities will focus on maintaining effective communication with hospital management, healthcare personnel, patients, visitors, affected tenants, local communities, government agencies, project workers, and other interested parties. Particular attention will be given to stakeholders who may experience direct impacts from construction activities, including temporary disruptions to access, traffic movements, hospital operations, and tenant relocation activities.

The Action Plan also serves as a management tool for tracking the implementation and effectiveness of stakeholder engagement activities throughout the planning, construction, commissioning, and operational phases of the Project. Progress against the Action Plan will be monitored through established performance indicators, consultation records, grievance management data, and stakeholder feedback. The Action Plan may be reviewed and updated periodically to reflect changes in project activities, stakeholder needs, regulatory requirements, and lessons learned during project implementation.

The stakeholder engagement actions, implementation arrangements, performance indicators, and monitoring requirements are presented in **Table A.4** below.

Table A.4. Stakeholder Engagement Plan

No.	Action Item	Objective	Target Stakeholders	Performance Indicator	Target	Timeline	Responsibility	Means of Verification
1	Establish Stakeholder Database	Ensure all stakeholders are identified and registered	All stakeholder groups	Stakeholder database established and updated	100% completed	Prior to construction	PIU	Stakeholder Register
2	Disclosure of Project Information	Ensure stakeholders receive project information in a timely manner	PAPs, OIPs, Vulnerable Groups	Information disclosure materials distributed	100% of identified stakeholders reached	Prior to major project milestones	PIU	Distribution records
3	Conduct Public Consultation Meetings	Obtain stakeholder feedback and address concerns	Communities, tenants, hospital users	Number of consultation meetings conducted	Minimum 2 consultations per year	Throughout Project	PIU	Consultation reports
4	Conduct Coordination Meetings with Hospital Management	Ensure continuity of hospital operations	Hospital management and departments	Coordination meetings conducted	Monthly	Construction Phase	PIU and Contractor	Meeting minutes
5	Consultation with Affected Tenants	Support tenant relocation and business continuity	Affected tenants and employees	Number of tenant consultation meetings	Minimum 1 consultation before relocation and quarterly thereafter	Pre-construction and Construction	PIU and Hospital Management	Consultation records
6	Disclosure of Tenant	Ensure tenants are informed of relocation activities	Affected tenants	Advance notification provided	At least xx days before relocation	Prior to relocation	PIU	Notification records

No.	Action Item	Objective	Target Stakeholders	Performance Indicator	Target	Timeline	Responsibility	Means of Verification
	Relocation Schedule							
7	Engagement with Medical Staff	Minimize disruption to healthcare services	Doctors, nurses, healthcare personnel	Briefing sessions conducted	Quarterly	Construction Phase	Hospital Management	Attendance records
8	Engagement with Patients and Visitors	Inform hospital users regarding construction impacts	Patients and visitors	Information boards installed and maintained	100% coverage at key access points	Construction Phase	Hospital Management	Inspection records
9	Community Meetings	Maintain communication with neighboring communities	RT/RW, local residents	Community meetings conducted	Minimum quarterly	Construction Phase	PIU and Contractor	Meeting minutes
10	Engagement with Vulnerable Groups	Ensure inclusive participation	Elderly patients, persons with disabilities, low-income groups	Targeted consultation activities conducted	Minimum 1 targeted consultation annually	All Phases	PIU	Consultation records
11	Worker Engagement Activities	Promote worker participation and awareness	Project workers	Toolbox meetings conducted	Weekly	Construction Phase	Contractor	Toolbox meeting records
12	Establish Grievance Mechanism	Provide channels for stakeholder concerns	All stakeholders	Grievance mechanism operational	Prior to construction	PIU	GRM records	
13	Grievance Resolution	Address stakeholder complaints effectively	All stakeholders	Grievances resolved within established timeframe	>90% within 30 days	Throughout Project	PIU	Grievance log

No.	Action Item	Objective	Target Stakeholders	Performance Indicator	Target	Timeline	Responsibility	Means of Verification
14	Disclosure of Environmental and Social Monitoring Results	Promote transparency and accountability	Interested stakeholders	Monitoring summaries disclosed	Semi-annually	Construction and Operation	PIU	Disclosure records
15	Engagement with Government Agencies	Ensure regulatory coordination	Relevant government institutions	Coordination meetings conducted	Minimum semi-annually	All Phases	PIU	Meeting minutes
16	Emergency Response Coordination	Strengthen emergency preparedness	Hospital management, emergency services	Emergency coordination meetings and drills conducted	Minimum 1 drill per year	Construction and Operation	Contractor and Hospital Management	Drill reports
17	Stakeholder Satisfaction Survey	Assess effectiveness of stakeholder engagement	Selected stakeholder groups	Satisfaction surveys completed	Annually	All Phases	PIU	Survey reports
18	Preparation of Stakeholder Engagement Monitoring Reports	Monitor implementation of SEP commitments	AIIB, MOH, PIU	Monitoring reports prepared and submitted	Quarterly	All Phases	PIU	Monitoring reports
19	Annual Review of SEP	Update SEP based on lessons learned and stakeholder feedback	All stakeholder groups	SEP reviewed and updated	Annually	Throughout Project	PIU	Revised SEP

No.	Action Item	Objective	Target Stakeholders	Performance Indicator	Target	Timeline	Responsibility	Means of Verification
20	Disclosure of Project Completion Information	Inform stakeholders of project completion and operational arrangements	All stakeholders	Completion information disclosed	Once prior to operation	Pre-operation	PIU and Hospital Management	Disclosure records

7. Stakeholder Engagement Monitoring Indicators

To evaluate the effectiveness of stakeholder engagement activities throughout the project lifecycle, the Project will establish a set of monitoring indicators to track participation, information disclosure, consultation outcomes, and grievance management performance. These indicators will help assess whether stakeholder engagement activities are being implemented as planned, identify opportunities for improvement, and ensure compliance with AIIB Environmental and Social Framework (ESF) requirements.

Monitoring will focus on both quantitative and qualitative measures, including the number of consultations conducted, stakeholder participation levels, effectiveness of information dissemination, responsiveness to stakeholder concerns, and the performance of the grievance mechanism. The results of monitoring activities will be documented and reported regularly to support adaptive management and continuous improvement of stakeholder engagement processes.

The key stakeholder engagement monitoring indicators are presented in **Table A.5** below.

Table A.5 Stakeholder Engagement Monitoring Indicators

Indicator	Target
Stakeholder meetings conducted	100% of planned meetings
Public consultation events conducted	Minimum once per year
Stakeholders informed prior to major construction activities	100%
Grievances acknowledged within 7 days	100%
Grievances resolved within 30 days	>90%
Female participation in consultations	≥30%
Vulnerable stakeholder participation	Documented and tracked
Community complaints related to construction impacts	Monitored monthly
Stakeholder engagement reports prepared	Quarterly
Information disclosure materials distributed	As Planned

Annex B — Grievance Redress Mechanism (GRM)

The construction of two new towers at RSUP Fatmawati is a major project intended to expand healthcare capacity. However, such development also carries the potential to generate grievances from different stakeholders, including patients, healthcare workers, construction laborers, and surrounding communities. Complaints may arise in relation to service access, noise, safety, social interactions, or economic impacts. For this reason, a Grievance Redress Mechanism (GRM) is required—one that is clear, transparent, and easily accessible—so that every grievance can be addressed promptly and fairly.

The GRM is designed to provide an official channel for communities and stakeholders to submit complaints or objections. Its primary objectives are to ensure that every voice is heard, every issue is addressed in a timely manner, and every complainant is protected from discrimination or retaliation. By establishing this mechanism, the project can build public trust and maintain constructive relationships with the surrounding community.

Grievance Mechanism Flow Narrative

The grievance mechanism at RSUP Fatmawati is designed as a structured pathway to ensure that every complaint is received, verified, resolved, and, if necessary, escalated. The flow begins with submission, moves into verification, continues with resolution, and concludes with escalation when internal remedies are insufficient.

The process starts with submission of grievances. Any affected individual—whether a patient, healthcare worker, construction laborer, or community member—can lodge a complaint through multiple channels. These include the hospital administration office, the contractor's project office, a dedicated WhatsApp hotline, or community leaders. This diversity of entry points ensures inclusivity, allowing both literate and non-literate individuals to voice concerns. Every grievance received is immediately documented in the official grievance logbook, which serves as the central record to guarantee that no complaint is overlooked.

Once a grievance is submitted, the mechanism advances to verification. A dedicated grievance team reviews the complaint, assesses its validity, and categorizes its severity—minor, moderate, or severe. The team then identifies the responsible party for resolution. Verification is conducted swiftly, with a maximum target of five working days, to prevent delays. At this stage, the team also ensures that complainants are protected from retaliation or discrimination, reinforcing the trustworthiness of the process.

Following verification, the grievance enters the resolution stage. Here, the grievance team implements concrete solutions tailored to the nature of the complaint. For example, if the grievance concerns patient access, special pathways may be opened; if it relates to construction noise, technical mitigation measures will be applied. Resolution must be completed within 14 working days, and the outcome is communicated back to the complainant either in writing or verbally, depending on their preference. Transparency is maintained by providing clear explanations of the steps taken and the rationale behind the resolution.

If a grievance cannot be resolved internally, the process moves to escalation. At this point, complainants retain the right to pursue formal legal remedies through the Indonesian court system. RSUP Fatmawati is obliged to provide administrative support to facilitate this escalation, ensuring that

complainants can access external remedies without unnecessary barriers. This final stage underscores that the grievance mechanism is not limited to internal resolution but also respects the broader legal framework.

Throughout the entire process, grievances are continuously monitored via an online logbook system. This system records each complaint, the actions taken, and the resolution status. Quarterly reports are prepared to evaluate the effectiveness of the mechanism, summarizing types of grievances, resolution rates, and recommendations for improvement. Independent monitoring by civil society organizations is also encouraged, adding credibility and accountability to the process.

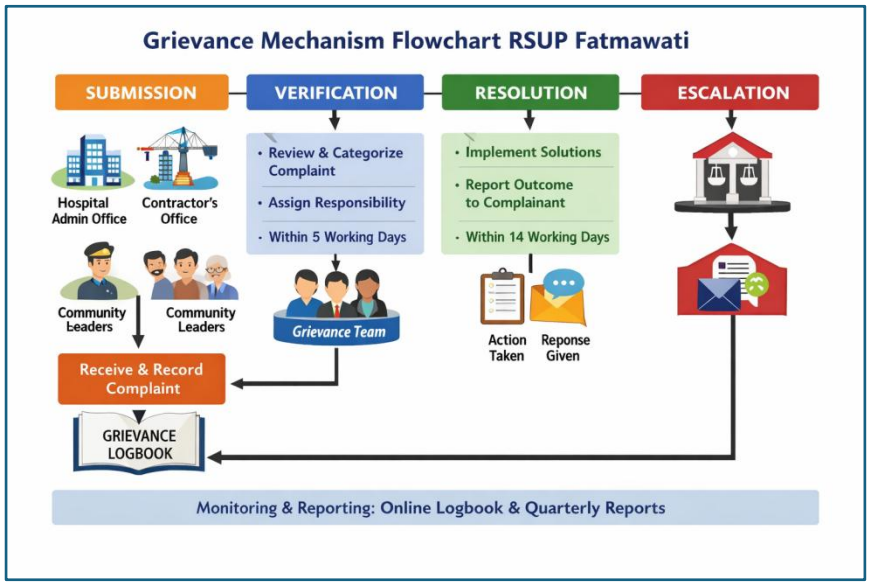


Figure B.1. Grievance Mechanism Flowchart

GRM Data 2024-2026

Based on internal data compiled for the Environmental and Social Impact Assessment (ESIA), RSUP Fatmawati recorded a total of 127 formal grievances between January 2024 and April 2026 through various complaint channels. These grievances reflect the hospital's commitment to maintaining transparency and accountability throughout the construction of its two new towers.

Of the total complaints received, approximately 68 cases (53%) originated from patients and their families, primarily concerning service access, waiting times, and comfort during the construction period. Another 39 cases (31%) were submitted by local community members, addressing issues such as noise, traffic congestion, and economic impacts on small businesses near the project site. The remaining 20 cases (16%) came from hospital staff and construction workers, focusing on occupational safety and coordination challenges during the building phase.

All grievances were recorded in the online grievance logbook and processed by the RSUP Fatmawati Grievance Management Team. According to the latest quarterly report (Q1 2026), the resolution rate reached 94%, with an average handling time of nine working days per case. This demonstrates that the grievance mechanism operates efficiently and responsively, ensuring that concerns are addressed promptly and fairly.

The Quarterly Grievance Report Chart below illustrates the trend of grievances received and resolved from Q1 2024 to Q1 2026. The blue bars represent complaints from patients and families, the green bars show grievances from the local community, and the orange bars indicate complaints from staff and construction workers. The red line reflects the resolution rate achieved each quarter. During this period, RSUP Fatmawati consistently maintained a resolution rate above 90%, peaking at 96% in Q1 2025, when construction activity was at its most intense.

This data reveals a clear correlation between construction intensity and grievance frequency. The highest number of complaints occurred during quarters with major structural work, particularly Q1 2025, when noise and access disruptions were most significant. However, the consistently high resolution rate indicates that the hospital's grievance mechanism remained effective even under pressure, reflecting strong institutional responsiveness and community engagement.

Overall, the grievance management system at RSUP Fatmawati has proven to be a vital component of its social safeguard framework. It not only resolves issues efficiently but also reinforces public trust, ensuring that the hospital's expansion aligns with principles of transparency, accountability, and social justice.

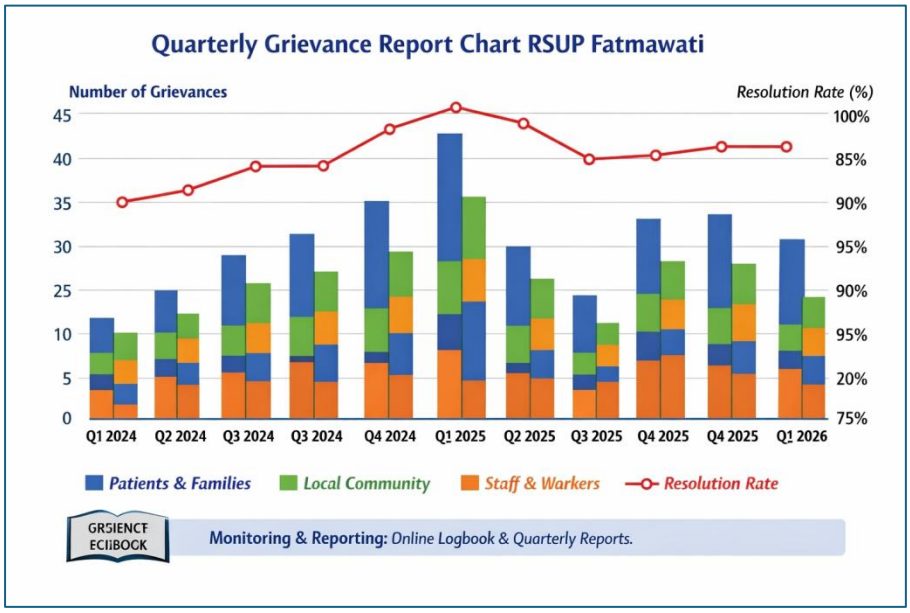


Figure B.2 Quarterly Grievance Report

Accessibility and Inclusion

The grievance mechanism is designed to be inclusive and gender-sensitive. Special channels are available for women to report cases of harassment or gender-based violence safely and confidentially. Grievance venues are made accessible for persons with disabilities and the elderly, with adequate physical facilities. For those unable to attend in person, remote grievance submission options are available via telephone or messaging applications.

Integration with Local Structures

Although RSUP Fatmawati is located in Jakarta, where formal governance structures are dominant, the grievance mechanism also recognizes the role of community leaders, local organizations, and resident associations as legitimate grievance channels. This ensures that the mechanism is not only

administrative but also culturally appropriate, reflecting local traditions of dialogue and community involvement.

Conclusion

The grievance mechanism within the ESIA for RSUP Fatmawati is a vital instrument to ensure that the construction of new towers proceeds with transparency, accountability, and social justice. With a system that is inclusive, responsive, and sensitive to the needs of vulnerable groups, the mechanism not only resolves problems but also strengthens public trust in the project. Ultimately, the success of the grievance mechanism will serve as the foundation for harmonious relationships between the hospital, patients, workers, and the surrounding community.

Annex C — Climate Risk Assessment and GHG Inventory

Annex E presents the climate risk assessment framework and the GHG inventory framework introduced in Chapter 8 - with parameter sheets, calculation methodology, data sources, and the full year-by-year inventory once site-specific consumption data is obtained.

- Climate risk register: acute physical, chronic physical, transition, market — with adaptation responses per Section 8.2.

		2030	2035	2040	2045	2050	2055	2060	2070	2085
Drought Score	**SSP1-2.6**	1.10	2.10	3.40	5.30	7.10	7.00	7.20	7.60	5.60
	SSP2-4.5	3.50	4.50	4.20	5.80	5.60	6.30	6.40	6.20	6.40
	SSP3-7.0	7.40	8.00	8.60	8.50	8.30	8.20	8.20	8.60	8.00
	SSP5-8.5	3.90	5.50	6.50	7.40	8.10	8.40	8.40	9.10	9.00
Heat Wave Score	**SSP1-2.6**	6.90	7.50	8.10	8.40	8.70	8.90	8.90	9.10	9.10
	SSP2-4.5	6.80	7.60	8.50	9.00	9.40	9.50	9.50	9.80	9.80
	SSP3-7.0	7.00	7.90	8.70	9.30	9.60	9.80	9.80	9.90	9.90
	SSP5-8.5	7.50	8.50	9.20	9.60	9.80	9.80	9.80	9.90	9.90
Storm Surge (Sea Level Rise)	**SSP1-2.6**	0.14	0.17	0.21	0.24	0.28	0.39	0.39	1.19	3.46
	SSP2-4.5	0.20	0.25	0.30	0.35	0.40	0.55	0.55	1.70	4.95
	SSP3-7.0	0.00	0.10	0.10	0.20	0.30	0.40	0.40	1.90	8.60
	SSP5-8.5	0.20	0.25	0.30	0.45	0.60	1.00	1.00	3.30	9.35
Heat Stress	**SSP1-2.6**	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	SSP2-4.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	SSP3-7.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	SSP5-8.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.60

		Climate Risk Score		
Negligible (0-2)	Minor (2-4)	Moderate (4-6)	Significant (6-8)	Extreme (8-10)

- Climate IPCC Scenario Definitions

Shared Socioeconomic Pathway (SSP)	Abbreviations	Description	Estimated global warming by 2800-2100
SSP 1-2.6: Sustainability	Reduced Emissions	Gradual development towards a socially and economically sustainable path driven by an increasing commitment to achieving development goals. The global consumption is oriented towards low material growth as well as lower resource and energy intensity.	1.8°C (Likely range: 1.3°C–2.4°C)
SSP 2-4.5: Middle of the Road	Middle	Globally, slow progress is made towards achieving the sustainable development goals. Social, economic, and technological trends do not shift notably from historical patterns. Environmental systems experience degradation, despite progress being made in some parts of the world. An overall reduction in the intensity of resource and energy use is taking place.	2.7°C (Likely range: 2.1°C–3.5°C)

Shared Socioeconomic Pathway (SSP)	Abbreviations	Description	Estimated global warming by 2800-2100
SSP 3-7.0: Regional Rivalry	Rocky Road	Fragmented world with slow economic growth, weak global cooperation, and strong regional competition. Nations prioritize security and sovereignty, leading to limited investments in climate mitigation or adaptation. High population growth and uneven development drive environmental degradation and severe climate risks due to high GHG emissions.	3.6°C (Likely range: 2.8°C–4.6°C)
SSP 5-8.5: Fossil-fueled Development	No Emission Reduction	CO2 emissions triple by 2075 leading to economic growth and a social divide. Investments are rather made towards technological adaptation toclimate change and border control. This scenario is seen as an extreme case.	4.4°C (Likely range: 3.3°C–5.7°C)

- GHG inventory framework: Scope 1 (combustion + refrigerant), Scope 2 (electricity), Scope 3 (selected categories) per Section 8.3.
- Calculation references: GHG Protocol Corporate Standard; emission factors from Indonesian Ministry of Environment and Forestry where available.
- Climate downscaling reference: BMKG Skenario Iklim Indonesia + IPCC AR6 regional outputs for lowland Java (DKI Jakarta).

Annex D — Baseline Data Compilation

Annex D compiles all baseline datasets referenced in Chapters 4 and 5 - including secondary data (BPS, BMKG, DLH, DPMPTSP) and primary M1 / M2 data once collected. Each dataset is presented with its source citation, collection date, methodology, KAN accreditation reference (where applicable), and any limitations.

- Climate data: BMKG Stasiun DKI Jakarta Province 10-year historical observations (data baseline DKJ tersedia di Masterplan KMK 1673/2024 pp. 30).
- Demographic data: BPS DKI Jakarta Province + BPS Kota Jakarta Selatan latest editions; data DKJ overall tersedia di Masterplan KMK 1673/2024 pp. 31-32.
- Water quality: groundwater (sumur bor) dan surface water baseline (M1, M2 to be added); kondisi 70-75% PAM Jaya / 30-35% sumur bor per Masterplan KMK 1673/2024 pp. 132.
- Ambient air and noise: M1 and M2 baseline (to be added).
- Patients register summary: BOR / ALOS / case mix Q1 2026 (to be added); data 2018-2023 tersedia di Masterplan KMK 1673/2024 pp. 117-121.
- Spatial documents: KKPR/PKKPR DKI Jakarta (to be obtained); IMB/PBG existing; KRK DKI Jakarta Province (to be added); RTRW DKI Jakarta Province + RDTR Kawasan DKI Jakarta extracts - zona SPU-1 per Masterplan KMK 1673/2024 pp. 274.

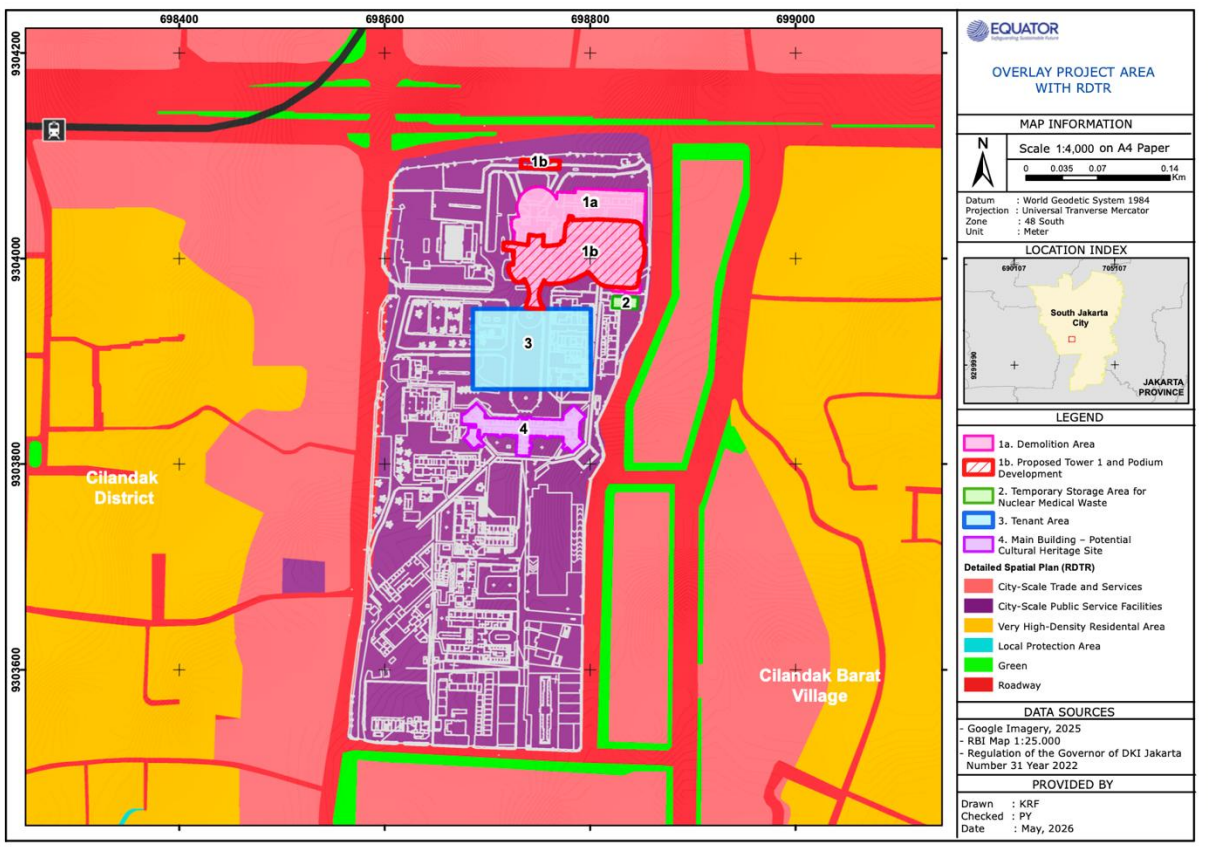


Figure D. 1. Overlay Project Area with RDTR

Annex E — Labor Management Plan

Labor Management Plan (LMP)
Fatmawati Hospital Redevelopment Project TRUST Project (Transformation of Indonesia's Health System Strengthening Project)
Jakarta, Indonesia

1. Introduction

The Government of Indonesia, through the Ministry of Health, is implementing the TRUST Project as part of the national strategy to strengthen healthcare infrastructure, improve referral services, and enhance the quality of tertiary healthcare services throughout Indonesia. One of the strategic investments under the TRUST Project is the redevelopment and expansion of Fatmawati Hospital Jakarta, a national referral and teaching hospital located in South Jakarta.

The redevelopment of Fatmawati Hospital is intended to improve hospital capacity, expand specialist healthcare services, modernize medical infrastructure, and support Indonesia's healthcare transformation agenda under Law No. 17 of 2023 on Health. The project includes the construction of new healthcare buildings, modernization of supporting infrastructure, and improvement of operational systems to support increased patient demand and future healthcare needs.

The project will receive financing support from the Asian Infrastructure Investment Bank (AIIB). Accordingly, the project must comply with the AIIB Environmental and Social Framework (ESF), including requirements related to labor and working conditions, occupational health and safety, community health and safety, stakeholder engagement, and environmental and social risk management.

This Labor Management Plan (LMP) has therefore been prepared to establish the framework and procedures for managing labor-related risks and impacts associated with the project. The document outlines the standards, responsibilities, procedures, and mitigation measures required to ensure that all project workers are treated fairly, work in safe and healthy conditions, and are protected from labor-related risks.

The LMP applies to all categories of workers involved in the project, including direct workers, contracted workers, subcontractors, suppliers, consultants, temporary workers, migrant workers, and security personnel. The implementation of this LMP is intended to ensure compliance with Indonesian labor regulations, Good International Industry Practice (GIIP), and AIIB environmental and social requirements.

This document shall be treated as a living document and may be updated periodically throughout the project lifecycle in response to project design changes, workforce modifications, updated regulations, contractor mobilization, and lender safeguard requirements.

2. Objectives Of The Labor Management Plan

The primary purpose of this Labor Management Plan is to establish a systematic framework for managing labor and working conditions during the implementation of the Fatmawati Hospital redevelopment project. The LMP seeks to ensure that all project workers are employed in accordance with applicable national regulations and international standards while maintaining a safe, respectful, and inclusive working environment.

The implementation of this LMP is also intended to minimize labor-related environmental and social risks that may arise during construction and operational activities. Construction activities within an active hospital environment present unique occupational health and safety challenges, including heavy equipment operation, demolition activities, traffic movement, infectious disease exposure, and interaction between construction personnel and hospital operations. Therefore, this LMP establishes procedures to manage these risks in a structured and preventive manner.

In addition, the LMP aims to strengthen contractor accountability and ensure that all contractors and subcontractors engaged under the project implement consistent labor management standards. Through clear monitoring mechanisms, grievance procedures, and contractual obligations, the project seeks to maintain compliance with both Indonesian labor legislation and AIIB safeguard expectations.

More specifically, this LMP aims to:

a. Establish fair, safe, and healthy working conditions for all project workers;
b. Ensure compliance with Indonesian labor regulations and AIIB ESF requirements;
c. Prevent labor-related risks including unsafe working conditions, discrimination, child labor, and forced labor;
d. Promote equal opportunity and fair treatment in employment practices;
e. Establish occupational health and safety procedures;
f. Provide a grievance mechanism for workers;
g. Define labor management responsibilities for contractors and subcontractors;
h. Minimize social risks associated with labor influx and contractor workforce;
i. Promote gender-sensitive and inclusive workplace practices;
j. Establish monitoring and reporting arrangements for labor performance.

3. Project Description

3.1. Project Overview

The Fatmawati Hospital redevelopment project forms part of the long-term transformation plan of Fatmawati Hospital under the TRUST Project. The redevelopment program consists of phased expansion and modernization activities covering the period 2025–2036. However, this Labor Management Plan primarily focuses on Phase 1 development activities financed under the TRUST Project and associated AIIB financing.

Phase 1 development includes the construction of Building A (BPJS Tower), the Podium Building, and associated supporting infrastructure within the existing Fatmawati Hospital complex. The

redevelopment is intended to increase hospital service capacity, improve healthcare delivery systems, modernize healthcare facilities, and support advanced medical services and teaching functions.

The project will involve demolition of several existing structures, large-scale construction activities, installation of utilities and hospital systems, and integration with ongoing hospital operations. Since the project will be implemented within an active hospital environment, labor management and occupational health and safety considerations are particularly important to ensure protection of workers, hospital staff, patients, and surrounding communities.

The project includes:

a. Construction of Building A (BPJS Tower);
b. Construction of Podium Building;
c. Associated utility infrastructure;
d. Demolition of existing buildings;
e. Internal roads and drainage works;
f. Landscaping and supporting facilities.

3.2 Construction Activities

Construction activities under the project will involve multiple stages beginning from pre-construction mobilization and demolition works through structural construction, mechanical-electrical installation, finishing activities, testing, and commissioning. These activities will involve various categories of skilled and unskilled labor, specialized contractors, heavy equipment operators, supervisors, engineers, and supporting personnel.

Due to the scale and complexity of the project, labor requirements are expected to increase significantly during peak construction periods. The project may also involve workers from outside Jakarta depending on contractor recruitment strategies and specialized technical requirements.

The construction phase presents several occupational health and safety risks including work at height, excavation hazards, heavy equipment operation, electrical installation, confined space work, dust exposure, and interaction with ongoing hospital operations. Consequently, strict implementation of labor management procedures, occupational health and safety measures, and contractor supervision will be essential throughout the project lifecycle.

Major construction activities include:

a. Site preparation;
b. Demolition works;
c. Excavation and earthworks;
d. Foundation works;
e. Structural construction;
f. Mechanical, electrical, and plumbing installation;
g. Finishing works;
h. Waste management;
i. Utility installation;
j. Testing and commissioning.

3.3 Workforce Characteristics

The project workforce is expected to include:

Table E.1 Workforce Characteristics

Worker Category	Estimated Number
Direct Workers	xx
Contractor Workers	xx
Skilled Labor	xx
Unskilled Labor	xx
Female Workers	xx
Security Personnel	xx
Administrative Personnel	xx
Migrant Workers	xx

Peak workforce during construction is estimated at approximately xx workers.

4. Assessment of Key Labor Risks

The Fatmawati Hospital Redevelopment Project will involve a diverse workforce comprising direct workers, contractor workers, subcontractor personnel, consultants, and other project-related workers engaged throughout the construction and commissioning phases. While the Project is expected to generate employment opportunities and contribute to local economic development, project activities may also present a range of labor-related risks that require appropriate management and mitigation measures. The identification and assessment of labor risks are essential to ensuring that workers are treated fairly, provided with safe and healthy working conditions, and protected from potential adverse impacts associated with project implementation.

As the Project will be implemented within an operational hospital environment, particular attention must be given to occupational health and safety risks, infection prevention and control, worker conduct, labor influx, contractor management, and emergency preparedness. Additional risks may include workplace accidents, exposure to hazardous materials, excessive working hours, inadequate grievance management, discrimination, harassment, child labor, forced labor, and non-compliance with applicable labor regulations. The assessment of key labor risks provides the basis for developing targeted mitigation measures and management actions that are incorporated into this Labor Management Plan. The key labor risks identified for the Project and the corresponding management measures are presented in Table E.2 below.

Table E.2. Assessment Of Key Labor Risks

Occupational Health and Safety Risks	Labor Influx Risks	Worker Welfare Risks	Contractor Compliance Risks	SEA/SH and GBV Risks
▪ Potential OHS risks include: ▪ Working at height;	▪ Potential labor influx risks include:	▪ Potential welfare risks include: ▪ Inadequate sanitation;	▪ Potential contractor risks include:	▪ Potential SEA/SH risks include:

Occupational Health and Safety Risks	Labor Influx Risks	Worker Welfare Risks	Contractor Compliance Risks	SEA/SH and GBV Risks
▪ Falling objects; ▪ Electrical hazards; ▪ Heavy equipment operation; ▪ Excavation collapse; ▪ Fire hazards; ▪ Exposure to hazardous materials; ▪ Noise and vibration exposure; ▪ Heat stress; ▪ Confined space hazards; ▪ Traffic accidents; ▪ Hospital operational interface risks; ▪ Infectious disease transmission.	▪ Social conflict with local communities; ▪ Increased pressure on local infrastructure; ▪ Public disturbance; ▪ Gender-based violence risks; ▪ Security concerns; ▪ Increased waste generation.	▪ Poor accommodation conditions; ▪ Insufficient drinking water; ▪ Fatigue from excessive working hours; ▪ Delayed salary payments.	▪ Non-compliance with labor laws; ▪ Lack of OHS implementation; ▪ Use of unregistered workers; ▪ Inadequate PPE provision; ▪ Failure to provide worker insurance.	▪ Harassment at workplace; ▪ Inappropriate worker behavior; ▪ Gender discrimination; ▪ Abuse of authority.

5. Terms And Conditions of Employment

The Project is committed to ensuring that all workers are employed under fair, transparent, and legally compliant terms and conditions of employment. Employment practices shall be consistent with applicable Indonesian labor legislation, the requirements of the AIIB Environmental and Social Framework (ESF), and Good International Industry Practice (GIIP). All project workers shall be informed of their rights, responsibilities, terms of employment, remuneration, working hours, benefits, leave entitlements, and workplace rules through written employment agreements and worker induction processes. The terms and conditions of employment established for the Project are intended to promote fair treatment, equal opportunity, non-discrimination, and safe working conditions while ensuring that all workers are provided with adequate protections and benefits throughout the duration of their employment. The key terms and conditions applicable to project workers are summarized in **Table E.3** below.

Table E.3 Terms and Conditions of Employment

Employment Principles	Recruitment Procedures	Employment Contracts	Wages and Benefits & Leave Entitlements	Working Hours
All workers shall: ▪ Receive written contracts; ▪ Be informed of employment terms; ▪ Receive wages in accordance with applicable regulations; ▪ Receive equal pay for equal work; ▪ Have freedom from discrimination and harassment	Recruitment shall: ▪ Be transparent and merit-based; ▪ Avoid discrimination based on gender, religion, ethnicity, disability, or political affiliation; ▪ Prioritize local recruitment where feasible; ▪ Prohibit recruitment fees.	Employment contracts shall include: ▪ Position description; ▪ Salary and benefits; ▪ Working hours; ▪ Leave entitlement; ▪ Overtime arrangements; ▪ Code of conduct obligations; ▪ OHS obligations; ▪ Termination procedures.	All workers shall receive: ▪ At minimum, regional minimum wage (UMP/UMK); ▪ Overtime compensation; ▪ Social security coverage; ▪ BPJS Kesehatan enrollment; ▪ BPJS Ketenagakerjaan enrollment. ▪ Leave Entitlement, Workers shall receive: ▪ Annual leave; ▪ Sick leave; ▪ Maternity leave; ▪ Religious holiday leave; ▪ Special leave in accordance with labor regulations. ▪	▪ Working hours shall comply with Indonesian labor regulations. ▪ Maximum working hours shall generally not exceed: ▪ 7 hours/day and 40 hours/week for 6-day work systems; or ▪ 8 hours/day and 40 hours/week for 5-day work systems.

6. Occupational Health And Safety (OHS)

6.1 OHS Objectives

Occupational Health and Safety (OHS) is a fundamental component of the Project's labor management framework and is essential to protecting the health, safety, and well-being of all workers engaged throughout the project lifecycle. The Project is committed to providing a safe and healthy working environment that minimizes workplace risks and prevents occupational injuries, illnesses, and fatalities. The primary objectives of the OHS program are to prevent work-related accidents and injuries, eliminate or reduce occupational health hazards, maintain safe working conditions at all project sites, and foster a proactive safety culture among all workers, supervisors, contractors, and subcontractors. Through the implementation of effective safety management systems, training programs, and continuous monitoring, the Project aims to achieve a zero-fatality target and continuously improve occupational health and safety performance.

6.2 OHS Management System

To ensure systematic management of occupational health and safety risks, all contractors and subcontractors engaged by the Project shall establish and implement an Occupational Health and Safety Management System consistent with applicable Indonesian regulations, Good International Industry Practice (GIIP), and lender requirements. The OHS Management System shall include an OHS policy endorsed by senior management, detailed procedures governing safe work practices, and mechanisms for identifying, assessing, and controlling workplace hazards. Contractors shall conduct Hazard Identification and Risk Assessment (HIRA) activities prior to commencing work and periodically throughout project implementation to ensure that risks are continuously managed. The system shall also include incident and accident reporting procedures, investigation protocols, corrective action mechanisms, toolbox meeting requirements, and a permit-to-work system for high-risk activities such as working at height, confined space entry, hot work, lifting operations, and electrical works. The effectiveness of the OHS Management System shall be reviewed regularly through inspections, audits, and performance monitoring.

6.3 Personal Protective Equipment (PPE)

The Project shall require all workers to utilize appropriate Personal Protective Equipment (PPE) based on the nature of their work activities and associated risks. Contractors shall provide PPE free of charge and ensure that workers receive adequate training regarding its proper use, maintenance, and replacement. Minimum mandatory PPE requirements may include safety helmets, safety shoes, high-visibility reflective vests, protective gloves, and eye protection equipment. Additional specialized PPE such as respiratory protection, hearing protection, face shields, chemical-resistant clothing, and fall arrest systems shall be provided whenever required by specific work activities or identified hazards. Supervisors shall regularly monitor PPE compliance and take corrective action when deficiencies are identified.

6.4 Training Requirements

Effective occupational health and safety performance requires that all personnel understand the hazards associated with their work and the measures necessary to control those risks. Accordingly, all workers shall participate in mandatory training programs before commencing work and throughout the duration of the project. Training shall include site induction, occupational health and safety

orientation, emergency preparedness and response procedures, working-at-height safety, fire prevention and firefighting, first aid awareness, and infection prevention and control measures. Additional specialized training shall be provided to workers involved in high-risk activities such as crane operations, scaffolding, electrical works, excavation activities, and confined space entry. Refresher training and toolbox meetings shall be conducted regularly to reinforce safe working practices and communicate lessons learned from incidents or near misses.

6.5. Medical Examination

To ensure that workers are medically fit to perform their assigned duties safely, the Project shall require appropriate medical examinations throughout the employment period. All workers shall undergo pre-employment medical assessments prior to mobilization to determine their fitness for work and identify any pre-existing health conditions that may require consideration. Periodic medical examinations shall be conducted for workers engaged in activities involving occupational exposure to noise, dust, vibration, chemicals, or other workplace hazards. In addition, specialized medical examinations shall be undertaken for personnel performing high-risk work activities, including work at height, operation of heavy equipment, confined space work, and other safety-critical tasks. Medical records shall be maintained confidentially and managed in accordance with applicable regulations.

5.6. Incident Reporting

The Project shall establish a comprehensive incident reporting and investigation system to ensure that all occupational health and safety incidents are properly documented, investigated, and addressed. All incidents, near misses, unsafe conditions, occupational illnesses, and accidents shall be reported within xx hours of occurrence and recorded in the Project's incident management system. Incident investigations shall identify root causes and corrective actions to prevent recurrence. Serious incidents, including fatalities, serious injuries, major fires, structural failures, or significant safety events, shall be reported immediately to the Project Implementation Unit (PIU), supervising consultants, relevant government authorities, and the Asian Infrastructure Investment Bank (AIIB), where applicable. Lessons learned from investigations shall be communicated to workers through toolbox meetings and safety briefings to promote continuous improvement of safety performance.

5.7. Infection Prevention and Control

Given that construction activities will be undertaken within an active hospital environment, the Project shall implement enhanced Infection Prevention and Control (IPC) measures to protect patients, visitors, healthcare personnel, and construction workers from potential health risks. Specific measures shall include the establishment of controlled access zones to separate construction areas from operational hospital facilities, installation of physical barriers to prevent the spread of dust and contaminants, and implementation of dust suppression measures throughout construction activities. Where necessary, High-Efficiency Particulate Air (HEPA) filtration systems shall be utilized to maintain air quality in sensitive areas. Close coordination shall be maintained with the hospital's Infection Prevention and Control Unit to ensure that construction activities do not adversely affect healthcare operations. The Project may also require worker vaccination programs, health screening procedures, and specialized PPE protocols for personnel working near clinical or high-risk hospital environments. These measures are intended to minimize infection risks and maintain a safe environment for both hospital users and project workers throughout the construction period.

7. Prevention of Child Labor and Forced Labor

The Project is committed to upholding fundamental labor rights and ensuring that all employment practices are conducted in accordance with applicable Indonesian labor laws, the AIIB Environmental and Social Framework (ESF), and internationally recognized labor standards. The Project strictly prohibits the use of child labor, forced labor, bonded labor, trafficked labor, or any other form of involuntary employment throughout its workforce and supply chain activities under the Project's direct control.

To ensure compliance with these commitments, the Project and its contractors shall implement appropriate recruitment, verification, monitoring, and reporting procedures to prevent the employment of underage workers and to ensure that all workers enter into employment voluntarily and without coercion. Verification of worker identity and age shall be undertaken prior to employment, while employment contracts shall clearly define the terms and conditions of work. Contractors and subcontractors shall also be required to monitor labor practices regularly and immediately address any instances of non-compliance. The measures established by the Project to prevent child labor and forced labor are summarized in **Table E.4** below.

Table E.4 Prevention of Child Labor and Forced Labor

Objectives	Mitigation Measures	Survivor-Centered Approach
The project commits to preventing: ▪ Sexual exploitation; ▪ Sexual abuse; ▪ Sexual harassment; ▪ Workplace harassment; ▪ Gender-based violence.	Measures include: ▪ Mandatory Code of Conduct; ▪ GBV awareness training; ▪ Separate sanitation facilities; ▪ Female grievance focal points; ▪ Confidential reporting procedures; ▪ Disciplinary sanctions.	All complaints related to SEA/SH shall: ▪ Be treated confidentially; ▪ Protect survivor privacy; ▪ Avoid retaliation; ▪ Provide referral support where appropriate.

8. Worker Grievance Mechanism

8.1. Objectives

The Project recognizes the importance of providing workers with a safe, accessible, and transparent process through which workplace concerns and grievances can be raised and addressed. The Worker Grievance Mechanism (WGM) has been established to ensure that all project workers have access to an effective platform for communicating complaints, concerns, suggestions, or disputes related to their employment and working conditions.

The primary objectives of the Worker Grievance Mechanism are to provide accessible and culturally appropriate channels through which workers can submit grievances, ensure that complaints are handled and resolved in a fair, timely, and transparent manner, prevent retaliation against workers who raise concerns in good faith, and support continuous improvement of labor management practices throughout the project. The mechanism is intended to promote trust between workers and management while facilitating the early identification and resolution of workplace issues before they escalate into more significant disputes.

The grievance mechanism shall be available to all categories of project workers, including direct workers, contracted workers, subcontractor personnel, temporary workers, migrant workers, and security personnel engaged under the project.

8.2. Grievance Channels

To ensure accessibility and inclusiveness, the Project shall establish multiple channels through which workers may submit complaints or concerns. Workers may raise grievances verbally to their supervisors, occupational health and safety personnel, human resource representatives, or designated grievance focal points. In addition, workers may submit written complaints through suggestion boxes located at project sites or worker facilities.

The Project shall also provide alternative communication channels including a dedicated grievance hotline, email address, WhatsApp number, and worker representatives. These channels are intended to accommodate different worker preferences and ensure that grievances can be submitted confidentially and without barriers. Information regarding available grievance channels shall be communicated to all workers during induction training and displayed prominently at project sites and worker facilities.

Workers may submit grievances anonymously if they prefer. Anonymous complaints shall be reviewed and addressed to the extent possible based on the information provided.

8.3. Grievance Handling Procedure

All grievances received by the Project shall be managed through a structured and transparent process. Upon receipt, each grievance shall be recorded in the grievance register and assigned a unique identification number for tracking purposes. Initial receipt and registration of grievances shall occur within one working day of submission.

Following registration, the grievance shall undergo an assessment process to determine its nature, severity, and appropriate course of action. The assessment stage shall normally be completed within three working days. Where necessary, a detailed investigation shall be conducted to gather relevant

information, consult affected parties, and identify appropriate corrective actions. Investigations should generally be completed within seven working days.

Based on the findings of the assessment and investigation, a resolution shall be proposed and communicated to the complainant. The Project aims to resolve grievances within fourteen working days from the date of receipt. If the complainant is dissatisfied with the proposed resolution, an appeal process may be initiated within xx days in accordance with the procedures established by the Project.

All grievances and resolutions shall be documented and maintained within the Project grievance database for monitoring, reporting, and continuous improvement purposes.

8.4. Confidential Complaints

The Project recognizes that certain grievances may involve sensitive issues requiring enhanced confidentiality and protection. Complaints related to Sexual Exploitation and Abuse (SEA), Sexual Harassment (SH), Gender-Based Violence (GBV), workplace harassment, discrimination, or other sensitive matters shall be managed through confidential procedures designed to protect the privacy, dignity, and safety of affected individuals.

Access to information concerning confidential complaints shall be restricted to authorized personnel directly responsible for handling such cases. Information shall be disclosed only on a need-to-know basis and in accordance with applicable legal requirements. The Project shall adopt a survivor-centered approach when managing SEA/SH-related complaints and, where appropriate, facilitate access to medical, psychosocial, legal, or other support services.

8.5. Non-Retaliation Principle

The Project is committed to ensuring that workers can raise concerns without fear of intimidation, discrimination, disciplinary action, or any other form of retaliation. No worker shall be penalized, dismissed, harassed, threatened, or otherwise disadvantaged for submitting a grievance or participating in a grievance investigation in good faith.

Contractors, subcontractors, supervisors, and project management personnel shall be prohibited from engaging in retaliatory behavior against workers who utilize the grievance mechanism. Any acts of retaliation shall be treated as serious violations of project requirements and may result in disciplinary action, contractual sanctions, or other corrective measures. The Project shall actively monitor the implementation of this principle to ensure that workers remain confident in using the grievance mechanism throughout the duration of project implementation.

9. Labor Management Plan Implementation Matrix

Table E.5 Labor Management Plan Implementation Matrix

No.	Labor Management Aspect	Key Risks/Issues	Mitigation and Management Measures	Responsibility	Monitoring Indicators	Frequency
1	Workforce Planning and Recruitment	Unfair recruitment practices, lack of transparency, discrimination	Implement transparent recruitment procedures; prioritize local hiring where feasible; prohibit recruitment fees; provide equal employment opportunities	PIU, Contractor, HR Department	Recruitment records; percentage of local workers; number of complaints	Monthly
2	Employment Contracts	Workers not informed of employment conditions	Provide written employment contracts in a language understood by workers; explain terms and conditions before mobilization	Contractor, HR Department	Signed contracts available; worker interviews	Prior to mobilization and quarterly
3	Wages and Benefits	Delayed wage payment; underpayment; non-compliance with minimum wage	Ensure payment complies with Indonesian labor law; maintain payroll records; provide social security coverage	Contractor	Payroll records; worker satisfaction surveys	Monthly
4	Working Hours	Excessive overtime; worker fatigue	Monitor working hours; ensure compliance with legal limits; provide rest periods	Contractor Supervisors	Timesheets; overtime records	Weekly
5	Occupational Health and Safety (OHS)	Injuries, fatalities, occupational illnesses	Implement site-specific HSE Plan; conduct HIRA; provide PPE; toolbox meetings; safety inspections	Contractor HSE Manager	LTIFR; accident reports; PPE compliance rate	Daily and Monthly

No.	Labor Management Aspect	Key Risks/Issues	Mitigation and Management Measures	Responsibility	Monitoring Indicators	Frequency
6	Construction Activities within Hospital Area	Exposure to infection; disruption to hospital operations	Implement Infection Prevention and Control (IPC) measures; establish restricted access zones; coordinate with hospital management	Contractor, Hospital Management	Number of incidents; IPC inspection results	Daily
7	Working at Height	Falls from elevation	Use certified scaffolding; fall arrest systems; permit-to-work procedures; training	Contractor HSE Team	Inspection reports; permit records	Daily
8	Excavation and Earthworks	Collapse of trenches; equipment accidents	Prepare excavation safety plans; install barriers and signage; conduct inspections	Contractor HSE Team	Excavation inspection records	Daily
9	Heavy Equipment Operations	Vehicle collision; struck-by incidents	Develop Traffic Management Plan; train operators; install warning systems	Contractor	Traffic incidents; operator certification records	Daily
10	Electrical Safety	Electric shock; fire hazards	Lock-out/tag-out procedures; electrical inspections; certified electricians only	Contractor	Electrical inspection reports	Weekly
11	Emergency Preparedness and Response	Fire, collapse, earthquake, medical emergencies	Establish Emergency Response Plan; conduct drills; maintain emergency equipment	Contractor, PIU	Number of drills conducted; emergency response time	Quarterly
12	Worker Accommodation	Poor sanitation; overcrowding; communicable diseases	Provide adequate accommodation facilities; sanitation; drinking water; waste management	Contractor	Accommodation inspection reports	Monthly

No.	Labor Management Aspect	Key Risks/Issues	Mitigation and Management Measures	Responsibility	Monitoring Indicators	Frequency
13	Worker Welfare Facilities	Inadequate welfare facilities	Provide toilets, prayer rooms, rest areas, first aid facilities, drinking water	Contractor	Welfare facility inspections	Monthly
14	Child Labor	Employment of underage workers	Verify worker age using official identification documents; maintain worker registry	Contractor HR	Age verification records	Prior to recruitment and quarterly
15	Forced Labor	Debt bondage; withholding of documents	Prohibit retention of passports or IDs; prohibit recruitment fees; conduct audits	Contractor	Worker interviews; labor audits	Quarterly
16	Non-Discrimination and Equal Opportunity	Gender or ethnic discrimination	Implement equal opportunity policy; awareness training; monitor recruitment outcomes	PIU, Contractor	Workforce diversity data; complaints	Quarterly
17	Gender-Based Violence (GBV) and SEA/SH	Harassment and abuse	Code of Conduct; awareness training; confidential reporting channels; disciplinary measures	Contractor, PIU	Number of trainings; grievance records	Quarterly
18	Code of Conduct Compliance	Worker misconduct	Require all workers to sign Code of Conduct before mobilization	Contractor	Signed CoC records	Prior to mobilization
19	Labor Influx Management	Conflict with local communities; social disturbance	Prioritize local recruitment; community awareness; worker behavior monitoring	Contractor, PIU	Number of community complaints	Monthly
20	Security Personnel Management	Excessive use of force; misconduct	Train security personnel; establish rules of engagement; grievance mechanism	Contractor Security Unit	Security incident reports	Monthly
21	Worker Grievance Mechanism	Unresolved labor disputes	Establish confidential grievance channels; maintain grievance log; communicate procedures	PIU, Contractor	Number of grievances received and resolved	Monthly

No.	Labor Management Aspect	Key Risks/Issues	Mitigation and Management Measures	Responsibility	Monitoring Indicators	Frequency
22	Contractor and Subcontractor Management	Non-compliance with labor requirements	Include labor obligations in contracts; conduct audits and inspections	PIU, Supervising Consultant	Audit findings; corrective actions completed	Monthly
23	Training and Capacity Building	Lack of awareness of labor and OHS requirements	Conduct induction training; refresher training; toolbox meetings	Contractor	Training attendance records	Monthly
24	Incident and Accident Reporting	Delayed reporting and investigation	Establish reporting procedures; investigate incidents; implement corrective actions	Contractor HSE Manager	Number of incidents investigated	Monthly
25	Monitoring and Reporting	Inadequate oversight	Conduct routine inspections; prepare monthly labor performance reports; report serious incidents to AIIB	PIU, Contractor, Supervising Consultant	Monthly labor compliance reports	Monthly

10.Labor Performance Indicators

Below is Table Labor Performance Indicators:

Table E.6 Labor Performance Indicators

Indicator	Target
Fatalities	0
Lost Time Injury Frequency Rate (LTIFR)	< xx
Workers receiving induction training	100%
Workers covered by BPJS and insurance	100%
Workers provided with PPE	100%
Worker grievances resolved within 30 days	> 90%
Child labor cases	0
Forced labor cases	0
Workers signing Code of Conduct	100%
Monthly toolbox meetings conducted	100%
Emergency drills conducted	Minimum 2 per year
Female workforce participation	xx%
Contractors audited for labor compliance	100%

11. Labor Management Action Plan

The Labor Management Action Plan provides a structured framework for implementing the commitments and requirements set forth in this Labor Management Plan (LMP). The Action Plan translates labor management objectives into specific actions, performance indicators, implementation schedules, and assigned responsibilities to ensure that labor-related risks and impacts are effectively managed throughout the Project lifecycle.

The Action Plan covers key aspects of labor management including workforce recruitment, employment conditions, occupational health and safety, worker welfare, grievance management, contractor oversight, infection prevention and control, gender-based violence prevention, emergency preparedness, and monitoring and reporting. The Action Plan is intended to support compliance with Indonesian labor regulations, Good International Industry Practice (GIIP), and the requirements of the AIIB Environmental and Social Framework (ESF).

Implementation of the Action Plan will be monitored regularly by the Project Implementation Unit (PIU), supervising consultants, and contractors to ensure that commitments are fulfilled and that corrective actions are undertaken where necessary. Progress against the Action Plan will be documented through routine inspections, audits, monitoring reports, and performance reviews. The Action Plan may be updated periodically to reflect changes in project activities, workforce arrangements, regulatory requirements, and lessons learned during implementation.

The Labor Management Action Plan for the Fatmawati Hospital Redevelopment Project is presented in Table E.7 below.

Table E.7 Labor Management Plan (LMP) Action Plan

No.	Action Item	Objective	Performance Indicator	Target	Timeline	Responsibility	Means of Verification
1	Establish Project Labor Management System	Ensure systematic implementation of labor requirements	Labor Management System established	100% established	Prior to construction	PIU and Contractor	Approved LMP
2	Appoint Labor and OHS Personnel	Ensure effective labor and OHS oversight	Dedicated labor and OHS personnel assigned	100% appointed	Prior to mobilization	Contractor	Appointment letters
3	Develop Contractor Labor Management Procedures	Ensure contractor compliance with labor requirements	Procedures developed and approved	100% contractors covered	Prior to mobilization	Contractor	Approved procedures
4	Conduct Worker Recruitment in Accordance with Labor Laws	Promote fair and transparent employment practices	Workers recruited through documented procedures	100% compliance	Throughout Project	Contractor HR Department	Recruitment records
5	Verify Worker Eligibility and Age	Prevent child labor	Age verification conducted	100% of workers verified	Prior to employment	Contractor HR Department	Worker records
6	Execute Written Employment Contracts	Ensure workers understand employment conditions	Signed employment contracts available	100% of workers	Prior to mobilization	Contractor HR Department	Signed contracts
7	Register Workers in Social Security Programs	Ensure worker welfare and legal compliance	Workers enrolled in BPJS programs	100% eligible workers enrolled	Prior to work commencement	Contractor	BPJS registration records
8	Provide Worker Induction Training	Ensure worker awareness of project requirements	Workers completing induction training	100% of workers	Prior to site access	Contractor	Training attendance records

No.	Action Item	Objective	Performance Indicator	Target	Timeline	Responsibility	Means of Verification
9	Conduct OHS Orientation Training	Promote workplace safety	OHS training completed	100% of workers	Prior to mobilization	Contractor HSE Team	Training records
10	Implement Toolbox Meetings	Reinforce safe work practices	Toolbox meetings conducted	Weekly	Construction Phase	Contractor Supervisors	Toolbox meeting logs
11	Conduct Hazard Identification and Risk Assessment (HIRA)	Identify and control workplace risks	HIRA completed for work activities	100% of high-risk activities	Prior to work commencement	Contractor HSE Team	HIRA documentation
12	Provide Appropriate PPE	Protect workers from workplace hazards	Workers provided with required PPE	100% compliance	Throughout Construction	Contractor	PPE issuance records
13	Monitor PPE Compliance	Ensure proper PPE usage	PPE compliance rate	>95%	Weekly	Contractor HSE Team	Inspection reports
14	Implement Permit-to-Work System	Control high-risk activities	Permit-to-work system operational	100% applicable activities	Construction Phase	Contractor HSE Team	Permit records
15	Conduct Medical Examinations	Ensure worker fitness for work	Pre-employment and periodic medical checks completed	100% required workers	Throughout Project	Contractor	Medical examination records
16	Implement Infection Prevention and Control (IPC) Measures	Protect hospital users and workers	IPC measures implemented	100% compliance	Construction Phase	Contractor and Hospital Management	IPC inspection reports
17	Establish Worker Grievance Mechanism	Provide accessible complaint channels	Grievance mechanism operational	Prior to construction	Before mobilization	PIU and Contractor	GRM records
18	Resolve Worker Grievances	Ensure effective grievance management	Grievances resolved within established timeframe	>90% within 30 days	Throughout Project	Contractor and PIU	Grievance log

No.	Action Item	Objective	Performance Indicator	Target	Timeline	Responsibility	Means of Verification
19	Implement Code of Conduct	Promote professional worker behavior	Workers signing Code of Conduct	100% of workers	Prior to mobilization	Contractor	Signed CoC records
20	Conduct GBV/SEA-SH Awareness Training	Prevent workplace harassment and misconduct	Training sessions conducted	100% workforce trained	Annually and induction	Contractor	Training records
21	Monitor Labor Influx Impacts	Reduce social risks associated with incoming workers	Community complaints related to workers	Zero significant incidents	Construction Phase	Contractor and PIU	Complaint records
22	Conduct Emergency Preparedness Drills	Improve emergency response capability	Emergency drills conducted	Minimum 2 per year	Construction Phase	Contractor	Drill reports
23	Report Incidents and Accidents	Ensure timely incident management	Serious incidents reported within xx hours	100% compliance	Throughout Project	Contractor HSE Manager	Incident reports
24	Conduct Labor Compliance Audits	Verify implementation of LMP requirements	Labor audits completed	Quarterly	Construction Phase	PIU and Supervising Consultant	Audit reports
25	Prepare Labor Monitoring Reports	Track labor management performance	Labor reports submitted	Monthly	Construction Phase	Contractor	Monitoring reports
26	Review and Update LMP	Ensure continual improvement	LMP reviewed and updated	Annually or as required	Throughout Project	PIU	Revised LMP
27	Monitor Contractor Compliance	Ensure adherence to labor commitments	Contractor compliance score	>90% compliance	Monthly	PIU and Supervising Consultant	Compliance assessment reports
28	Monitor OHS Performance	Track workplace safety performance	Lost Time Injury Frequency Rate (LTIFR)	< xx	Monthly	Contractor HSE Team	OHS reports

No.	Action Item	Objective	Performance Indicator	Target	Timeline	Responsibility	Means of Verification
29	Monitor Worker Accommodation (if applicable)	Ensure adequate living conditions	Accommodation inspections completed	Monthly	Construction Phase	Contractor	Inspection records
30	Conduct Project Close-Out Labor Review	Assess overall labor performance and lessons learned	Final labor performance report prepared	100% completed	End of Construction	PIU and Contractor	Final LMP Completion Report

12. Labor Management Plan Monitoring

The Labor Management Action Plan has been developed to provide a practical framework for implementing the commitments and requirements outlined in this Labor Management Plan (LMP). The Action Plan translates the Project's labor management objectives into specific actions, measurable targets, implementation schedules, and clearly assigned responsibilities to ensure that labor-related risks and impacts are effectively managed throughout the Project lifecycle.

The Action Plan covers all key aspects of labor management, including workforce recruitment and employment conditions, occupational health and safety, worker welfare, training and capacity building, grievance management, contractor management, infection prevention and control, emergency preparedness and response, and monitoring and reporting. The implementation of these actions is intended to promote fair treatment of workers, maintain safe and healthy working conditions, protect workers' rights, and ensure compliance with applicable Indonesian labor legislation as well as the requirements of the AIIB Environmental and Social Framework (ESF).

Given that the Fatmawati Hospital Redevelopment Project will be implemented within an active healthcare environment, particular emphasis will be placed on occupational health and safety, infection prevention and control measures, worker conduct, emergency response preparedness, and coordination with hospital management to minimize potential risks to patients, visitors, healthcare personnel, and project workers. The Action Plan also incorporates measures to prevent child labor, forced labor, workplace harassment, discrimination, and other labor-related risks that may arise during project implementation.

Implementation of the Action Plan will be monitored regularly by the Project Implementation Unit (PIU), contractors, subcontractors, supervising consultants, and relevant project stakeholders. Progress will be assessed through routine inspections, audits, training records, grievance logs, incident reports, and labor performance monitoring. Where gaps or non-compliances are identified, corrective actions will be implemented promptly to ensure continuous improvement in labor management performance.

The Labor Management Action Plan presented in **Table E.8** below serves as the primary implementation tool for managing labor-related commitments and monitoring compliance throughout the planning, construction, commissioning, and project close-out phases. It establishes measurable indicators and verification methods to facilitate effective oversight, accountability, and reporting of labor management performance.

Table E.8 Labor Management Action Plan Monitoring Framework

No.	Action Item	Monitoring Indicator	Target	Monitoring Method	Frequency	Responsibility	Means of Verification
1	Labor Management System	LMP approved and implemented	100%	Document review	Quarterly	PIU	Approved LMP
2	Appointment of Labor and OHS Personnel	Dedicated personnel assigned	100%	Personnel verification	Monthly	Contractor	Appointment letters
3	Contractor Labor Procedures	Procedures established and implemented	100%	Audit and document review	Quarterly	PIU and Contractor	Approved procedures
4	Recruitment Process	Recruitment compliant with labor requirements	100%	HR record review	Quarterly	Contractor HR	Recruitment records
5	Worker Age Verification	Workers verified above minimum age requirement	100%	Personnel file review	Quarterly	Contractor HR	Worker database
6	Employment Contracts	Workers with signed contracts	100%	Contract review	Quarterly	Contractor HR	Signed contracts
7	BPJS Registration	Workers enrolled in social security programs	100% eligible workers	Record review	Monthly	Contractor	BPJS registration records
8	Worker Induction Training	Workers receiving induction training	100%	Training attendance review	Monthly	Contractor	Training records
9	OHS Training	Workers trained in OHS requirements	100%	Training verification	Monthly	Contractor HSE	Attendance sheets
10	Toolbox Meetings	Toolbox meetings conducted	Weekly	Site inspection	Weekly	Contractor Supervisors	Toolbox records
11	Hazard Identification and Risk Assessment (HIRA)	HIRA completed for work activities	100% applicable activities	Document review	Monthly	Contractor HSE	HIRA reports
12	PPE Provision	Workers provided with required PPE	100%	Site inspection	Weekly	Contractor HSE	PPE issuance records
13	PPE Compliance	PPE usage rate	>95%	Site observation	Weekly	Contractor HSE	Inspection reports
14	Permit-to-Work System	High-risk activities covered by permits	100%	Permit review	Weekly	Contractor HSE	Permit records
15	Medical Examinations	Workers receiving required medical checks	100% applicable workers	Medical record review	Annually / Periodically	Contractor	Medical certificates
16	Infection Prevention and Control (IPC)	IPC measures implemented	100% compliance	Inspection and audit	Monthly	Contractor and Hospital Management	IPC inspection reports

No.	Action Item	Monitoring Indicator	Target	Monitoring Method	Frequency	Responsibility	Means of Verification
17	Worker Grievance Mechanism	Mechanism operational and accessible	Operational at all times	Verification and interviews	Quarterly	PIU and Contractor	GRM records
18	Grievance Resolution	Grievances resolved within specified timeframe	>90% within 30 days	Grievance review	Monthly	PIU and Contractor	Grievance log
19	Code of Conduct Compliance	Workers signing Code of Conduct	100%	Document review	Quarterly	Contractor	Signed CoC forms
20	GBV/SEA-SH Awareness Training	Workers trained	100% workforce	Training verification	Annually	Contractor	Training records
21	Labor Influx Management	Community complaints related to workers	Zero significant incidents	Complaint review	Monthly	PIU and Contractor	Complaint records
22	Emergency Preparedness	Emergency drills conducted	Minimum 2 drills/year	Drill observation	Semi-annually	Contractor	Drill reports
23	Incident Reporting	Serious incidents reported within required timeframe	100%	Incident review	Monthly	Contractor HSE	Incident reports
24	Labor Compliance Audits	Audits completed	Quarterly	Audit implementation	Quarterly	PIU and Supervising Consultant	Audit reports
25	Labor Monitoring Reports	Reports submitted on schedule	100%	Report review	Monthly	Contractor	Monitoring reports
26	LMP Review and Update	LMP reviewed and updated	Annual review completed	Management review	Annually	PIU	Revised LMP
27	Contractor Compliance Monitoring	Contractor compliance score	>90% compliance	Audit and inspection	Monthly	PIU	Compliance reports
28	OHS Performance	Lost Time Injury Frequency Rate (LTIFR)	< xx	OHS performance review	Monthly	Contractor HSE	OHS reports
29	Worker Accommodation (if applicable)	Accommodation compliance	100% compliance	Site inspection	Monthly	Contractor	Inspection reports
30	Project Close-Out Labor Review	Final labor review completed	100% completion	Final assessment	End of Construction	PIU and Contractor	Final Labor Completion Report

Annex F — Vulnerable Groups Plan

Annex H operationalises the vulnerable groups identification of Section 5.7 - with tailored mitigation, accessible engagement, gender-disaggregated targets, and monitoring indicators specific to each vulnerable group.

- Cancer patient cohort plan (Cancer Center per Masterplan KMK 1673/2024 pp. 91): confidentiality, dignified pathways, palliative continuity through construction phase.
- Transplantation patient plan (Uronefrologi termasuk transplantasi organ per Masterplan KMK 1673/2024 pp. 22): immunosuppression management; comprehensive infection control; long-term follow-up.
- Female patient and staff plan: lactation rooms, prayer rooms, separate WC, harassment-free environment, GBV/SEAH protocol.
- Persons with disabilities plan: universal design per Permenkes 40/2022; signage; hearing-loop where applicable; sesuai komitmen fasilitas difabel di Masterplan KMK 1673/2024 pp. 272.
- Paediatric and obstetric plan (Klinik Anak kunjungan ke-2 terbesar 10.54%, Kebidanan-Kandungan ke-5 8.00% per Masterplan KMK 1673/2024 pp. 119): child- and family-friendly facility design; KIA continuity through construction.
- Elderly plan: chronic disease care continuity; physiotherapy access; transport coordination for routine return visits (proporsi lansia DKJ proyeksi 19.11% di 2035 per Masterplan KMK 1673/2024 pp. 31).
- Low-income (JKN) cohort plan: equitable access via Building Layanan BPJS 21 lantai dengan 850 TT (Masterplan KMK 1673/2024 pp. 264); transparent admission criteria; sesuai ketentuan minimum 60% kelas standar untuk RS pemerintah pusat (Permenkes 14/2021 per Masterplan pp. 22-23).

Annex G — Gender Action Plan

G.1 Gender Profile

A significant proportion of outpatients and inpatients are women, especially in obstetrics, gynecology, and pediatric services. This indicates that women are the primary beneficiaries of RSUP Fatmawati's services. At the same time, they are also the most vulnerable to disruptions during construction, particularly pregnant women or postpartum patients who require safe and timely access to healthcare.

The majority of nurses and administrative staff are women. Their workload is already high, especially in emergency units, intensive care, and maternity wards. The increase in patient numbers following the expansion may further intensify the double burden faced by female healthcare workers, making it is necessary to implement policies on gender mainstreaming, even though Table H-1 demonstrates equal opportunity, non-discrimination, including workload balance and occupational health protection.

Construction activities are dominated by male workers. Their presence introduces social risks, including potential discomfort or inappropriate interactions with female patients and surrounding communities. Risks of harassment or social disturbance must be anticipated through strict codes of conduct and supervision.

Women in the surrounding area are heavily involved in small-scale businesses such as food stalls, boarding houses, and informal transport. The construction of new towers may disrupt their livelihoods, for example through restricted access or reduced customer flow. Therefore, female entrepreneurs in the local community are directly affected and must be included in public consultations and livelihood restoration programs.

Table H-1 Affirmative Action in The Top Management of Fatmawati Hospital

No.	Position	Total	
		Women	Men
1	*Executive Director*		1
2	*Chairperson of the Supervisory Board*	1	
3	*Head of Internal Audit Unit*		1
4	*Director of Human Resources, Education, and Research*	1	
5	*Director of Medical Services, Nursing, and Allied Health Support*		1
6	*Director of Finance and State-Owned Assets*		1
7	*Director of Planning, Organization, and General Affairs*		1
8	*Head of Internal Audit Unit*	1	
9	*Chairperson of the Medical Committee*	1	
10	*Chairperson of the Nursing and Allied Health Professionals Committee*	1	
11	*Chairperson of the Hospital Quality Committee*	1	

No.	Position	Total	
		Women	Men
12	*Chairperson of the Infection Prevention and Control Committee*		1
13	*Chairperson of the Research Ethics Committee*	1	
14	*Head of Medical Services Working Team*	1	
15	*Head of Nursing Services Working Team*	1	
16	*Head of Allied Health Support Services Working Team*		1
17	*Head of Emergency Department*		1
18	*Head of Outpatient Department*	1	
19	*Head of Inpatient Department*	1	
20	*Head of Medical Rehabilitation Department*	1	
21	*Head of Central Surgical / Operating Theater Department*		1
22	*Head of Intensive Care Department*	1	
23	*Head of Integrated Radiology Department*	1	
24	*Head of Laboratory Department*	1	
25	*Head of Forensic and Mortuary Services Department*	1	
26	*Head of Pharmacy Department*	1	
27	*Head of Clinical Nutrition Department*	1	
28	*Head of Blood Management Unit*	1	
29	*Head of Dialysis Unit*	1	
30	*Head of Interventional Cardiovascular Unit*		1
31	*Head of Cancer Center Unit*	1	
32	*Head of Organ and Tissue Transplantation Unit*		1
33	*Head of Department of Orthopedic*		1
34	*Head of Department of UroNephrology*		1
35	*Head of Department of Oncology*		1
36	*Head of Department of Medicine*	1	
37	*Head Department of Anesthesiology*	1	
38	*Head of Departement of Cardiovascular*		1
39	*Head of Department of Dermatology and Aesthetic*		1
40	*Head of Department of Maternal and Child Health*	1	
41	*Head of Department of Surgery*		1
42	*Head of Department of Neurology*		1
43	*Head of Department of Supporting Medicine*	1	
44	*Head of Department of Gastroenterology*		1

No.	Position	Total	
		Women	Men
45	*Head of Organization and Human Resources Working Team*		1
46	*Head of Education and Training Working Team*	1	
47	*Head of Innovation Management and Intellectual Property Installation*		1
48	*Head of Functional Education Unit*		1
49	*Head of Clinical Research Unit*	1	
50	*Head of Program Planning and Evaluation Working Team*		1
51	*Head of Planning and Budgeting Working Team*		1
52	*Head of Financial Operations Working Team*	1	
53	*Head of Accounting and State-Owned Assets Working Team*	1	
54	*Head of Medical Records and Patient Insurance Administration Installation*	1	
55	*Head of Legal, Public Relations, Health Promotion, and Marketing Working Team*		1
56	*Head of Administration and Household Affairs Working Team*		1
57	*Head of Environmental Health and Occupational Health & Safety (OHS) Installation*		1
58	*Head of Hospital Management Information System (HMIS) Installation*		1
59	*Head of Hospital Facilities and Infrastructure Maintenance Installation*	1	
60	*Head of Central Sterilization and Laundry Installation*	1	
	Total	32	28

G.2 Purpose

This Workforce Management and Gender Equality, Disability, and Social Inclusion (GEDSI) Plan has been prepared as an integral component of the Environmental and Social Impact Assessment (ESIA) for the proposed redevelopment and expansion of Fatmawati Hospital. The Plan establishes the framework for managing workforce requirements while ensuring that employment practices, workplace facilities, and operational arrangements promote equality, inclusion, accessibility, and non-discrimination throughout the construction and operational phases of the Project.

The redevelopment of Fatmawati Hospital will significantly increase healthcare service capacity to approximately 1,352 inpatient beds, requiring a corresponding expansion of clinical, administrative, technical, and support personnel. The increased workforce presents an opportunity to strengthen

institutional commitments to Gender Equality, Disability, and Social Inclusion (GEDSI) by embedding inclusive employment practices and accessible workplace design into all stages of workforce planning.

The objectives of this Workforce Management and GEDSI Plan are to:

- establish workforce planning principles to support the operational requirements of a 1,352-bed tertiary referral hospital;
- promote equal employment opportunities regardless of gender, disability, age, religion, ethnicity, or other protected characteristics;
- ensure fair, transparent, and merit-based recruitment, remuneration, promotion, and career development;
- increase women's participation in professional, technical, supervisory, and leadership positions;
- eliminate discrimination, harassment, bullying, violence, sexual exploitation, abuse, and sexual harassment (SEAH) in the workplace;
- ensure that all new buildings, facilities, and workplace environments comply with universal accessibility principles and reasonable accommodation requirements;
- provide gender-responsive and disability-inclusive workplace facilities that support the wellbeing of employees, patients, visitors, and contractors;
- strengthen institutional capacity to deliver inclusive healthcare services through continuous workforce development; and
- establish measurable indicators for monitoring workforce diversity, inclusion, and accessibility performance throughout Project implementation.

The implementation of this Plan contributes directly to improving social sustainability while supporting Fatmawati Hospital's role as a national referral hospital that delivers equitable, accessible, and people-centred healthcare services.

G.3. Potential Gender Impacts

- Positive impacts:
  - Expanded capacity in maternal and child healthcare services, directly improving the quality of life for women and children.
  - New employment opportunities for women in hospital support services such as catering, laundry, and administration.
- Negative impacts:
  - Disruption of access for pregnant or postpartum women due to noise, vibration, or restricted entry routes.
  - Potential impact to health and safety for female and disabilities, particularly during construction phase.
  - Increased workload and double burden for female healthcare workers as patient numbers rise.
  - Risks of harassment or discomfort from interactions between construction workers and female patients or community members.

G.4 Applicable Standards and Regulatory Framework

Implementation of this Workforce Management and GEDSI Plan shall comply with applicable Indonesian legislation together with internationally recognized environmental and social standards, including but not limited to the following.

G.4.1 Indonesian Regulatory Framework

The Project shall comply with:

- Law No. 17 of 2023 concerning Health;
- Law No. 13 of 2003 concerning Manpower, as amended;
- Law No. 8 of 2016 concerning Persons with Disabilities;
- Law No. 39 of 1999 concerning Human Rights;
- Law No. 23 of 2014 concerning Local Government, including responsibilities for health services;
- Government Regulation No. 70 of 2019 concerning Planning, Implementation and Evaluation of Respect, Protection and Fulfilment of the Rights of Persons with Disabilities;
- Minister of Public Works and Housing Regulation No. 14/PRT/M/2017 concerning Accessibility Requirements for Buildings;
- Minister of Health regulations relating to hospital infrastructure, occupational health and safety, infection prevention and patient safety; and
- other applicable national regulations governing labour rights, occupational health and safety, public services, and universal accessibility.

G.4.2 Guiding Principles

Implementation of this Plan shall be guided by the following principles:

Equality and Non-Discrimination

All employment decisions shall be based solely on qualifications, competence, experience, and job requirements without discrimination based on gender, disability, age, ethnicity, religion, marital status, pregnancy, or other protected characteristics.

Gender Equality

The Project promotes equal participation of women and men across all occupational groups, including leadership positions, while providing workplace arrangements that accommodate reproductive health needs and work-life balance.

Disability Inclusion

Persons with disabilities shall enjoy equal opportunities in recruitment, employment, career development, training, workplace participation, and access to facilities through the provision of reasonable accommodation.

Universal Accessibility

Buildings, workspaces, circulation routes, parking areas, communication systems, and public services shall be designed in accordance with Universal Design principles to maximise accessibility for all users regardless of physical, sensory, intellectual, psychosocial, or age-related limitations.

Respect for Human Rights

The Project recognises the inherent dignity and equal rights of all workers, contractors, patients, visitors, and surrounding communities and shall uphold internationally recognised human rights throughout Project implementation.

Safe and Respectful Workplace

Fatmawati Hospital shall maintain a workplace free from violence, harassment, bullying, intimidation, retaliation, and sexual exploitation, abuse and harassment (SEAH), supported by confidential grievance mechanisms and survivor-centred response procedures.

G.5 Workforce Planning for 1,352-bed Hospital Operation

G.5.1 Workforce Planning Objectives

The expansion of Fatmawati Hospital to approximately 1,352 operational beds will substantially increase demand for qualified personnel across clinical, diagnostic, administrative, engineering, facility management, and support services.

Workforce planning aims to ensure that sufficient human resources are available to deliver high-quality healthcare services while maintaining compliance with applicable staffing standards, occupational health and safety requirements, and international good practice relating to labour management.

Specific objectives include:

- ensuring adequate staffing levels to meet future service demand;
- maintaining appropriate staff-to-patient ratios;
- improving workforce diversity and gender balance;
- increasing employment opportunities for persons with disabilities;
- strengthening workforce competencies through continuous professional development;
- supporting succession planning for critical positions; and
- ensuring that workforce expansion is aligned with long-term hospital operational planning.

G.5.2 Projected Workforce Requirements

The operational expansion is expected to require a gradual increase in workforce numbers across all occupational groups. Based on the projected service capacity, the estimated workforce requirement is presented below, disaggregated by gender in accordance with the workforce diversity commitments of this Plan.

Personnel Category	Estimated Workforce Requirement	Indicative Female Representation Target	Estimated Female Personnel (Indicative)
General Practitioners	70	≥50%	35
Specialist Physicians	340	≥40%	136

Dentists	30	≥60%	18
Nurses	2,250	≥70%	1,575
Midwives	90	100%	90
Allied Health Professionals	900	≥60%	540
Administrative Personnel	750	≥55%	413
Engineering and Maintenance Staff	280	≥30%	84
Security Personnel	180	≥20%	36
Cleaning and Environmental Services	260	≥50%	130
Estimated Total Workforce	**Approximately 5,150 Personnel**	**≥55% (indicative outcome ≈59%)**	**Approximately 3,050 Personnel**

The projected establishment corresponds to an overall staffing density of approximately 3.7 personnel per operational bed, including approximately 1.6 nurses per bed, consistent with staffing norms for a Class A tertiary referral hospital delivering high-acuity services. Staffing levels for each personnel category shall be confirmed through detailed operational planning led by Fatmawati Hospital prior to the phased commissioning of the new buildings, taking into account service activation schedules, case-mix projections, and applicable Ministry of Health staffing standards.

The indicative female representation targets assigned to each personnel category are established so that the aggregate female workforce representation target of at least 55 percent is achieved and maintained as the workforce expands to staff the new buildings. The category-level targets reflect the existing composition of the Indonesian health workforce, the operational requirement for female security personnel to be available on all shifts to assist and, where required, conduct security checks of female patients and visitors, and the commitment under Section G.4.2 to increase women's participation in technical and engineering occupations to at least 30 percent. These targets are indicative and shall not override merit-based recruitment and Equal Employment Opportunity principles; they shall be monitored annually by the Human Resources Department on a gender-disaggregated basis for each personnel category and reported through the Environmental and Social Management System (ESMS).

The above estimates will be reviewed periodically during detailed operational planning and may be adjusted to reflect changes in healthcare demand, service expansion, technological innovation, and Ministry of Health staffing policies.

G.5.3 Workforce Diversity Targets

Fatmawati Hospital is committed to developing a diverse and inclusive workforce that reflects the communities it serves. These commitments are given effect through the gender-disaggregated workforce targets for the new buildings set out in Section G.3.2, which shall guide recruitment planning for each personnel category as the Hospital expands to its 1,352-bed operational capacity.

The Project establishes the following workforce planning targets:

Indicator	Target
Female representation within total workforce	≥55%
Women in managerial positions	≥40%
Equal remuneration for equal work	100% compliance
Employees with disabilities	Compliance with Indonesian legal requirements (minimum 2% of civil servants and 1% of non-government employees, where applicable)
Recruitment based on merit and equal opportunity	100%
Employees receiving GEDSI induction training	100%
Accessible workplace facilities	100% of new buildings

These targets shall be monitored annually through the Hospital Human Resources Department and incorporated into institutional performance reporting.

G.3.4 Workforce Planning Principles

To achieve sustainable workforce growth, Fatmawati Hospital shall apply the following principles:

- workforce expansion shall prioritise competency-based recruitment and equal employment opportunity;
- recruitment shall actively encourage qualified women and persons with disabilities to apply for suitable positions;
- workforce planning shall integrate occupational health and safety considerations;
- staffing levels shall consider patient safety, quality of care, and employee wellbeing;
- employment conditions shall comply with Indonesian labour legislation and international labour standards;
- contractors engaged during construction and operation shall comply with the Project Labour Management Procedures and the Contractor Code of Conduct;
- all employees shall have access to grievance mechanisms without fear of retaliation; and
- workforce planning shall be reviewed periodically to ensure continued compliance with evolving healthcare needs, national regulations, and international good practice.

The implementation of these principles will support the development of a professional, competent, inclusive, and resilient workforce capable of delivering high-quality healthcare services while advancing the objectives of gender equality, disability inclusion, and social sustainability.

G.6 Gender Equality Action Plan

G.6.1 Objective

The Gender Equality Action Plan (GEAP) establishes the commitments, strategies, and implementation measures required to promote gender equality throughout the workforce lifecycle of Fatmawati Hospital. The Plan aims to ensure that women and men have equal opportunities in recruitment, employment, remuneration, career advancement, leadership, training, occupational health and safety, and access to workplace facilities.

As the Hospital expands to an operational capacity of approximately 1,352 inpatient beds, workforce growth provides an opportunity to strengthen institutional gender equality while improving workforce diversity and enhancing the quality of healthcare services.

The Gender Equality Action Plan applies to all permanent employees, contract personnel, outsourced workers, consultants, trainees, interns, and contractors engaged during both construction and operational phases.

G.6.2 Gender Workforce Targets

Fatmawati Hospital shall maintain a balanced workforce composition while promoting increased participation of women in leadership, technical, and decision-making positions.

The indicative workforce targets are presented below.

Workforce Indicator	Target
Female workforce representation	≥55%
Male workforce representation	Approximately 45%
Women in senior management positions	≥40%
Women in supervisory positions	≥45%
Women participating in technical and engineering occupations	≥30%
Equal recruitment opportunities	100%
Equal remuneration for equal work	100% compliance
Female participation in leadership development programmes	≥50%
Employees receiving gender awareness training	100%

The Hospital shall review these targets periodically to reflect workforce requirements and institutional priorities.

G.6.3 Equal Employment Opportunity (EEO)

Fatmawati Hospital is committed to providing Equal Employment Opportunity (EEO) across all stages of employment.

Employment decisions shall be based exclusively on:

- education;
- professional qualifications;
- competency;
- experience;

- performance;
- professional ethics; and
- operational requirements.

The Hospital shall prohibit discrimination based on:

- sex;
- gender identity;
- pregnancy;
- marital status;
- disability;
- age;
- ethnicity;
- religion;
- social background;
- political opinion; or
- any other protected characteristic under Indonesian law.

The Equal Employment Opportunity Policy shall apply equally to:

- recruitment;
- hiring;
- remuneration;
- promotion;
- transfer;
- training;
- performance appraisal;
- contract renewal;
- disciplinary procedures; and
- termination of employment.

Vacancy announcements shall use gender-neutral language and encourage applications from qualified women and persons with disabilities wherever appropriate.

Selection panels should, where practicable, include both male and female representatives to **minimise unconscious bias during recruitment.**

G.4.4 Gender-responsive Human Resource Policies

The Human Resources Department shall implement gender-responsive employment policies that support equal participation and career progression.

These policies include:

Recruitment

- competency-based recruitment;
- transparent selection procedures;

- equal interview opportunities;
- reasonable accommodation during recruitment processes.

Career Development

Equal access shall be provided to:

- specialist education;
- scholarships;
- leadership programmes;
- overseas training;
- technical certification;
- professional conferences.

Promotion decisions shall be based solely on competency and performance.

Equal Pay

The Hospital shall implement the principle of Equal Pay for Work of Equal Value, ensuring that remuneration is determined by job classification, responsibilities, qualifications, and performance rather than gender. Annual remuneration reviews shall include gender pay gap assessments.

Flexible Working Arrangements

Where operationally feasible, employees may access:

- flexible working hours;
- hybrid administrative work arrangements;
- phased return to work following maternity leave;
- temporary job adjustments during pregnancy;
- flexible scheduling for breastfeeding employees.

Maternity, Paternity and Family Leave

The Hospital shall provide statutory maternity leave together with additional workplace support including:

- breastfeeding breaks;
- return-to-work assistance;
- family-friendly scheduling where operationally feasible.

Male employees shall also be encouraged to utilise paternity leave and family care leave in accordance with applicable legislation.

G.4.5 Prevention of Sexual Exploitation, Abuse and Harassment (SEAH)

Fatmawati Hospital adopts a Zero Tolerance Policy toward:

- Sexual Exploitation;
- Sexual Abuse;
- Sexual Harassment;
- gender-based violence;

- bullying;
- intimidation;
- workplace violence;
- retaliation against complainants.

All employees, contractors, consultants, suppliers, and service providers shall comply with the Hospital Code of Conduct.

The Hospital shall establish:

- confidential grievance mechanisms;
- anonymous reporting channels;
- survivor-centred response procedures;
- independent investigation mechanisms;
- protection against retaliation;
- referral pathways for psychosocial, legal and medical support.

Every allegation shall be investigated promptly while ensuring confidentiality and protection of survivors.

Contractors engaged during construction shall implement equivalent SEAH policies consistent with IFC Good Practice Note on Addressing Gender-Based Violence.

G.6.6 Gender-sensitive Occupational Health and Safety (OHS)

Occupational Health and Safety programmes shall recognise different workplace risks experienced by women and men.

Gender-sensitive OHS measures include:

Pregnancy Protection

- ergonomic work adjustments;
- reassignment from hazardous duties where necessary;
- exposure monitoring;
- infection prevention measures;
- manual handling restrictions.

Reproductive Health

The Hospital shall provide:

- reproductive health education;
- maternal health monitoring;
- occupational exposure assessment;
- confidential counselling services.

Personal Protective Equipment (PPE)

PPE shall be available in sizes suitable for both female and male employees, including:

- gloves;

- protective clothing;
- respirators;
- footwear;
- eye protection.

Safe Working Environment

The Hospital shall maintain:

- adequate lighting;
- CCTV surveillance;
- secure parking areas;
- emergency communication systems;
- safe transportation arrangements where required.

Mental Health and Wellbeing

Employee Assistance Programmes (EAP) shall provide confidential support relating to:

- work stress;
- burnout;
- psychological wellbeing;
- workplace conflict;
- trauma exposure;
- family-related concerns.

G.6.7 Work-Life Balance

Recognising the demanding nature of healthcare services, Fatmawati Hospital shall promote policies supporting employee wellbeing and family responsibilities.

Measures include:

- equitable rostering systems;
- predictable shift scheduling where practicable;
- breastfeeding breaks;
- lactation rooms in every major building;
- on-site staff childcare facility (nursery/day-care) where operationally feasible, together with childcare referral information;
- employee wellness programmes;
- annual health screening;
- psychosocial counselling;
- religious facilities;
- rest areas;
- healthy workplace initiatives.

Managers shall be trained to consider family responsibilities when arranging shift schedules while maintaining continuity of patient care.

G.6.8 Implementation Arrangements

Implementation of the Gender Equality Action Plan shall be coordinated by the Human Resources Department in collaboration with Hospital Management, Occupational Health and Safety Unit, Hospital Quality Unit, and the Environmental and Social Management Team.

Annual implementation activities shall include:

- workforce gender analysis;
- gender pay review;
- leadership representation review;
- employee satisfaction surveys;
- workplace safety audits;
- SEAH awareness campaigns;
- policy review;
- annual GEDSI reporting.

The results shall be incorporated into the Hospital's Environmental and Social Management System (ESMS).

G.6.9 Key Performance Indicators (KPIs)

Progress shall be monitored using the following indicators.

Indicator	Target	Monitoring Frequency
Female representation within workforce	≥55%	Annual
Women in management positions	≥40%	Annual
Equal remuneration compliance	100%	Annual
Recruitment processes applying EEO principles	100%	Annual
Employees completing gender equality training	100%	Annual
Employees completing SEAH awareness training	100%	Annual
Confirmed SEAH cases investigated	100%	As Required
Confirmed retaliation against complainants	0	Continuous
Gender-responsive workplace facilities operational	100%	Annual
Lactation rooms available in new buildings	100%	Annual
Gender-sensitive PPE availability	100%	Annual
Employee satisfaction regarding workplace equality	≥85% positive response	Biennial
Gender pay gap for equivalent positions	0% unexplained gap	Annual

G.6.10 Expected Outcomes

Implementation of this Gender Equality Action Plan is expected to strengthen institutional performance by fostering a safe, respectful, and inclusive workplace that values diversity and equal opportunity. Through gender-responsive workforce planning, equitable employment practices,

effective prevention of sexual exploitation, abuse and harassment, and family-friendly workplace policies, Fatmawati Hospital will enhance employee wellbeing, improve workforce retention, and support the delivery of high-quality, patient-centred healthcare services. The Plan also contributes to compliance with national legislation and international environmental and social standards while reinforcing the Hospital's commitment to Gender Equality, Disability, and Social Inclusion (GEDSI) as a core component of sustainable healthcare development.

G.7 Disability Inclusion and Reasonable Accommodation Plan

G.7.1 Policy Statement

Fatmawati Hospital is committed to creating an inclusive, equitable, and accessible working environment where persons with disabilities have equal opportunities to participate in employment, professional development, and career advancement. The Hospital recognises disability as an integral component of workforce diversity and acknowledges that barriers to employment often arise from environmental, institutional, and attitudinal factors rather than from an individual's impairment.

The Hospital adopts a human rights-based approach to disability inclusion, consistent with the principles of equality, dignity, non-discrimination, accessibility, participation, and respect for diversity. Accordingly, all employment practices, workplace facilities, operational procedures, and public services associated with the Project shall be designed and managed to remove barriers and provide reasonable accommodation for employees, job applicants, patients, visitors, contractors, and other users with disabilities.

Disability inclusion shall be integrated into workforce planning, infrastructure design, occupational health and safety, emergency preparedness, procurement, information systems, and institutional governance to ensure that all individuals can participate safely and independently in hospital activities.

G.7.2 Objectives

The objectives of this Disability Inclusion and Reasonable Accommodation Plan are to:

- promote equal employment opportunities for persons with disabilities;
- eliminate discrimination in recruitment, employment, promotion, remuneration, training, and career development;
- provide reasonable accommodation to enable employees with disabilities to perform their duties effectively;
- ensure that all new hospital buildings, facilities, and services comply with Universal Design principles and recognised accessibility standards;
- create an inclusive workplace that supports employees with physical, sensory, intellectual, psychosocial, and multiple disabilities;
- improve accessibility for patients, visitors, caregivers, and community members with disabilities and older persons;
- strengthen institutional capacity through disability awareness and inclusive workplace practices; and
- establish measurable indicators to monitor disability inclusion performance throughout the Project lifecycle.

G.7.3 Applicable StandardsaImplementation of this Plan shall comply with applicable Indonesian legislation and internationally recognised standards, including:aLaw No. 8 of 2016 concerning Persons with Disabilities;aGovernment Regulation No. 70 of 2019 concerning the Planning, Implementation, and Evaluation of Respect, Protection, and Fulfilment of the Rights of Persons with Disabilities;

- Minister of Public Works and Housing Regulation No. 14/PRT/M/2017 concerning Accessibility Requirements for Buildings;
- IFC Performance Standard 2 – Labour and Working Conditions;
- IFC Performance Standard 4 – Community Health, Safety and Security;
- World Bank Environmental and Social Standard (ESS) 2 – Labour and Working Conditions;
- World Bank ESS4 – Community Health and Safety;
- United Nations Convention on the Rights of Persons with Disabilities (UNCRPD);
- WHO Global Report on Health Equity for Persons with Disabilities;
- WHO Framework on Disability-Inclusive Health Services;
- ILO Convention No. 159 concerning Vocational Rehabilitation and Employment of Disabled Persons; and
- ISO 21542: Accessibility and Usability of the Built Environment.

These standards require employers and public facilities to remove physical, communication, institutional, and attitudinal barriers while ensuring equal access to employment, information, healthcare, and public services.

G.7.4 Inclusive Recruitment

Fatmawati Hospital shall implement recruitment processes that provide equal employment opportunities for qualified persons with disabilities.

Recruitment procedures shall:

- prohibit discrimination on the basis of disability;
- focus on essential job competencies and qualifications;
- provide accessible vacancy announcements through multiple communication formats;
- ensure that online recruitment platforms are compatible with screen readers and other assistive technologies;
- offer reasonable accommodation during interviews, assessments, and recruitment processes;
- encourage applications from persons with disabilities for positions where essential job functions can be performed with or without reasonable accommodation; and
- ensure that recruitment panels receive training on disability inclusion and unconscious bias.

The Hospital shall seek to meet national employment targets for persons with disabilities and will periodically review recruitment outcomes to identify and address barriers to inclusive employment.

G.7.5 Reasonable Accommodation

Reasonable accommodation refers to necessary and appropriate modifications or adjustments that enable qualified persons with disabilities to participate equally in employment without imposing a disproportionate or undue burden on the Hospital.

Accommodation measures shall be determined through consultation with the individual employee and may include, but are not limited to:

- modification of workstations and office layouts;
- ergonomic furniture and adjustable desks;
- assistive technologies, including screen-reading software, speech-to-text applications, screen magnification, and alternative input devices;
- accessible computer hardware and communication equipment;
- provision of sign language interpreters or real-time captioning for meetings and training sessions;
- flexible work schedules or modified working hours;
- temporary reassignment of non-essential duties;
- accessible transportation arrangements where required;
- provision of personal emergency evacuation plans (PEEPs); and
- adaptation of workplace procedures to accommodate individual needs.

Requests for reasonable accommodation shall be handled confidentially, assessed promptly, and reviewed periodically to ensure continued effectiveness.

G.7.6 Workplace Adjustments

To support an inclusive work environment, Fatmawati Hospital shall implement workplace adjustments that remove barriers to participation for employees with disabilities and older workers.

Adjustments include:

Physical Accessibility

- step-free access to all public and staff areas;
- accessible lifts with Braille controls, tactile buttons, audible floor announcements, and visual indicators;
- corridors and circulation spaces that accommodate wheelchair users;
- accessible doors with adequate clear width;
- slip-resistant flooring;
- handrails on ramps and stairways;
- accessible staff entrances.

Workstations

Accessible workstations shall include:

- adjustable-height desks;
- sufficient manoeuvring space for wheelchair users;
- accessible electrical outlets;

- appropriate lighting levels;
- low-reflection computer screens;
- ergonomic seating;
- hearing loop systems where appropriate.

Flexible Work Arrangements

Where operationally feasible, employees with disabilities may be provided with:

- flexible work schedules;
- modified shift arrangements;
- remote work options for suitable administrative functions;
- phased return-to-work arrangements following illness or injury.

Workplace Support

The Hospital shall provide:

- disability focal points within the Human Resources Department;
- access to occupational therapists or rehabilitation professionals where required;
- mentoring programmes;
- psychosocial support services;
- periodic workplace assessments.

G.7.7 Accessible Facilities

All newly developed facilities associated with the Project shall be designed in accordance with Universal Design principles to ensure accessibility for employees, patients, visitors, contractors, and members of the public.

The Hospital shall provide the following accessible facilities:

Accessible Toilets

Each public and staff floor shall include at least one universally accessible toilet equipped with:

- outward-opening or sliding doors;
- minimum turning space for wheelchairs;
- grab bars positioned in accordance with accessibility standards;
- emergency assistance alarms;
- accessible wash basins and mirrors;
- slip-resistant flooring;
- visual and audible emergency indicators.

Accessible Waiting Areas

Waiting areas shall provide:

- designated wheelchair spaces integrated with general seating;
- priority seating for persons with disabilities, older persons, and pregnant women;
- accessible drinking water facilities;
- accessible charging points for mobility devices where feasible.

Administrative and Reception Areas

Reception counters shall include:

- lowered service counters;

- hearing enhancement systems;
- accessible queuing systems;
- adequate knee clearance for wheelchair users;
- accessible document signing surfaces.

Quiet (Sensory) Rooms
Major clinical buildings shall provide dedicated Quiet Rooms to support individuals with autism spectrum disorder, sensory processing disorders, psychosocial disabilities, dementia, anxiety disorders, or other conditions requiring a low-stimulation environment.
Quiet Rooms should include:

- acoustic insulation;
- adjustable lighting;
- calming colours and furnishings;
- sensory regulation equipment;
- accessible seating;
- emergency communication facilities.

Staff Welfare Facilities
Where applicable, staff welfare areas, meeting rooms, cafeterias, prayer rooms, and rest areas shall be fully accessible and integrated within the overall workplace environment.

G.7.8 Emergency Preparedness

Emergency preparedness procedures shall ensure that employees, patients, and visitors with disabilities can evacuate or shelter safely during emergencies.

The Hospital shall develop inclusive emergency response procedures incorporating:

- Personal Emergency Evacuation Plans (PEEPs) for employees requiring assistance;
- accessible emergency exits and refuge areas;
- evacuation chairs where required;
- visual alarm systems for persons with hearing impairments;
- audible alarms for persons with visual impairments;
- tactile evacuation maps;
- emergency announcements in multiple accessible formats;
- regular evacuation drills involving persons with disabilities;
- staff training on assisting individuals with different types of disabilities during emergencies.

Security personnel, emergency response teams, and facility management staff shall receive specialised training on disability-inclusive emergency response procedures.

G.7.9 Monitoring Indicators

Implementation of this Plan shall be monitored through the Hospital Environmental and Social Management System (ESMS). Performance shall be reviewed annually, with corrective actions implemented where necessary.

Indicator	Target	Monitoring Frequency
Recruitment processes accessible to persons with disabilities	100%	Annual
Employees with disabilities employed in accordance with national legal requirements	Achieved	Annual
Requests for reasonable accommodation assessed and responded to	100%	Quarterly
Employees receiving disability awareness training	100%	Annual
Managers receiving training on inclusive supervision	100%	Annual
New buildings compliant with Universal Design principles	100%	Design Review and Completion
Public entrances, circulation routes, and staff work areas fully accessible	100%	Annual Audit
Accessible toilets provided in all new buildings	Minimum one per floor	Annual Audit
Quiet (Sensory) Rooms established in major clinical buildings	100%	Annual
Emergency evacuation procedures inclusive of persons with disabilities	100%	Annual
Emergency drills involving persons with disabilities conducted	At least twice per year	Semi-Annual
Disability-related grievances resolved within established timeframe	100%	Quarterly
Employee satisfaction regarding workplace accessibility	≥85% positive response	Biennial

G.7.10 Expected Outcomes

Successful implementation of this Disability Inclusion and Reasonable Accommodation Plan will contribute to a workplace that is inclusive, accessible, and equitable for all employees and service users. By integrating disability inclusion into workforce planning, infrastructure design, human resource management, and emergency preparedness, Fatmawati Hospital will strengthen compliance with Indonesian legislation and international environmental and social standards while enhancing organisational performance, workforce diversity, and the quality of patient-centred healthcare services. The Plan will further reinforce the Hospital's commitment to becoming a model of inclusive healthcare infrastructure that recognises accessibility as a fundamental element of sustainable development and social responsibility.

G.8 Gender-responsive Workplace Facilities

G.8.1 Policy Statement

Fatmawati Hospital is committed to providing a safe, healthy, inclusive, and gender-responsive working environment that supports the wellbeing, dignity, productivity, and equal participation of all employees. The Hospital recognises that workplace facilities should respond to the different biological, social, and occupational needs of women and men while ensuring equitable access for all

personnel, including pregnant and breastfeeding employees, persons with disabilities, older workers, and other vulnerable groups.

The design and operation of the new hospital buildings shall integrate gender-responsive infrastructure and services as part of the Hospital's commitment to Gender Equality, Disability, and Social Inclusion (GEDSI). Workplace facilities shall promote occupational health and safety, work-life balance, personal privacy, and equal access to employment opportunities while complying with Indonesian regulations and international good practice.

G.8.2 Objectives

The objectives of the Gender-responsive Workplace Facilities Plan are to:

- provide workplace facilities that respond to the different needs of women and men;
- support maternal health, breastfeeding, reproductive health, and employee wellbeing;
- ensure equitable access to sanitation, hygiene, and welfare facilities;
- promote a safe working environment free from discrimination and gender-based violence;
- improve employee health, comfort, and productivity;
- integrate accessibility and Universal Design principles into all workplace facilities; and
- support compliance with national legislation and international environmental and social standards.

G.8.3 Design Principles

All employee facilities within the new hospital buildings shall be planned in accordance with the following principles:

- equity in access and use;
- privacy and dignity;
- health and hygiene;
- safety and security;
- accessibility for persons with disabilities and older persons;
- Universal Design;
- family-friendly workplace arrangements;
- infection prevention and control (IPC);
- environmental sustainability and energy efficiency.

These principles shall apply to both clinical and non-clinical work environments.

G.8.4 Lactation (Breastfeeding) Facilities

To support maternal health and compliance with Indonesian labour legislation, dedicated Lactation Rooms shall be provided in each major operational building.

Each Lactation Room should include, at a minimum:

- a private, lockable room that is not used as a toilet;
- comfortable ergonomic seating;
- electrical outlets for breast pumps;

- handwashing facilities with soap and running water;
- refrigerator dedicated to breast milk storage;
- work surface and storage cabinets;
- baby changing table;
- waste bins with covered lids;
- adequate lighting and ventilation;
- air conditioning;
- emergency contact facility;
- wheelchair-accessible circulation space.

Breastfeeding employees shall be provided with reasonable break times in accordance with applicable regulations.

G.8.5 Gender-responsive Sanitation Facilities

The Hospital shall provide sufficient, safe, hygienic, and accessible sanitation facilities for all employees.

Female Toilets

Recognising higher demand and longer average usage times, the number of female toilets shall exceed the number of male toilets. As a design principle, the ratio should be 3 female toilet cubicles for every 2 male toilet fixtures, subject to detailed engineering design and applicable building codes.

Female toilet facilities shall include:

- sanitary disposal bins in every cubicle;
- baby changing facilities in selected locations;
- emergency call buttons where appropriate;
- non-slip flooring;
- full-height privacy partitions;
- adequate lighting and ventilation;
- touch-free taps and flushing systems where feasible;
- accessible cubicles for women with disabilities.

Male Toilets

Male toilets shall include:

- toilet cubicles;
- urinals;
- accessible toilet cubicles;
- handwashing facilities;
- non-slip flooring;
- adequate privacy and hygiene measures.

Universal Accessible Toilets

At least one universally accessible toilet shall be provided on every occupied floor and located along accessible circulation routes.

G.8.6 Staff Changing Rooms and Lockers

Dedicated changing rooms shall be provided for clinical and non-clinical employees, with separate facilities for women and men.
Changing rooms shall include:

- secure lockers;
- changing benches;
- mirrors;
- adequate ventilation;
- accessible cubicles;
- showers where operationally required;
- drying areas for uniforms;
- emergency communication facilities.

Accessible changing facilities shall also be available for employees with disabilities.

G.8.7 Staff Rest Areas

To promote employee wellbeing, designated rest areas shall be provided throughout the Hospital.

Rest areas should include:

- comfortable seating;
- drinking water facilities;
- pantry facilities;
- charging points for electronic devices;
- adequate lighting;
- natural ventilation or air conditioning;
- quiet spaces for relaxation;
- accessible seating arrangements.

Rest areas shall be distributed to minimise walking distances for clinical personnel working extended shifts.

G.6.8 Prayer and Reflection Facilities

Prayer rooms (Musholla) shall be provided for employees, patients, and visitors, with separate areas for women and men where appropriate.

Facilities shall include:

- accessible entrances;
- ablution areas;
- accessible prayer spaces;
- adequate ventilation;
- storage for footwear;
- seating for older persons and persons with disabilities.

Multi-faith reflection spaces may also be considered to accommodate employees and visitors from diverse religious backgrounds.

G.8.9 Women's Health and Menstrual Hygiene Facilities

The Hospital shall support women's reproductive health through the provision of appropriate facilities and workplace policies.

Facilities and services shall include:

- access to menstrual hygiene products where feasible;
- appropriate sanitary waste disposal systems;
- confidential occupational health consultations;
- reproductive health information;
- maternal health support services.

Occupational health programmes shall also provide confidential counselling regarding reproductive health and workplace-related risks.

G.8.10 Occupational Health and Wellbeing Facilities

Employee wellbeing facilities shall include:

- occupational health clinic;
- first aid stations;
- mental health counselling services;
- Employee Assistance Programme (EAP);
- stress management programmes;
- annual health screening;
- vaccination programmes;
- fitness and wellness initiatives where feasible.

Confidential psychological support shall be available for employees experiencing workplace stress, burnout, violence, harassment, or traumatic incidents.

G.8.11 Family-friendly Workplace Measures

Fatmawati Hospital recognises that work-life balance contributes to employee wellbeing and workforce retention.
Family-friendly measures include:

- breastfeeding breaks;
- flexible scheduling where operationally feasible;
- phased return to work following maternity leave;
- paternity leave in accordance with applicable regulations;
- compassionate leave;
- family care leave;
- employee wellbeing programmes;
- parenting information sessions.

Supervisors shall receive training to ensure that family-related responsibilities are considered during workforce planning without compromising patient care.

G.8.12 Safety and Security Measures

All workplace facilities shall incorporate gender-sensitive safety measures including:

- adequate external and internal lighting;
- CCTV coverage in public circulation areas;
- emergency communication systems;
- panic buttons in selected facilities;
- secure staff parking areas;
- controlled building access;
- security patrols during day and night shifts;
- safe pedestrian routes between buildings.

Facilities shall be designed to minimise opportunities for harassment, violence, or other security risks.

G.8.13 Specifications for Female-friendly Facilities

The planning, specification, provision, and operation of female-friendly facilities within the new buildings shall be led by Fatmawati Hospital. The Hospital Facilities Management Unit, in coordination with the Human Resources Department, the Occupational Health and Safety Unit, and Hospital management, shall issue the design specifications for these facilities, review and approve the corresponding detailed engineering designs prepared by the design-build contractor, verify compliance at design review and commissioning, and operate and maintain the facilities throughout the operational phase. The minimum specifications set out below shall be incorporated into the detailed engineering design and procurement documents for the new buildings and are dimensioned with reference to the projected workforce of approximately 5,150 personnel supporting the 1,352-bed operational capacity, of whom approximately 3,050 are expected to be women in accordance with the gender-disaggregated targets in Section G.3.2.

In addition to employee-facing facilities, the specifications encompass family- and child-oriented facilities — public lactation and baby-care rooms, a staff childcare facility (nursery/day-care), child-friendly waiting areas and play spaces, family toilets, and quiet rooms — recognising that women constitute the majority of the Hospital's projected workforce and of patient caregivers and attendants, and that the availability of these facilities directly affects women's workforce participation and retention, the experience and dignity of patients and their families, and the Hospital's compliance with Indonesian requirements for breastfeeding support in workplaces and public facilities.

Facility	Minimum Provision	Key Specifications
Lactation rooms	At least one per major operational building, with one additional room per building for approximately every 300 female employees under the gender-disaggregated staffing plan (Section G.3.2)	Private, lockable, non-toilet room; ergonomic seating; electrical outlets; handwashing facilities; dedicated refrigerator for breast milk; baby changing table; ventilation and air conditioning; emergency call facility; wheelchair-accessible circulation space
Female sanitation facilities	Female-to-male toilet fixture ratio of at least 3:2 on every occupied floor	Sanitary disposal bins in every cubicle; full-height privacy partitions; non-slip flooring; emergency call buttons; touch-free taps and flushing where feasible; accessible cubicles for women with disabilities

Facility	Minimum Provision	Key Specifications
Female staff changing rooms	Separate female changing rooms serving all clinical and support functions	Secure lockers; changing benches; showers where operationally required; accessible cubicles; emergency communication facilities
Women's rest areas	Rest areas on clinical floors located to minimise walking distances for female staff on extended shifts	Comfortable seating; drinking water; pantry facilities; adequate lighting; secure access
Female prayer facilities	Separate female prayer areas within all Musholla	Accessible ablution areas; footwear storage; seating for older persons and persons with disabilities
Menstrual hygiene support	Access to menstrual hygiene products where feasible and sanitary waste disposal systems in all female toilets	Confidential occupational health consultation; reproductive and maternal health information and support services
Safety and security provisions	Female-priority parking adjacent to principal entrances; CCTV coverage of circulation areas; panic buttons in isolated facilities	Adequate internal and external lighting; safe pedestrian routes between buildings; female security personnel available on all shifts
Gender-sensitive PPE	PPE in full female size ranges available at all clinical and technical workplaces	Gloves, protective clothing, respirators (fit-tested), footwear and eye protection suitable for female employees
Public lactation and baby-care rooms	Dedicated lactation and baby-care rooms for patients and visitors in outpatient, inpatient and principal public zones, in addition to staff lactation rooms, in accordance with Government Regulation No. 33 of 2012 and Minister of Health Regulation No. 15 of 2013	Private, lockable, non-toilet rooms; comfortable seating; handwashing facilities; baby changing tables; covered waste bins; ventilation and air conditioning; clear directional signage; wheelchair-accessible
Staff childcare facility (nursery/day-care)	At least one on-site or adjacent staff childcare facility (Taman Penitipan Anak) serving the new buildings, sized through a staff demand assessment during detailed operational planning with reference to the projected female workforce (Section G.3.2)	Secure, controlled-access premises separated from clinical, hazardous and vehicular areas; qualified childcare personnel; age-appropriate sanitary and rest facilities; feeding and food-preparation area; ventilated indoor and/or sheltered outdoor play space; CCTV coverage; infant- and child-specific emergency evacuation provisions; registered and operated in accordance with applicable Indonesian childcare regulations
Children's playground and child-friendly waiting areas	Child-friendly waiting areas within pediatric outpatient and other high child-traffic zones, and at least one dedicated children's playground (indoor and/or sheltered outdoor) within the public areas of the new buildings	Age-appropriate, safety-certified play equipment; impact-absorbing surfaces; clear sightlines for caregiver supervision; separation from vehicular circulation; sanitation and cleaning regimes consistent with infection prevention and control requirements; inclusive play elements accessible to children with disabilities
Family toilets and baby-changing provisions	Family toilets in selected public areas consistent with Section G.7.9, with baby-changing facilities	Space for caregiver assistance; baby changing tables; accessible design; covered waste bins; emergency call facility

Facility	Minimum Provision	Key Specifications
	provided in both female and male public toilets	
Quiet (sensory) rooms	At least one Quiet Room in each major clinical building, consistent with Sections G.5.7 and G.7.12	Acoustic insulation; adjustable lighting; calming colours and furnishings; accessible seating; emergency communication facilities; available to pregnant and breastfeeding employees, patients and caregivers requiring a low-stimulation environment, and persons with sensory or psychosocial conditions

Compliance with these specifications shall be verified through the design review and commissioning processes and thereafter through the gender-responsive facility inspections and monitoring indicators set out in Sections G.6.14 and G.6.15.

G.8.14 Operation and Maintenance

The Hospital Facilities Management Unit shall establish routine inspection and maintenance programmes for all gender-responsive workplace facilities.

Inspection programmes shall cover:

- cleanliness and hygiene;
- functionality of sanitary facilities;
- operation of lactation rooms;
- accessibility features;
- emergency communication equipment;
- lighting and ventilation;
- plumbing systems;
- occupational health facilities.

Preventive maintenance schedules shall be incorporated into the Hospital Asset Management System.

G.8.15 Monitoring Indicators

Implementation of this Plan shall be monitored through the Hospital Environmental and Social Management System (ESMS).

Indicator	Target	Monitoring Frequency
Lactation rooms provided in all major operational buildings	100%	Annual
Female-to-male toilet ratio incorporated into detailed design	Minimum 3:2	Design Review
Accessible toilets provided	Minimum one per occupied floor	Annual
Separate staff changing rooms provided	100%	Annual
Staff rest areas available	100%	Annual
Prayer facilities accessible to persons with disabilities	100%	Annual
Occupational health services available	100%	Annual
Employee Assistance Programme operational	100%	Annual

Indicator	Target	Monitoring Frequency
Gender-responsive facility inspections completed	Quarterly	Quarterly
Employee satisfaction with workplace facilities	≥85% positive response	Biennial
Reported safety incidents within workplace facilities	Continuous reduction	Annual
Public lactation and baby-care rooms provided in outpatient, inpatient and principal public zones	100%	Annual
Staff childcare facility (nursery/day-care) operational	100%	Annual
Child-friendly waiting areas and children's playground operational	100%	Annual

G.8.16 Expected Outcomes

Implementation of the Gender-responsive Workplace Facilities Plan will contribute to a safe, healthy, inclusive, and supportive working environment that recognises the diverse needs of women and men while promoting equality, dignity, and employee wellbeing. Through the provision of lactation rooms, gender-responsive sanitation facilities, staff welfare amenities, childcare and child-friendly facilities, occupational health services, and family-friendly workplace arrangements, Fatmawati Hospital will strengthen workforce retention, enhance employee satisfaction, and improve organisational performance. The integration of accessibility, safety, and Universal Design principles into workplace facilities will further support compliance with national legislation and international environmental and social standards, reinforcing the Hospital's commitment to Gender Equality, Disability, and Social Inclusion (GEDSI) and the delivery of high-quality, people-centred healthcare services.

G.9 Universal Accessibility Design Requirements

G.9.1 Policy Statement

Fatmawati Hospital is committed to ensuring that all newly developed buildings, facilities, and public spaces are designed, constructed, and operated in accordance with the principles of Universal Design. Accessibility shall be considered an integral component of hospital planning rather than an optional feature, ensuring that all employees, patients, visitors, contractors, caregivers, and members of the public—including persons with physical, sensory, intellectual, psychosocial disabilities and older persons—can access and use the Hospital independently, safely, and with dignity.

Universal accessibility shall be integrated throughout the project lifecycle, including planning, detailed engineering design, procurement, construction, commissioning, operation, maintenance, and future facility upgrades.

G.9.2 Objectives

The objectives of the Universal Accessibility Design Requirements are to:

- ensure equitable access to all hospital facilities and services;
- eliminate architectural, environmental, communication, and operational barriers;
- apply Universal Design principles throughout all new buildings and major renovations;
- provide safe, intuitive, and independent movement for all users;

- improve accessibility for employees, patients, visitors, caregivers, and emergency responders;
- support compliance with Indonesian accessibility regulations and international good practice; and
- create a healthcare environment that promotes dignity, safety, inclusion, and independence.

G.9.3 Universal Design Principles

The Hospital shall apply the following internationally recognised Universal Design principles:

1. Equitable Use – facilities shall be usable by all people without segregation.
2. Flexibility in Use – spaces shall accommodate a wide range of user preferences and abilities.
3. Simple and Intuitive Use – navigation and facility use shall be easy to understand.
4. Perceptible Information – information shall be communicated through multiple sensory formats.
5. Tolerance for Error – design shall minimise hazards and unintended actions.
6. Low Physical Effort – facilities shall be usable comfortably with minimal fatigue.
7. Appropriate Size and Space – sufficient space shall be provided for wheelchairs, mobility aids, caregivers, and medical equipment.

G.9.4 Accessible Site Planning

Site planning shall ensure barrier-free movement between all functional areas of the Hospital.

The design shall include:

- continuous accessible pedestrian routes connecting all buildings;
- step-free access from public transport stops and parking areas;
- covered walkways to protect users from weather conditions;
- slip-resistant paving materials;
- tactile guidance paths connecting key destinations;
- adequate resting areas with seating at regular intervals;
- accessible landscaping that does not obstruct circulation;
- clearly identifiable building entrances.

Accessible routes shall be continuous and free from unnecessary level changes.

G.9.5 Building Entrances and Internal Circulation

All principal entrances shall be fully accessible.

Design requirements include:

- automatic or power-assisted entrance doors where feasible;
- minimum clear door width consistent with applicable accessibility standards;
- level thresholds or appropriately designed ramps;
- weather protection canopies;
- high-contrast entrance markings;
- adequate lighting;
- accessible security screening procedures.

Internal circulation shall provide:

- wide corridors to accommodate wheelchairs, stretchers, and hospital beds simultaneously;
- unobstructed circulation routes;
- slip-resistant flooring;
- continuous handrails where appropriate;
- resting points for older persons;
- visual contrast between floors and walls to assist people with low vision.

G.9.6 Vertical Circulation

All publicly accessible floors shall be connected through accessible vertical circulation systems.

Passenger Lifts

Passenger lifts shall incorporate:

- wheelchair-accessible cabin dimensions;
- Braille and tactile buttons;
- audible floor announcements;
- visual floor indicators;
- handrails;
- mirrors to facilitate wheelchair manoeuvring;
- emergency communication systems accessible to persons with hearing or speech impairments;
- sufficient waiting space outside lift entrances.

Ramps

Accessible ramps shall:

- comply with recognised maximum gradients under Indonesian regulations and ISO 21542;
- include intermediate landings where required;
- provide continuous handrails on both sides;
- incorporate edge protection;
- use slip-resistant finishes;
- provide tactile warning surfaces at ramp transitions.

Stairs

Stairways shall include:

- continuous handrails on both sides;
- contrasting nosings;
- tactile warning indicators at the top and bottom;
- uniform risers and treads;
- adequate lighting.

G.9.7 Doors, Corridors and Public Spaces

Doors shall:

- be easy to operate with minimal force;
- provide sufficient clearance for wheelchair users;
- incorporate vision panels where appropriate;
- include lever-type handles;
- avoid revolving doors as the sole accessible entrance.
-

Corridors shall:

- accommodate two-way wheelchair movement;
- remain free from permanent obstructions;
- include resting spaces at regular intervals;
- provide adequate illumination;
- incorporate intuitive wayfinding.

Public waiting areas shall provide:

- integrated wheelchair seating locations;
- priority seating;
- accessible drinking water;
- charging points for mobility devices where feasible.

G.9.8 Accessible Clinical and Administrative Areas

All outpatient clinics, inpatient wards, diagnostic units, administrative offices, pharmacies, laboratories, cashier counters, and registration areas shall be fully accessible.
Design measures include:

- lowered reception counters;
- accessible consultation rooms;
- wheelchair turning spaces;
- adjustable examination couches where practicable;
- accessible pharmacy counters;
- accessible payment counters;
- hearing enhancement systems in consultation areas;
- accessible queuing systems.

Administrative offices shall include workstations capable of accommodating employees with disabilities through reasonable accommodation.

G.9.9 Accessible Sanitary Facilities

Universal accessible toilets shall be provided throughout the Hospital.
Each accessible toilet shall include:

- outward-opening or sliding doors;

- wheelchair manoeuvring space;
- grab rails positioned in accordance with recognised standards;
- emergency assistance call system;
- accessible washbasin;
- mirror positioned for seated and standing users;
- non-slip flooring;
- adequate lighting;
- clear directional signage.

Family toilets shall be provided in selected public areas to accommodate caregivers assisting children, older persons, or persons with disabilities.

G.10.10 Wayfinding and Signage

A comprehensive wayfinding system shall enable all users to navigate the Hospital independently. The system shall include:

- high-contrast directional signage;
- internationally recognised pictograms;
- tactile and Braille signage at key locations;
- floor identification;
- colour-coded departments;
- tactile maps at principal entrances;
- accessible directory boards;
- multilingual information where appropriate.

Wayfinding shall minimise confusion, reduce travel distances, and improve patient experience.

G.10.11 Lighting and Acoustic Environment

Lighting shall support users with visual impairments while reducing glare.
Design requirements include:

- uniform illumination levels;
- avoidance of excessive brightness contrasts;
- emergency lighting;
- task lighting in service counters;
- daylight optimisation where feasible.

The acoustic environment shall minimise excessive background noise by incorporating:

- sound-absorbing finishes;
- acoustic ceiling systems;
- quiet waiting zones;
- hearing enhancement systems in meeting rooms and service counters.

G.10.12 Sensory-friendly Spaces

Major clinical buildings shall provide sensory-friendly environments for individuals with autism spectrum disorder, dementia, anxiety disorders, psychosocial disabilities, and sensory processing conditions.
Measures shall include:

- Quiet Rooms;
- low-stimulation waiting areas;
- adjustable lighting;
- acoustic treatment;
- calming colour schemes;
- intuitive layouts;
- reduced visual clutter.

G.10.13 Maintenance and Accessibility Audits

Accessibility features shall be maintained throughout the operational life of the Hospital.
Routine inspections shall verify the functionality of:

- lifts;
- automatic doors;
- ramps;
- tactile paving;
- accessible toilets;
- signage;
- hearing enhancement systems;
- emergency communication devices;
- accessible furniture.

Accessibility audits shall be undertaken:

- during detailed design;
- prior to commissioning;
- annually during operation;
- following major renovations.

Audit findings shall be incorporated into the Hospital Environmental and Social Management System (ESMS) for continuous improvement.

G.10.14 Monitoring Indicators

Indicator	Target	Monitoring Frequency
New buildings designed in accordance with Universal Design principles	100%	Design Review
Step-free access to all public entrances	100%	Commissioning
Accessible lifts operational	100%	Quarterly
Accessible ramps compliant with applicable standards	100%	Annual

Indicator	Target	Monitoring Frequency
Accessible toilets provided on every occupied floor	100%	Annual
Tactile guidance systems installed	100% of principal circulation routes	Annual
Braille and tactile signage installed	100% of key public facilities	Annual
Reception and service counters accessible	100%	Annual
Quiet Rooms operational in major clinical buildings	100%	Annual
Accessibility audits completed	100%	Annual
Corrective actions arising from accessibility audits completed	100%	Annual

G.10.15 Expected Outcomes

Implementation of these Universal Accessibility Design Requirements will ensure that Fatmawati Hospital provides an inclusive and barrier-free healthcare environment that supports independent access, safe movement, and equitable participation for all users. By embedding Universal Design principles into planning, design, construction, and operation, the Hospital will enhance patient experience, improve workplace inclusion, strengthen compliance with Indonesian regulations and international environmental and social standards, and establish itself as a national model for accessible and inclusive healthcare infrastructure.

G.11 Accessible Information and Communication Systems

G.11.1 Policy Statement

Fatmawati Hospital is committed to ensuring that all information, communication systems, and public announcements are accessible, understandable, and usable by all users, including persons with disabilities, older persons, patients with limited literacy, and speakers of different languages. Access to information is recognised as a fundamental component of equitable healthcare services and an essential element of Universal Accessibility.

Information shall be provided through multiple communication formats to accommodate persons with visual, hearing, speech, cognitive, intellectual, and psychosocial disabilities. Accessibility shall be incorporated into both physical and digital communication systems throughout the Hospital.

G.11.2 Objectives

The objectives of the Accessible Information and Communication Systems Plan are to:

- ensure equitable access to health information and hospital services;
- eliminate communication barriers for employees, patients, and visitors;
- provide information in multiple accessible formats;
- improve patient safety through accessible emergency communication;
- comply with Indonesian regulations and international accessibility standards; and
- strengthen inclusive service delivery through accessible technologies.

G.11.3 Accessible Public Information

All public information shall be presented using clear, concise, and user-friendly language.

The Hospital shall provide:

- directional signage with high colour contrast;
- Braille signage for key public facilities;
- tactile maps at principal entrances;
- pictogram-based information;
- multilingual information where appropriate;
- large-print notices for users with low vision;
- accessible printed brochures;
- high-contrast notice boards;
- universally recognised healthcare symbols.

G.11.4 Digital Accessibility

Digital platforms shall comply with internationally recognised accessibility principles.

The Hospital website, patient portal, online registration system, mobile applications, and self-service kiosks shall incorporate:

- compatibility with screen readers;
- keyboard navigation;
- alternative text for images;
- adjustable font size;
- high-contrast display options;
- captioned multimedia;
- compatibility with assistive technologies;
- accessible online forms;
- plain language content.

Digital systems shall be periodically tested using recognised accessibility evaluation tools.

G.8.5 Accessible Communication Services

Communication with patients and visitors shall accommodate diverse communication needs.

The Hospital shall provide access to:

- Indonesian Sign Language (BISINDO) interpreters or remote interpreting services where practicable;
- real-time captioning for public events and important announcements where feasible;
- hearing loop systems at registration counters, cashier services, and major meeting rooms;
- text-based communication options;
- visual communication boards for patients with speech impairments;
- communication aids for persons with intellectual or cognitive disabilities.

Employees shall receive guidance on communicating respectfully and effectively with persons with different types of disabilities.

G.11.6 Public Announcement Systems

Hospital announcement systems shall provide information using multiple communication methods to ensure redundancy during routine operations and emergencies.
Announcements shall include:

- audible public address systems;
- visual display screens;
- electronic queue management displays;
- scrolling text displays;
- flashing visual alarms for persons with hearing impairments;
- vibration or mobile notification systems where appropriate.

Emergency announcements shall be simultaneously delivered through audible, visual, and digital channels.

G.11.7 Accessible Administrative Services

Administrative services shall be designed to ensure equal access for all users.

Reception and registration areas shall include:

- accessible counters;
- digital queue systems with both audio and visual notifications;
- electronic information displays;
- portable communication boards;
- accessible document review areas;
- private consultation spaces where confidential communication is required.

G.11.8 Staff Training

Employees working in patient-facing roles shall receive periodic training covering:

- disability awareness;
- respectful communication;
- communicating with Deaf persons and persons with hearing impairments;
- communicating with persons with visual impairments;
- communicating with persons with intellectual or psychosocial disabilities;
- use of assistive communication technologies;
- accessible customer service.

Training shall be incorporated into employee induction and refresher programmes.

G.11.9 Monitoring Indicators

Indicator	Target	Monitoring Frequency
Public information available in accessible formats	100%	Annual
Braille signage installed at key facilities	100%	Annual
Hospital website compliant with recognised accessibility standards	100%	Annual

Indicator	Target	Monitoring Frequency
Digital queue systems with audio and visual notification	100%	Annual
Staff receiving accessible communication training	100%	Annual
Emergency announcements accessible through multiple communication channels	100%	Annual
Accessibility audits of ICT systems completed	Annual	Annual

G.12 Accessible Parking and Mobility

G.12.1 Policy Statement

Fatmawati Hospital shall provide safe, convenient, and barrier-free access from the point of arrival to all hospital buildings. Parking areas, pedestrian routes, passenger drop-off zones, and internal circulation systems shall be designed in accordance with Universal Design principles to ensure independent mobility for persons with disabilities, older persons, pregnant women, children, and individuals with temporary mobility limitations.

Accessible mobility is recognised as an essential component of equitable healthcare access and shall be integrated into the design, construction, and operation of all new hospital facilities.

G.12.2 Objectives

The objectives of the Accessible Parking and Mobility Plan are to:

- ensure safe and independent access to hospital facilities;
- minimise physical barriers throughout the site;
- provide accessible parking spaces and passenger drop-off areas;
- improve pedestrian safety;
- support emergency access and operational efficiency; and
- comply with Indonesian regulations and international accessibility standards.

G.12.3 Accessible Parking Facilities

Accessible parking spaces shall be provided in accordance with applicable regulations and international good practice.
Key requirements include:

- a minimum of **2**% of the total parking capacity reserved as accessible parking spaces, with at least one accessible space provided in each major parking area;
- locations adjacent to principal entrances or lift lobbies;
- wider parking bays to accommodate wheelchair transfer;
- level, non-slip surfaces;
- clear international accessibility symbols on pavement and signage;
- adequate lighting and CCTV coverage;
- barrier-free access connecting parking spaces to hospital entrances.

Accessible parking spaces shall be monitored to prevent misuse.

G.12.4 Passenger Drop-off and Pick-up Areas

Dedicated drop-off and pick-up zones shall be provided near all principal entrances.

These areas shall include:

- covered canopies for weather protection;
- kerb-free or flush transitions;
- sufficient manoeuvring space for wheelchairs and stretchers;
- seating for waiting patients;
- tactile guidance paths connecting to building entrances;
- adequate lighting and security.

Priority access shall be available for ambulances, older persons, pregnant women, and persons with disabilities.

G.12.5 Accessible Pedestrian Routes

Accessible pedestrian routes shall connect all major functional areas, including:

- parking areas;
- public transport stops;
- outpatient buildings;
- inpatient wards;
- emergency department;
- administration buildings;
- staff facilities.

Routes shall incorporate:

- continuous step-free access;
- tactile paving for navigation and hazard warning;
- slip-resistant surfaces;
- shade and weather protection where practicable;
- resting areas with seating at regular intervals;
- handrails where gradients are unavoidable;
- appropriate lighting for safe night-time use.

G.12.6 Internal Mobility Assistance

To improve mobility within the hospital campus, the Hospital shall provide assistance for individuals requiring additional support.
Measures may include:

- trained mobility assistance personnel;
- wheelchair loan services;
- electric mobility carts for large campus areas, where operationally feasible;
- patient escort services;
- accessible directional maps and digital navigation tools.

Security officers and customer service staff shall receive training on assisting persons with disabilities and older persons in a respectful and safe manner.

G.12.7 Traffic Management and Safety

Traffic circulation shall be designed to minimise conflicts between vehicles and pedestrians.
The Hospital shall implement:

- clearly separated pedestrian and vehicular routes;
- speed calming measures;
- marked pedestrian crossings;
- audible crossing signals where appropriate;
- directional signage;
- dedicated emergency vehicle routes;
- adequate street lighting;
- CCTV monitoring at major circulation points.

Traffic management measures shall be periodically reviewed to maintain safety and operational efficiency.

G.12.8 Monitoring Indicators

Indicator	Target	Monitoring Frequency
Accessible parking spaces provided	Minimum 2% of total parking capacity	Annual
Accessible drop-off zones operational	100%	Annual
Continuous accessible pedestrian routes	100%	Annual
Tactile paving installed on principal circulation routes	100%	Annual
Security personnel trained in disability assistance	100%	Annual
Wheelchair assistance services available	100%	Annual
Accessibility inspections of parking and circulation areas completed	Annual	Annual
Corrective actions from accessibility inspections implemented	100%	Annual

G.12.9 Expected Outcomes

Implementation of the Accessible Parking and Mobility Plan will ensure that all users—including employees, patients, visitors, caregivers, persons with disabilities, and older persons—can safely and independently access Fatmawati Hospital from arrival to destination. Through accessible parking, barrier-free pedestrian routes, inclusive mobility assistance, and effective traffic management, the Hospital will enhance user experience, improve patient safety, reduce physical barriers, and demonstrate compliance with Indonesian regulations and international environmental and social standards. These measures reinforce the Hospital's commitment to Universal Accessibility and the principles of Gender Equality, Disability, and Social Inclusion (GEDSI).

G.13 Inclusive Recruitment and Employment

G.13.1 Policy Statement

Fatmawati Hospital is committed to establishing a fair, transparent, and inclusive employment system that promotes equal opportunity, diversity, and non-discrimination throughout the workforce lifecycle. As the Hospital expands to support an operational capacity of approximately 1,352 inpatient

beds, workforce recruitment and employment practices shall ensure that qualified individuals have equal access to employment regardless of sex, gender, disability, age, ethnicity, religion, marital status, or other protected characteristics.

The Hospital recognises that workforce diversity contributes to improved institutional performance, innovation, employee wellbeing, and patient-centred healthcare services. Recruitment and employment practices shall therefore be based solely on competency, qualifications, experience, and the essential requirements of each position.
This Plan applies to all permanent employees, contract personnel, outsourced workers, consultants, trainees, interns, and contractors engaged during both the construction and operational phases of the Project.

G.13.2 Objectives

The objectives of the Inclusive Recruitment and Employment Plan are to:

- ensure equal employment opportunities for all qualified applicants;
- eliminate discrimination throughout recruitment and employment processes;
- increase workforce diversity, including participation by women and persons with disabilities;
- promote merit-based recruitment, promotion, and career development;
- provide reasonable accommodation for employees with disabilities;
- support equitable remuneration and employment conditions;
- establish transparent recruitment and grievance mechanisms; and
- ensure compliance with Indonesian labour legislation and international labour standards.

G.13.3 Equal Employment Opportunity (EEO)

Fatmawati Hospital shall implement an Equal Employment Opportunity (EEO) Policy applicable to all employment decisions.
Recruitment, promotion, remuneration, transfer, training, performance evaluation, and termination of employment shall be based exclusively on:

- education and professional qualifications;
- competency and technical capability;
- relevant work experience;
- professional ethics and integrity;
- demonstrated performance; and
- operational requirements.

Discrimination based on the following characteristics shall be prohibited:

- sex;
- pregnancy or maternity status;
- disability;
- age;
- marital status;
- ethnicity;

- religion or belief;
- social origin;
- political opinion; or
- any other characteristic protected under Indonesian law.

Equal employment principles shall also apply to outsourced personnel and contractor employees working on the Project.

G.13.4 Inclusive Recruitment Procedures

Recruitment processes shall be designed to maximise accessibility and equal participation.
Key measures include:
Vacancy Announcements
Vacancies shall:

- use gender-neutral and inclusive language;
- clearly state essential job requirements;
- encourage applications from qualified women and persons with disabilities;
- be disseminated through multiple communication channels, including accessible digital platforms.

Accessible Recruitment Process
Applicants shall be provided with reasonable accommodation where required, including:

- accessible interview venues;
- online interview options where appropriate;
- sign language interpretation;
- extended assessment time where justified;
- accessible written tests;
- alternative assessment methods for applicants with disabilities.

Selection Panels
Selection panels should, where practicable:

- include both female and male members;
- receive training on unconscious bias and inclusive recruitment;
- document recruitment decisions to ensure transparency and accountability.

G.10.5 Workforce Diversity Targets

Fatmawati Hospital shall monitor workforce diversity through annual workforce planning.
Indicative workforce targets include:

Workforce Indicator	Target
Female workforce representation	≥55%
Male workforce representation	Approximately 45%
Women in managerial positions	≥40%
Employees with disabilities	Compliance with Indonesian legal requirements (minimum 2% of civil servants and 1% of non-government employees, where applicable)
Recruitment based on competency	100%

Recruitment processes applying Equal Employment Opportunity principles	100%

The Hospital shall periodically review workforce composition and implement corrective actions where significant disparities are identified.

G.13.6 Employment Conditions

All employees shall receive fair and equitable employment conditions consistent with applicable legislation.
Employment conditions shall include:

- written employment contracts;
- equal remuneration for work of equal value;
- transparent salary structures;
- statutory leave entitlements;
- occupational health and safety protection;
- social security and insurance benefits;
- access to professional development;
- fair performance appraisal systems.

Temporary, outsourced, and contract workers shall receive employment conditions consistent with applicable labour legislation and contractual requirements.

G.13.7 Career Development and Promotion

Career progression shall be based on merit and competency.
The Hospital shall ensure equal access to:

- specialist education programmes;
- leadership development initiatives;
- scholarships;
- continuing professional education;
- technical certification;
- management training;
- international conferences and professional exchanges.

Promotion decisions shall not be influenced by gender, disability, age, pregnancy, family responsibilities, or other non-performance-related factors.

G.13.8 Inclusive Workplace Support

To improve employee retention and participation, the Hospital shall provide workplace support measures including:

- reasonable accommodation for employees with disabilities;
- flexible working arrangements where operationally feasible;
- lactation rooms;
- gender-responsive sanitation facilities;
- accessible workplaces;
- occupational health services;
- employee counselling services;

- Employee Assistance Programme (EAP);
- mental health support;
- family-friendly workplace policies.

These measures shall contribute to a safe, respectful, and productive working environment.

G.10.9 Contractor Workforce Requirements

All contractors engaged during construction and operation shall comply with the Project Labour Management Procedures (LMP) and this Inclusive Recruitment and Employment Plan.
Contractors shall be required to:

- implement Equal Employment Opportunity principles;
- prohibit discrimination and harassment;
- comply with occupational health and safety requirements;
- provide fair employment conditions;
- establish worker grievance mechanisms;
- adopt a Code of Conduct addressing Sexual Exploitation, Abuse and Harassment (SEAH);
- provide disability-inclusive workplace arrangements where applicable.

Compliance shall be monitored through periodic contractor audits.

G.13.10 Worker Grievance Mechanism

Fatmawati Hospital shall maintain a confidential Worker Grievance Mechanism that enables employees to raise employment-related concerns without fear of retaliation.
The mechanism shall:

- be accessible to all employees, including persons with disabilities;
- allow anonymous reporting where appropriate;
- provide multiple reporting channels (written, verbal, digital, and telephone);
- establish defined response timelines;
- ensure confidentiality and impartial investigation;
- include procedures for appeals and corrective actions.

Complaints relating to discrimination, harassment, or SEAH shall be managed through survivor-centred procedures consistent with applicable policies.

G.13.11 Monitoring and Reporting

The Human Resources Department shall monitor implementation of this Plan through the Hospital Environmental and Social Management System (ESMS).

Annual reporting shall include:

- workforce composition by sex, age, employment type, and disability status (where voluntarily disclosed);
- recruitment outcomes;
- promotion statistics;
- employee turnover;
- gender pay analysis;
- training participation;

- workplace grievances;
- contractor compliance.

Findings shall be used to identify opportunities for continual improvement.

G.13.12 Key Performance Indicators (KPIs)

Indicator	Target	Monitoring Frequency
Recruitment processes compliant with Equal Employment Opportunity principles	100%	Annual
Female workforce representation	≥55%	Annual
Women in management positions	≥40%	Annual
Employees with disabilities employed in accordance with national legal requirements	Achieved	Annual
Equal remuneration for equivalent work	100% compliance	Annual
Employees completing induction on workplace equality and inclusion	100%	Annual
Worker grievances resolved within established timeframe	≥95%	Quarterly
Contractor compliance with labour requirements	100%	Quarterly
Employee satisfaction with recruitment fairness and employment conditions	≥85% positive response	Biennial

G.13.13 Expected Outcomes

Implementation of the Inclusive Recruitment and Employment Plan will support the development of a competent, diverse, and inclusive workforce capable of delivering high-quality healthcare services within the expanded Fatmawati Hospital. By embedding Equal Employment Opportunity principles, transparent recruitment procedures, equitable employment conditions, and inclusive workplace support into institutional practice, the Hospital will strengthen workforce resilience, improve employee satisfaction and retention, and enhance compliance with Indonesian legislation and international environmental and social standards. The Plan further reinforces the Hospital's commitment to Gender Equality, Disability, and Social Inclusion (GEDSI) as a core element of sustainable healthcare development and responsible labour management.

G.14 Training and Capacity Building

G.14.1 Policy Statement

Fatmawati Hospital recognises that effective implementation of the Workforce Management and Gender Equality, Disability, and Social Inclusion (GEDSI) Plan requires continuous capacity building for all employees, contractors, consultants, and service providers. Training shall ensure that all personnel understand their respective roles and responsibilities in promoting an inclusive, respectful, and safe workplace while supporting accessible and equitable healthcare services.

Training programmes shall be integrated into the Hospital's Human Resource Development Programme and Occupational Health and Safety Management System and shall be delivered throughout the construction and operational phases.

G.14.2 Objectives

The objectives of the Training and Capacity Building Programme are to:

- strengthen institutional understanding of Gender Equality, Disability, and Social Inclusion (GEDSI);
- ensure compliance with Indonesian legislation and international environmental and social standards;
- improve the capacity of employees to provide accessible and inclusive healthcare services;
- enhance awareness of disability rights and reasonable accommodation;
- prevent discrimination, workplace harassment, and Sexual Exploitation, Abuse and Harassment (SEAH);
- strengthen emergency preparedness for assisting persons with disabilities and other vulnerable groups; and
- promote continuous improvement through periodic refresher training.

G.14.3 Training Programme

The Hospital shall implement a structured training programme covering all categories of personnel.

A. Induction Training

All new employees, outsourced personnel, interns, and contractors shall receive induction training covering:

- Hospital Code of Conduct;
- Equal Employment Opportunity Policy;
- Gender Equality and GEDSI principles;
- Workplace ethics;
- Prevention of discrimination and harassment;
- Worker Grievance Mechanism;
- Occupational Health and Safety;
- Emergency preparedness;
- Environmental and Social Management System (ESMS).

Induction training shall be completed prior to commencement of work.

B. Gender Equality and Inclusive Workplace Training

Annual training shall include:

- gender equality principles;
- unconscious bias awareness;
- equal employment opportunity;
- inclusive leadership;
- work-life balance;
- respectful workplace behaviour;
- gender-responsive supervision;
- prevention of workplace discrimination.

C. Disability Awareness and Reasonable Accommodation

Training shall be provided to all employees regarding:

- disability inclusion;
- disability etiquette;
- communication with persons with disabilities;
- Universal Design principles;
- reasonable accommodation procedures;
- accessible customer service;
- inclusive recruitment;
- use of assistive technologies.

Human Resources personnel and supervisors shall receive additional training on accommodation assessments and workplace adjustments.

D. Accessible Communication Training
Frontline staff shall receive specialised instruction on:

- communicating with Deaf persons;
- communicating with persons with visual impairments;
- communicating with persons with intellectual or psychosocial disabilities;
- use of pictograms and communication boards;
- accessible digital communication;
- respectful interaction with older persons.

E. Prevention of Sexual Exploitation, Abuse and Harassment (SEAH)
Mandatory annual training shall include:

- definitions of SEAH;
- prohibited behaviours;
- Code of Conduct;
- survivor-centred response principles;
- confidential reporting procedures;
- responsibilities of supervisors and managers;
- sanctions for violations.

Contractors shall provide equivalent SEAH training to all contractor personnel.

F. Emergency Preparedness
Emergency response teams, security personnel, and facility management staff shall receive training on:

- evacuation assistance for persons with disabilities;
- use of evacuation chairs;
- Personal Emergency Evacuation Plans (PEEPs);
- accessible emergency communication;
- emergency response for older persons and vulnerable patients;
- inclusive evacuation drills.

Emergency drills shall be conducted at least twice annually.

G.14.4 Training Delivery

Training may be delivered through:

- classroom sessions;

- e-learning modules;
- simulation exercises;
- toolbox meetings;
- refresher courses;
- practical demonstrations;
- external specialist training where appropriate.

Training materials shall be available in accessible formats, including large print, digital accessible documents, captioned videos, and other formats where required.

G.14.5 Training Records

The Human Resources Department shall maintain records including:

- attendance;
- training materials;
- competency assessments;
- refresher schedules;
- certification where applicable.

Training effectiveness shall be evaluated through post-training assessments and employee feedback.

G.15 Monitoring Indicators

G.15.1 Monitoring Framework

Implementation of this Annex shall be monitored through the Hospital Environmental and Social Management System (ESMS). Monitoring shall assess compliance with legal requirements, lender standards, and internal policies while identifying opportunities for continual improvement.

Monitoring activities shall include:

- document review;
- workplace inspections;
- accessibility audits;
- employee surveys;
- contractor audits;
- grievance analysis;
- management review meetings.

G.15.2 Key Performance Indicators

Theme	Indicator	Target	Frequency	Responsible Unit
Workforce Diversity	Female workforce representation	≥55%	Annual	Human Resources
Workforce Diversity	Women in management positions	≥40%	Annual	Human Resources

Theme	Indicator	Target	Frequency	Responsible Unit
Disability Inclusion	Employment of persons with disabilities	Compliance with national legal requirements	Annual	Human Resources
Recruitment	Recruitment applying Equal Employment Opportunity principles	100%	Annual	Human Resources
Accessibility	New buildings compliant with Universal Design	100%	Design Review / Completion	Project Management Unit
Accessibility	Accessible toilets provided	Minimum one per occupied floor	Annual	Facilities Management
Accessibility	Lactation rooms operational	100%	Annual	Facilities Management
Gender-responsive Facilities	Female-friendly facility specifications implemented in new buildings under Fatmawati Hospital leadership	100%	Design Review / Commissioning	Facilities Management
Accessibility	Accessible parking spaces	≥2% of total parking capacity	Annual	Facilities Management
Communication	Accessible information systems operational	100%	Annual	Information Technology Unit
Training	Employees completing GEDSI induction	100%	Annual	Human Resources
Training	Employees completing disability awareness training	100%	Annual	Human Resources
Training	Employees completing SEAH training	100%	Annual	Human Resources
Occupational Health	Gender-responsive PPE available	100%	Annual	OHS Unit
Worker Welfare	Employee satisfaction with workplace inclusion	≥85% positive response	Biennial	Human Resources
Grievance	Worker grievances resolved within agreed timeframe	≥95%	Quarterly	Human Resources
Contractor Management	Contractor compliance with labour and GEDSI requirements	100%	Quarterly	Procurement & Project Management
Emergency Preparedness	Inclusive emergency drills conducted	Minimum two per year	Semi-Annual	OHS Unit

G.15.3 Reporting

Monitoring results shall be reported through:

- quarterly ESMS reports;

- annual sustainability reporting;
- management review meetings;
- lender reporting where applicable;
- internal audits.

Corrective actions shall be tracked until completion.

G.16 Implementation Responsibilities

G.16.1 Governance Structure

Implementation of this Annex shall be integrated into the Hospital's Environmental and Social Management System (ESMS). Responsibility shall be shared across Hospital management, with oversight provided by the Hospital Director.

The Human Resources Department shall serve as the lead coordinating unit for workforce management and GEDSI implementation.

G.16.2 Roles and Responsibilities

Hospital Director

The Hospital Director shall:

- approve workforce and GEDSI policies;
- allocate adequate financial and human resources;
- review annual implementation performance;
- ensure institutional compliance with applicable legislation and lender requirements.

Human Resources Department

The Human Resources Department shall:

- implement inclusive recruitment procedures;
- maintain workforce diversity data;
- coordinate training programmes;
- administer worker grievance mechanisms;
- oversee implementation of equal employment opportunity policies;
- monitor workforce indicators.

Facilities Management Unit

The Facilities Management Unit shall:

- maintain accessible infrastructure;
- manage gender-responsive workplace facilities;
- conduct accessibility inspections;
- maintain parking and mobility facilities;
- ensure operation of lactation rooms, accessible toilets, lifts, ramps, and signage.

Occupational Health and Safety (OHS) Unit

The OHS Unit shall:

- implement gender-sensitive occupational health programmes;
- coordinate emergency preparedness;
- conduct inclusive evacuation drills;

- monitor workplace safety;
- ensure appropriate PPE is available.

Information Technology Unit

The Information Technology Unit shall:

- maintain accessible digital systems;
- ensure website accessibility;
- support accessible communication technologies;
- maintain digital information systems.

Procurement and Project Management Unit

The Procurement and Project Management Unit shall:

- integrate accessibility requirements into procurement documents;
- include GEDSI requirements within contractor contracts;
- monitor contractor compliance;
- oversee accessibility during design and construction.

Contractors

All contractors shall:

- comply with the Project Labour Management Procedures;
- implement Equal Employment Opportunity principles;
- adopt a Code of Conduct addressing SEAH;
- provide safe and inclusive workplaces;
- participate in required training programmes;
- cooperate during audits and inspections.

G.16.3 Review and Continuous Improvement

This Annex shall be reviewed at least every three years, or earlier where significant organisational, regulatory, or operational changes occur.

Lessons learned from audits, employee feedback, grievance mechanisms, accessibility assessments, and stakeholder engagement shall be incorporated into future revisions.

The Hospital shall promote continual improvement to ensure that workforce management practices remain aligned with evolving international good practice and the principles of Gender Equality, Disability, and Social Inclusion.

Annex H — List of Affected Tenants

The Matrix Identification And Mitigation Tenant Affected

No	Party Second	Type Of Tenant	Rent Period		Affected Development JKN Tower (Yes No)	Separated Contract (Yes No)	Action Carry on (E.g. Socialization, Relocation: Where, start When, Agreement Addition)
			Start	End			
1	PT. Midi Main Indonesia	Mini Market Midi Fresh	11/3/2025	10/3/2026	Yes	Yes	Socialization related plan affected tenant areas
2	PT. VM Indonesia	Vending Machine	5/3/2026	4/3/2026	Yes	Yes	Socialization related plan affected tenant areas
3	PT. Petra Global Main	Promise Soul	7/8/2023	6/8/2026	Yes	Yes	Socialization related plan affected tenant areas
4	PT. Tritama In harmony Prosperous	Meatballs Poor Oasis	1/2/2025	1/12/2026	Yes	Yes	Socialization related plan affected tenant areas
5	PT. Golden Dolbe	MM Juice	23/7/2025	22/7/2026	Yes	Yes	Socialization related plan affected tenant areas
6	H. Eddy	Cuisine Padang Trio Authentic	1/5/2024	1/12/2026	Yes	Yes	Socialization related plan affected tenant areas
7	CV. Sari Multi Catering	Porridge Dairy Breakfast	8/3/2024	1/12/2026	Yes	Yes	Socialization related plan affected tenant areas
8	PT. Sebastian Image Indonesia	Shop Bread O	1/4/2024	1/12/2026	Yes	Yes	Socialization related plan affected tenant areas
9	CV. Appetite Archipelago	Shop Hi Cup	16/5/2024	1/12/2026	Yes	Yes	Socialization related plan affected tenant areas
10	PT. Sarimelati Golden, Tbk	Pizza Hut Delivery	June 20, 2025	June 19, 2026	Yes	Yes	Socialization related plan affected tenant areas

No	Party Second	Type Of Tenant	Rent Period		Affected Development JKN Tower (Yes No)	Separated Contract (Yes No)	Action Carry on (E.g. Socialization, Relocation: Where, start When, Agreement Addition)
11	Fiki Yurianda	Dim Sum Rakha	8/7/2025	7/7/2026	Yes	Yes	Socialization related plan affected tenant areas
12	Nurul Hidayati	Photocopy	1/5/2025	1/12/2026	Yes	Yes	Socialization related plan affected tenant areas
13	PAM Jaya	Placement Booster PAM	1/4/2024	1/12/2026	Yes	Yes	Socialization related plan affected tenant areas
14	PT. Bank Independent	ATM in Parent, Lotus, IGH, IGD	1/1/2024	1/12/2026	Yes	Yes	Socialization related plan affected tenant areas
15	Cooperative Prosperous	Satellite Mini Market IRJ	18/8/2023	17/8/2026	Yes	Yes	Socialization related plan affected tenant areas
16	PT. Centrepark Image Corpora	Management Parking	1/2/2025	1/12/2026	Yes	Yes	Socialization regarding the development plan for the affected tenant area
17	PT. Lightning Power Indonesia	Rental Equipment Placement Power bank	1/7/2025	30/6/2026	Yes	Yes	Socialization regarding the planned development of the tenant area affected
18	Achyani Maliki	Rent land Booth Shop Vania	1/4/2026	1/12/2026	Yes	Yes	Socialization related plan affected tenant areas
19	PT. Fresh Orange Eternal	Rent Land Vending Squeeze Machine	5/3/2025	3/4/2026	Yes	Yes	Socialization related plan affected tenant areas
20	Hedi Permanent Ahya	rent land Booth Hasanah Kebab	June 20, 2025	June 19, 2026	Yes	Yes	Socialization related plan affected tenant areas

No	Party Second	Type Of Tenant	Rent Period		Affected Development JKN Tower (Yes No)	Separated Contract (Yes No)	Action Carry on (E.g. Socialization, Relocation: Where, start When, Agreement Addition)
21	Yulfa Rizki Amita	rent land Booth SummerFling	4/8/2025	3/8/2026	Yes	Yes	Socialization related plan affected tenant areas
22	PT. Fluent Wiguna Prosperous	Rent Land Mini Market Lawson	Start Operational (Plan 1	2 years from start operational	Yes	No	Relocation on ex Canteen Dharma Woman
23	PT. Era Application Nusa	Rent land Pukis City New	10/20/2025	10/19/2026	Yes	Yes	Socialization related plan affected tenant areas
24	PT. Bank Rakyat Indonesia	ATM in IRJ	1/8/2025	1/12/2026	Yes	Yes	Socialization related plan affected tenant areas

Annex I — Asbestos Management Plan RSFP

1. INTRODUCTION

1.1. Background

RSUP Fatmawati Jakarta is a Class A General Hospital, Teaching Hospital and National Referral Centre located at Jl. RS Fatmawati Raya No. 4, Kelurahan Cilandak Barat, Kecamatan Cilandak, South Jakarta, DKI Jakarta. As part of the TRUST Project financed by the Asian Infrastructure Investment Bank (AIIB), Fatmawati Hospital will construct an Integrated Hospital Service Building (Building A and Building B). This requires demolition of several existing non-heritage structures:

- Azalea Building (3,035 m^2)
- Anyelir Building / Outpatient Installation (IRJ) (2,292 m^2)
- Griya Husada Building
- Genset Station 2 Wijaya Kusuma (412.5 m^2)
- Potentially Amarilis Building (280 m^2) and Pharmacy Building (800 m^2), subject to final DED confirmation.

These buildings were constructed between the 1950s and 1990s, when asbestos-containing materials (ACM) were commonly used in Indonesia. This Asbestos Management Plan (AMP) ensures that asbestos-related risks are managed safely, in accordance with national regulations and AIIB/IFC international standards.

1.2. Purpose and Scope

The objectives of this AMP are:

- To establish mandatory procedures for identification, handling, removal, and disposal of ACM.
- To protect workers, patients (including oncology, transplant and immunocompromised patients), clinical staff and surrounding communities from asbestos fibre exposure.
- To ensure compliance with Indonesian hazardous waste (B3) regulations and AIIB ESS1 requirements.

The AMP applies to all project phases where existing structures may be disturbed:

- Pre-demolition: survey, sampling, laboratory confirmation, risk assessment.
- Demolition / construction preparation: ACM removal by a licensed abatement contractor before any structural works commence.
- Ongoing construction: monitoring, chance-find procedures, and waste management.

1.3. Limitations of this Document (Precautionary Approach)

IMPORTANT NOTICE: A comprehensive building-by-building asbestos survey could not be completed during the ESIA study period (February–May 2026) due to time and specialist capacity constraints. Accordingly, this AMP is prepared on a precautionary basis. It defines the mandatory process for a confirmed ACM survey, risk assessment, removal and disposal activities that must be carried out BEFORE any demolition begins. The Phase 2 confirmed survey is a mandatory pre-condition to demolition.

2. PROJECT CONTEXT AND ACM RISK BASIS

2.1 Structures Subject to Demolition

Structure	Function	Floor Area (m²)	ACM Risk Basis
Azalea Building	Inpatient / care	3,035	1980s–1990s construction; potential ACM in ceiling tiles, pipe insulation, wall panels
Anyelir / IRJ Building	Outpatient services	2,292	Pre-1990; ceiling tiles and partition boards likely contain ACM
Griya Husada Building	Medical support	–	Moderate probability – requires survey
Genset Station 2 Wijaya Kusuma	Backup generator	412.5	Pipe lagging and acoustic panels may contain friable ACM
Amarilis Building (potential)	Support	280	Low–moderate – to be confirmed by survey
Pharmacy Building (potential)	Pharmacy	800	Low–moderate

2.2 ESIA Fieldwork Observations

Visual inspection during ESIA baseline fieldwork (May 2026) identified the following asbestos-relevant observations. These are indicative only – laboratory analysis is required for confirmation.

Obs. No.	Location / Element Observed	Nature of Observation	Action Required
A-01	Corrugated roofing – older Fatmawati buildings	Grey fibre-cement sheets, weathered, consistent with pre-2000 chrysotile roofing	Phase 2 sampling mandatory before any roof works or demolition
A-02	Ceiling tiles – Azalea Building corridors	White flat-surface ceiling tiles typical of 1980s-1990s Indonesian hospital construction	Phase 2 sampling before any ceiling disturbance
A-03	Pipe lagging – genset room and utility spaces	White/grey lagging around pipes, consistent with chrysotile or amosite insulation	High priority; mandatory Phase 2 sampling

Obs. No.	Location / Element Observed	Nature of Observation	Action Required
A-04	Flat fibre-cement panels – partition walls, equipment housings	Grey-white flat sheet material used as wall cladding in service corridors	Phase 2 sampling where within demolition footprint
A-05	Main old building (1954) – roof and ceiling	Not inspected in detail; heritage status not confirmed but building age >70 years	Precautionary sampling of accessible elements adjacent to demolition works; vibration monitoring protocol

2.3 Why a Full Survey Was Not Completed During ESIA

A comprehensive, building-by-building asbestos material survey – requiring access agreements, dedicated sampling equipment, accredited laboratory analysis, and a licensed occupational hygienist – could not be completed within the time and specialist capacity available during the ESIA study period (February–May 2026). This two-stage approach (framework-setting at ESIA stage, mandatory confirmed survey before physical works) is consistent with AIIB Environmental and Social Policy and good international industry practice. This AMP fulfils stage (1); stage (2) is a contractual pre-condition to demolition.

3. REGULATORY AND STANDARDS FRAMEWORK

3.1 Indonesian National Regulations

Regulation	Relevance to this AMP
Permen No. 3/1985 (Ministry of Manpower)	Bans use and import of blue asbestos (crocidolite). Any crocidolite identified must be treated as Priority ACM with immediate removal.
Law No. 32/2009 on Environmental Protection and Management (UUPPLH)	Parent law governing hazardous substance management, including asbestos as a B3 material.
PP No. 22/2021 (replacing PP 101/2014)	Governing regulation for B3 waste handling, storage, transport, manifest system, and disposal. ACM waste is B3 Category 1 (toxic, carcinogenic).
PermenLHK No. 6/2021 & 9/2024	Updated procedural guidance for B3 waste management, including licensing of transporters and disposal facilities.
Permen PUPR No. 18/2021 (Building Demolition Standards)	Requires a pre-demolition review stage (kajian pembongkaran). This AMP and the Phase 2 ACM Survey Report constitute the hazardous-materials component of that review.

Regulation	Relevance to this AMP
Permenaker No. 5/2018 (OHS in the Workplace)	Establishes OHS requirements for hazardous substance handling: PPE, training, medical surveillance, air monitoring.

3.2 AIIB and International Standards

Standard / Guideline	Relevance
AIIB ESP and ESS1	Requires identification and management of asbestos; mandates GIIP for hazardous materials; contractor competence verification; disclosure and monitoring.
IFC Performance Standard 1 (PS1)	Supports two-stage approach: framework at ESIA, confirmed survey and specialist management before physical works.
IFC/World Bank EHS Guidelines – Construction and Demolition	Specifies GIIP: mandatory survey before demolition; wet removal; HEPA-filtered negative-pressure enclosures; air monitoring; double-bag and label disposal; independent clearance air test.
WHO Chrysotile Asbestos (2014)	All forms of asbestos are carcinogenic. Recommends elimination as the preferred approach; where not immediately possible, adopts a precautionary management framework.
IARC Monograph (2018)	Classifies all asbestos types as Group 1 carcinogens (mesothelioma, lung, larynx, ovarian cancers).
ISO 16000-7	Technical standard for airborne asbestos fibre monitoring methodology, applicable to clearance testing.
WHO Air Quality Guidelines (2000)	No safe level of asbestos fibre exposure exists; reduce to ALARP. Action levels set at most protective end of GIIP range.

Indonesia has not banned chrysotile asbestos in building products. Any chrysotile identified in existing Fatmawati buildings will be managed under the full ACM removal protocol in this AMP – not treated as acceptable for in-place management – because WHO/IARC carcinogenicity is unambiguous and demolition makes in-place management structurally impossible.

4. PHASE 1 – DESKTOP REVIEW AND PRESUMPTIVE RISK ASSESSMENT

Phase 1 constitutes the current state of knowledge of ACM risk at Fatmawati Hospital, drawing on the ESIA fieldwork observations (Section 2.2), building records, and standard presumptive criteria. A presumptive approach treats materials as ACM if they are of a type, vintage and appearance that would, under GIIP, be treated as containing asbestos until confirmed otherwise by laboratory analysis.

Presumptive ACM Risk Register – Fatmawati Project

Element / Location	Material Type (Presumptive)	Construction Vintage	Condition (Visual)	Presumptive ACM Class	Priority
Azalea Building – ceiling tiles	Flat ACM ceiling tile	1980s–1990s	Generally intact	Non-friable (Class B)	P1 – Critical
Anyelir/IRJ Building – ceiling & partitions	Flat ACM tile + fibre-cement sheet	1970s–1980s	Intact	Non-friable (Class B)	P1 – Critical
Genset Station 2 – pipe lagging	Chrysotile / amosite insulation	Pre-1990	Damaged, friable	Friable (Class A)	P1 – Critical
Griya Husada – corrugated roofing	Fibre-cement corrugated	Pre-2000	Weathered	Non-friable (Class B)	P2 – High
Pharmacy Building (potential) – flat panels	Flat fibre-cement sheet	1990s	Intact	Non-friable (Class B)	P2 – High
Main old building (1954) – roof/ceiling	TBC – not sampled	Colonial + later modifications	Not fully inspected	Presumptive (Class B)	P2 – High

- **Friable (Class A):** material that can be crumbled by hand pressure; highest airborne fibre risk.
- **Non-friable (Class B):** bonded material that releases fibres when cut, drilled or broken.
- **Priority P1 (Critical):** must be sampled and removed before any demolition of the affected structure.
- **Priority P2 (High):** must be sampled before any works that could disturb the element.

5. PHASE 2 – CONFIRMED ACM SURVEY (PRE-DEMOLITION MANDATORY)

MANDATORY PRE-CONDITION

The Phase 2 Confirmed ACM Survey is a mandatory pre-condition to demolition. No demolition permit will be requested, and no structural demolition works will commence, until the Phase 2 survey report has been received, reviewed by the ESIA safeguards team, and the ACM removal works specified in Phase 3 have been completed and cleared by an independent air test.

This requirement follows directly from the findings of the preliminary asbestos screening already carried out at RSUP in June 2026. That screening collected three samples — from the **Azalea Building, the Pharmacy Building, and Genset Station 2 (Wijaya Kusuma)** respectively — and analyzed them by

Scanning Electron Microscopy (SEM), SEM-EDS/elemental mapping, and X-Ray Diffraction (XRD). All three were assessed as fibrous material with a complex silicate-bearing mineral composition and recommended for treatment as suspect Asbestos Containing Material (suspect ACM). This screening methodology adopted ISO 22262-1 (PLM/dispersion staining) and NIOSH Method 7402 (TEM) as the applicable confirmatory standards. Since these screening results suspected positive asbestos, the status cannot be definitively established without this phase-matched confirmatory analysis.

5.1 Survey Scope and Methodology

Scope: All structures within the demolition footprint (Azalea, Anyelir/IRJ, Griya Husada, Genset Station 2, and potentially Amarilis and Pharmacy buildings), plus a precautionary sample of structures adjacent to demolition works (including the main 1954 building). This scope supersedes — rather than merely supplements — the three samples collected under the June 2026 screening. Those samples were recovered as loose fragments from demolition-area debris rather than extracted in situ from an identified, still-installed building element (e.g. a ceiling tile in place, or pipe lagging still on a pipe run), which is a methodological gap the Phase 2 surveyor should treat as requiring fresh, element-specific re-sampling at Azalea, the Pharmacy Building, and Genset Station 2 — not a re-analysis of the original three samples. Anyelir/IRJ and Griya Husada have not been sampled at all under the June 2026 Audit and require a full first-time walkover and sampling program; Amarilis's inclusion in the demolition footprint should be confirmed against the current Detailed Engineering Design before it is scoped in or out.

Surveyor: A qualified, independent asbestos occupational hygienist with relevant laboratory accreditation.

Three-stage approach:

1. Building walk-over and material identification – systematic room-by-room inspection, recording location, material type, approximate area/quantity, condition (friable vs. non-friable).
2. Sampling – wet-sampling techniques to suppress fiber release. Minimum sample frequencies: 3 samples per material type per building (good condition); 5 samples per type (damaged or friable). PPE: P3 respirator, disposable Tyvek coveralls.
3. Laboratory analysis – by Polarised Light Microscopy (PLM) or Transmission Electron Microscopy (TEM) at a KNAPPP-accredited laboratory — i.e. the ISO 22262-1 / NIOSH Method 7402 standards. Results expressed as fiber type and percentage by weight.

5.2 Survey Report Requirements

The Phase 2 Survey Report must include at a minimum:

- **Annotated floor-plan / photographic register:** an annotated floor-plan and/or photographic register of all ACM locations within the survey scope.
- A confirmed ACM inventory table (template below) for each affected structure.
- Laboratory analysis certificates for all samples.
- Classification of each confirmed ACM element as Friable (Class A) or Non-Friable (Class B).
- A condition assessment and deterioration risk rating for each element.
- A quantitative estimate of ACM volume and weight for each building (required for removal cost estimation and waste manifest planning).
- A recommended abatement methodology for each element.

- A signed declaration from the qualified surveyor.

Template – Confirmed ACM Inventory Table (to be completed from Phase 2 Survey)

No	Building / Zone	Element / Location	Material (confirmed)	ACM Type	Preliminary Screening Reference (June 2026 Audit)	Abatement method
1	Azalea Building	Ceiling tiles – all floors	[Lab result]	Non-friable B	Sample 1 (20 June 2026): fibrous morphology; C/O/Mg/Al/Si/Ca detected; suspect ACM (SEM/XRD only — not confirmed)	Controlled removal; whole-tile removal
2	Anyelir / IRJ	Ceiling & partitions	[Lab result]	Non-friable B	Not sampled under the June 2026 Audit	Grid-down whole-tile; sheet removal
3	Genset Station 2	Pipe lagging – genset room	[Lab result]	Friable A	Sample 3 (19 June 2026): fibrous morphology; C/O/Mg/Al/Si/Ca detected; suspect ACM — highest priority given Friable (Class A) status	Wet removal; HEPA enclosure
4	Griya Husada	Corrugated roof sheets	[Lab result]	Non-friable B	Not sampled under the June 2026 Audit	Whole-sheet removal
5	Pharmacy Building	[Element TBC by walkover]	[Lab result]	[TBC]	Sample 2 (19 June 2026): fibrous morphology; C/O/Na/Mg/Al/Si/Ca detected; suspect ACM (SEM/XRD only — not confirmed)	[TBC]

5.3 Timeline and Responsibilities

Step	Activity	Responsible Party	Target Timing
1	Procurement of qualified asbestos occupational hygienist / licensed survey firm	PIU / Fatmawati Hospital	Within 30 days of ESIA approval (Q3 2026)
2	Access agreement and building preparation	Fatmawati Facility Management	Concurrent with procurement
3	Building walk-over and bulk sample collection	Licensed Survey Firm	Within 60 days of procurement (Q4 2026)
4	Laboratory analysis – PLM/TEM	Accredited laboratory	Within 21 days of sample receipt
5	Survey report preparation and PIU review	Survey Firm → PIU	Within 14 days of lab results
6	Confirmed ACM inventory and abatement plan submitted to AIIB	PIU	Before demolition commencement
7	Demolition commence – only after Steps 1-6 complete AND Phase 3 removal clearance issued	Main Contractor	Not before Q2 2027

5.3 Timeline and Responsibilities

Step	Activity	Responsible Party	Target Timing
1	Procurement of qualified asbestos occupational hygienist / licensed survey firm	PIU / Fatmawati Hospital	Within 30 days of ESIA approval (Q3 2026)
2	Access agreement and building preparation	Fatmawati Facility Management	Concurrent with procurement
3	Building walk-over and bulk sample collection	Licensed Survey Firm	Within 60 days of procurement (Q4 2026)
4	Laboratory analysis – PLM/TEM	Accredited laboratory	Within 21 days of sample receipt
5	Survey report preparation and PIU review	Survey Firm → PIU	Within 14 days of lab results
6	Confirmed ACM inventory and abatement plan submitted to AIIB	PIU	Before demolition commencement
7	Demolition commence – only after Steps 1-6 complete AND Phase 3 removal clearance issued	Main Contractor	Not before Q2 2027

6. PHASE 3 – ACM REMOVAL AND ABATEMENT

6.1 Contractor Qualification Requirements

All ACM removal works must be carried out by a licensed asbestos abatement contractor. Qualification requirements:

- Licensed under Indonesian B3 waste handling regulations (PP 22/2021 and PermenLHK 9/2024); current licence to be verified by PIU.
- Demonstrated prior experience in ACM removal from hospital or institutional buildings (minimum three comparable projects in the preceding five years).
- Qualified occupational hygienist supervisor on-site at all times during removal works.
- Current worker medical surveillance records (pre-employment chest X-ray, lung function test, annual review) for all workers engaged in ACM handling.
- Valid third-party liability insurance covering asbestos removal operations.

6.2 General Removal Principles (Avoid → Minimise → Contain → Dispose)

- **Avoid:** If a suspected ACM element is confirmed NOT to contain asbestos (by Phase 2 lab analysis), no special precautions are required beyond normal demolition controls.
- **Minimise fibre release:** Always use wet-removal techniques (misting with amended water – water with added surfactant at 0.5-1% concentration). **Never** use dry abrasive cutting, grinding, or high-pressure air.

- **Contain:** Establish HEPA-filtered negative-pressure enclosures (NPE) for all **Friable (Class A)** ACM removal. For **Non-Friable (Class B)** ACM, use shadow-vacuum tools and localised sheeting.
- **Dispose:** Double-bag, label, manifest, and transport to a licensed B3 disposal facility under PP 22/2021 waste manifest procedures.

6.3 Procedure for Friable ACM Removal (Class A)

Stage	Action	Technical Requirements
1	Pre-removal planning	Written Method Statement and Risk Assessment submitted to Fatmawati K3 Officer at least 5 working days before works; approved in writing before commencement.
2	Isolation and access control	Establish exclusion zone with hard barriers and warning tape; post asbestos hazard signage (B3 asbestos warning) in Bahasa Indonesia and English; register all entrants.
3	Negative Pressure Enclosure (NPE)	Erect plastic sheet enclosure (min. 0.2 mm polythene); install negative pressure unit with HEPA filter (min. 500 Pa below ambient); seal all penetrations; smoke-test enclosure integrity before works begin.
4	PPE – entry	All workers entering the NPE must wear: (a) P3 half-mask respirator (EN 143) or PAPR; (b) disposable Tyvek-style coveralls with hood and boot covers; (c) nitrile inner gloves + gauntlet outer gloves; (d) sealed goggles. No facial hair within respirator seal area.
5	Wet removal	Thoroughly mist the ACM with amended water before and during removal; keep material wet throughout; remove whole pieces where possible; minimise breakage.
6	Decontamination unit at enclosure exit	Mandatory three-stage DCU: (a) dirty changing area – remove outer PPE and bag; (b) shower (minimum 3 minutes); (c) clean area – fresh clothing. No ACM fibre shall cross the clean/dirty boundary.
7	Decontamination of enclosure surfaces	After removal, HEPA vacuum all enclosure surfaces; wet-wipe all hard surfaces; inspect under UV light if available; repeat until no visible ACM debris.
8	Independent clearance air test	Before NPE dismantling, an independent occupational hygienist (not the abatement contractor) must collect air samples within the enclosure using TEM; clearance criterion: **< 0.01 fibres/mL**. Works must NOT resume if clearance is not achieved – re-clean and re-test.

Stage	Action	Technical Requirements
9	NPE dismantling	After clearance achieved, progressively dismantle and bag all enclosure materials as ACM waste; HEPA vacuum surrounding area.

6.4 Procedure for Non-Friable ACM Removal (Class B)

- **Work area:** Delimit with barrier tape and hazard signage; no NPE required for whole-sheet/whole-tile removal from intact material. If cutting is unavoidable, a local mini-enclosure with shadow-vacuum tool is mandatory.
- **PPE:** P2 half-mask respirator; disposable coveralls; gloves; safety goggles.
- **Removal:** Remove whole sheets or tiles intact; do not break unless unavoidable; mist the element immediately before any break. **No** angle grinders, circular saws, or high-speed rotary tools.
- **Shadow vacuum:** Use a HEPA-equipped shadow vacuum attached at the cutting/drilling point if breakage is unavoidable.
- **Air monitoring:** Personal air sampling for all workers and area monitoring at the site boundary during removal; results reviewed by occupational hygienist.
- **Clearance:** Visual inspection by occupational hygienist; personal air sampling results reviewed before area returned to general use.

6.5 PPE Requirements Summary

PPE Item	Friable ACM – Class A (Mandatory)	Non-Friable ACM – Class B (Mandatory)
Respiratory protection	P3 half-mask or PAPR (EN 143); fit-tested before use	P2 half-mask respirator (EN 143); fit-tested
Coveralls	Disposable Tyvek-type; full hood; boot covers; single use	Disposable Tyvek-type; hood recommended; single use
Gloves	Nitrile inner + gauntlet outer	Nitrile gloves
Eye protection	Sealed goggles (no vents)	Safety goggles
Decontamination	Three-stage DCU mandatory	Wet-wipe decontamination; shower available
Medical surveillance	Pre-employment chest X-ray; lung function test; annual review	Pre-employment chest X-ray; lung function test; annual review
Training	Asbestos awareness (min. 8 hours); specific to licensed abatement work	Asbestos awareness (min. 4 hours)

7. AIR MONITORING PROGRAMME

Airborne asbestos fibre monitoring is required at three levels: personal monitoring of workers, area monitoring at site boundary, and clearance monitoring after removal. Monitoring must be conducted by an **independent occupational hygienist** (not the abatement contractor or site contractor).

Monitoring Type	Location	Frequency	Method	Action Level / Criterion
Personal (worker)	Worker's breathing zone (lapel)	Throughout every shift of ACM removal	PCM (NIOSH 7400) or TEM	Action level: 0.1 f/mL (PCM); investigate immediately; stop work if confirmed >0.1 f/mL by TEM
Area – within enclosure	Inside NPE	Continuous during Class A removal; grab samples min. 2 per shift	PCM real-time	Trigger: 1.0 f/mL PCM → halt works; re-inspect enclosure integrity
Area – site boundary	Perimeter of demolition zone	Once per day during ACM removal	PCM	Alert: 0.01 f/mL – investigate; Action: 0.05 f/mL – halt and investigate
Area – patient/clinical zones	Nearest occupied ward or clinical space	Once per day during any nearby demolition	PCM	Alert: 0.01 f/mL – halt nearby works immediately and notify Fatmawati K3/IKLK3
Clearance – post removal	Inside enclosure, after decontamination, before NPE removal	Once per removal event; repeat if not cleared	TEM (ISO 16000-7)	Clearance criterion: < 0.01 f/mL TEM – no works to resume before clearance

PCM = Phase Contrast Microscopy; TEM = Transmission Electron Microscopy; f/mL = fibres per millilitre of air.

8. ACM WASTE PACKAGING, LABELLING, TRANSPORT AND DISPOSAL

All confirmed or suspected ACM waste must be treated as **B3 Category 1 hazardous waste** under PP 22/2021 and PermenLHK 9/2024.

8.1 Packaging

- **Double-bag** all ACM waste in heavy-duty polyethylene bags (min. 0.2 mm thickness); seal securely with duct tape; wipe the outside of the inner bag with a damp cloth before insertion into the outer bag.
- Large or rigid ACM pieces (e.g., whole corrugated sheets) must be wrapped in two layers of heavy-duty polythene sheeting and sealed. Do not break large pieces to fit into bags.
- No bag shall exceed 25 kg; heavy rigid pieces wrapped and labelled individually.

- All packaged ACM waste must be stored in a dedicated, clearly labelled, **locked B3 temporary storage area (TPS Limbah B3)** within the Fatmawati complex – physically separate from other B3 waste streams – pending licensed transport.

8.2 Labelling

Each package must be labelled (in Bahasa Indonesia and English) with:

- The words: BERBAHAYA – MENGANDUNG ASBES / HAZARDOUS – CONTAINS ASBESTOS
- The B3 hazard symbol (skull/crossbones and appropriate GHS hazard pictogram).
- Building and location of origin.
- Date of packaging.
- Name of the abatement contractor.
- Approximate mass (kg).

8.3 Transport

- Transport must be by a **licensed B3 transporter** with current licence under PP 22/2021 and PermenLHK 9/2024.
- A **B3 waste manifest** (dokumen limbah B3) must be completed for every load, signed by the generator (abatement contractor/PIU), transporter, and receiving facility.
- ACM waste must be transported in a sealed, marked vehicle – not mixed with other waste streams.
- All original manifest documents must be retained by the PIU for a minimum of **five years** and made available to AIIB on request.

8.4 Disposal

- ACM waste must be disposed of at a **licensed B3 landfill facility** that is authorised to receive asbestos waste.
- The existing Fatmawati B3 disposal contractors (PT PPLI and PT WPLI) must confirm in writing that their disposal facilities are authorised to receive ACM waste before any ACM shipments are made. If not, an alternative licensed facility must be identified.
- Disposal confirmation (certificate of disposal / sertifikat pengolahan limbah B3) must be returned to the PIU and filed with the waste manifest.

9. ASBESTOS CHANCE FIND PROCEDURE

Despite the mandatory pre-demolition Phase 2 survey, construction works may uncover ACM that was not identified (e.g., within concealed voids, under floor coverings, behind cladding, or in buried pipe runs). The following Chance Find Procedure must be implemented from the first day of construction.

Step	Required Action	Responsible Party	Timeframe
1	**STOP WORK** immediately in the area where suspected ACM is encountered; cordon off minimum 5-metre radius; do not disturb the material further.	Any worker / site foreman	Immediately upon discovery

Step	Required Action	Responsible Party	Timeframe
2	Notify the Site OHS Officer (Petugas K3); inform all workers to evacuate and remove outer clothing if material disturbed.	Site OHS Officer	Within 15 minutes of discovery
3	Site OHS Officer notifies Main Contractor's OHS Manager.	Site OHS Officer → Contractor OHS Manager	Within 1 hour
4	Contractor OHS Manager notifies PIU and arranges for licensed occupational hygienist to attend site for visual assessment and bulk sampling.	Contractor OHS Manager → PIU	Within 4 hours
5	Occupational hygienist conducts visual assessment; collects bulk sample; submits to accredited laboratory for PLM/TEM analysis.	Licensed occupational hygienist	Within 24 hours of notification
6	Laboratory results received; hygienist issues written ACM confirmation or clearance.	Laboratory + hygienist	Within 5 working days
7a (confirmed ACM)	Issue a Chance Find ACM Removal Order; procure licensed abatement contractor; conduct Class A or B removal before works resume.	PIU + licensed abatement contractor	Before any works resume in area
7b (no ACM)	Written clearance issued by hygienist; works in the area may resume.	Hygienist → PIU	Upon receipt of clearance
8	Record the chance find in monthly ESMP monitoring report; notify AIIB in next quarterly E&S report.	/ PIU	Monthly / quarterly reporting cycle

HOSPITAL CONTEXT – SPECIAL REQUIREMENT

Because Fatmawati Hospital remains fully operational throughout construction, any chance find of ACM in proximity to occupied clinical areas (ward, ICU, outpatient, laboratory, Emergency Department) must trigger immediate notification to the Fatmawati Clinical Director and Komite K3RS. The stop-work cordon must extend to any adjacent occupied space, and air monitoring (PCM, rapid turnaround) must be initiated at the clinical zone boundary within 2 hours of discovery.

10. ROLES AND RESPONSIBILITIES

Party	ACM Management Responsibilities
Project Implementation Unit (PIU) – Fatmawati / Kemenkes	Overall accountability for AMP compliance; procurement of licensed Phase 2 survey firm and licensed abatement contractor; review and approval of Phase 2 Survey Report and Abatement Plan; authorisation of demolition works; AIIB reporting; retention of all manifests and certificates.
Environmental and Social Safeguards Consultant	Review and quality assurance of Phase 2 Survey Report; independent verification of Phase 3 abatement contractor qualifications; coordination of independent air monitoring; review of air monitoring results and clearance certificates; monthly ESMP monitoring reporting; inclusion of ACM events in quarterly AIIB E&S reports.
Fatmawati K3 / IKLK3 Officer	Asbestos awareness training for Fatmawati staff; notification gateway for chance finds within the hospital complex; interface between construction OHS programme and hospital Komite K3RS; review of medical surveillance records; participation in stop-work decisions.
Fatmawati Sanitation / Environmental Health Unit (Kesling)	Management of TPS Limbah B3 storage area for ACM waste; coordination of licensed B3 transporter dispatch; reconciliation of B3 manifest records; SiLB3 quarterly reporting to KLHK.
Main Contractor	Induction of all workers in asbestos awareness (minimum 1 hour; Bahasa Indonesia); immediate implementation of stop-work on ACM chance finds; provision of PPE and decontamination facilities; coordination of licensed abatement contractor; maintenance of site exclusion zones and signage.
Licensed Abatement Contractor	All ACM removal activities per Sections 6-8; qualified occupational hygienist supervision at all times during works; worker medical surveillance; PPE provision; decontamination facilities; waste packaging and labelling; coordination of transport.
Independent Occupational Hygienist	Conduct Phase 2 sampling (or review Phase 2 report if survey contracted separately); conduct personal and area air monitoring during removal; issue clearance air test certificates; conduct chance find assessments.
AIIB (Lender)	Review Phase 2 Survey Report and Abatement Plan as part of Environmental and Social supervision; receive quarterly E&S reporting including ACM status; right of inspection of ACM waste manifest records.

11. TRAINING AND AWARENESS

Asbestos awareness training is mandatory for all parties who may come into contact with ACM or work near demolition/ACM removal activities.

Target Group	Training Content	Duration (min.)	Timing
All construction site workers (including labourers)	What is asbestos; where it may be found at Fatmawati; health risks; what to do if suspect ACM (stop work, notify); PPE basics; emergency contacts	1 hour (Bahasa Indonesia)	Site induction – before first day on site
Site foremen and supervisors	All of above, plus: how to recognise ACM visually; how to implement stop-work and cordon; Chance Find Procedure; documentation requirements	3 hours	Before construction mobilisation
Licensed abatement contractor workers	Full occupational hygiene training for asbestos removal; PPE donning/doffing; enclosure setup; decontamination; emergency procedures	8 hours (minimum)	Before any removal works
Fatmawati K3 / IKLK3 staff and K3RS members	Asbestos health and regulatory requirements; AMP procedures; monitoring interpretation; hospital-specific notification pathways	4 hours	Before construction mobilisation
Fatmawati clinical and facility staff (all buildings adjacent to works)	Asbestos awareness; when to report concerns; what to do if dust/debris suspected; who to contact	30 minutes	Quarterly during construction; refresher after any chance find event

All training must be delivered in Bahasa Indonesia and documented with sign-in sheets. Training records are retained by the PIU and made available to AIIB on request.

12. MONITORING AND REPORTING

Monitoring / Reporting Item	Responsible Party	Frequency	Reporting Destination
Phase 2 Survey Report (submitted before demolition)	PIU	One-time, pre-demolition	PIU; AIIB (pre-demolition condition)
Abatement Plan (submitted before removal works)	Licensed abatement contractor → PIU → AIIB	One-time per structure, pre-removal	PIU; AIIB
Clearance air test certificate (per removal event)	Independent occupational hygienist	Per removal event	PIU; included in monthly ESMP report

Personal and area air monitoring results	Independent occupational hygienist	During all removal activities (see Section 7)	PIU; retained for 5 years
ACM waste manifest reconciliation	Fatmawati Kesling / PIU	Per waste shipment; quarterly summary	SiLB3 (KLHK); PIU records; quarterly report
Chance find register	PIU	Continuously updated; reported monthly	Monthly ESMP report; AIIB quarterly report
Worker medical surveillance records	Licensed abatement contractor	Annual; pre- and post-employment	PIU; retained for minimum 40 years (latency of asbestos disease)
AMP compliance status	PIU	Monthly, in ESMP monitoring report	PIU; AIIB quarterly E&S report
Incident / non-conformance reporting	Main Contractor → PIU → AIIB	Within 24 hours of any air exceedance or stop-work event	PIU; AIIB – immediate notification for Major incidents

Note: Worker medical surveillance records must be retained for a minimum of **40 years** because of the long latency period of asbestos-related disease (mesothelioma onset typically 20–50 years post-exposure). The PIU must make provision for long-term custody of these records beyond the project period.

13. INDICATIVE BUDGET

The following indicative budget is based on the scope identified in this AMP. Actual costs will depend on the confirmed ACM inventory from the Phase 2 survey (volume and type of ACM, number of structures affected) and on prevailing contractor rates in Jakarta.

Phase	Activity	Indicative Cost (IDR)	Notes
1	Desktop review and presumptive risk register (completed during ESIA)	Included in ESIA contract	Cost already incurred
2	Phase 2 ACM Survey – walk-over, sampling, laboratory analysis, survey report (all structures within demolition footprint)	250 – 400 million	Excludes main old building if only precautionary sampling; laboratory costs dominant variable
3a	ACM abatement – Class A (Friable) removal – e.g., pipe lagging in genset room and any confirmed friable materials	300 – 600 million	Cost sensitive to volume; includes NPE enclosure, DCU, HEPA disposal
3b	ACM abatement – Class B (Non-friable) removal – fibre cement roofing, ceiling tiles, wall panels (Azalea, Anyelir, others)	200 – 500 million	Cost sensitive to area (m^2) of confirmed ACM
4	Independent air monitoring – personal, area, and clearance monitoring throughout removal works	120 – 250 million	Number of removal events determines cost
5	ACM waste packaging, transport, and licensed B3 disposal	150 – 300 million	Includes transport manifests, B3 disposal fees
6	Contingency for chance finds during construction (allowance)	150 – 300 million	Triggered only if chance finds occur
–	**Total (indicative)**	**1.17 – 2.35 billion IDR**	To be refined after Phase 2 survey results; included in project contingency budget

14. IMPLEMENTATION TIMELINE

Milestone	Activity	Target Date	Condition / Trigger
AMP approved	This AMP approved as annex to ESIA-ESMP	Q3 2026	AIIB ESIA review cycle
Phase 2 Survey – procurement	Licensed survey firm procured by PIU	Q3 2026 (within 30 days of ESIA approval)	ESIA approval
Phase 2 Survey – fieldwork	Building walkover and bulk sampling completed	Q4 2026	Survey firm mobilised; access agreements in place
Phase 2 Report – submitted	Survey report with confirmed ACM inventory submitted to PIU and AIIB	Q4 2026 – Q1 2027	Laboratory results received
Abatement Plan approved	Licensed abatement contractor's method statement and work plan approved by PIU	Before removal works	Phase 2 report received
Phase 3 ACM Removal – Azalea & Anyelir	All confirmed ACM removed and clearance certificate issued	Q1 2027 (before demolition)	Phase 2 confirmed; contractor mobilised
Phase 3 ACM Removal – Genset Station 2 & Griya Husada	All confirmed ACM removed and clearance certificate issued	Q2 2027 (before demolition)	Phase 2 confirmed; contractor mobilised
Demolition – Azalea, Anyelir, others	Structural demolition commences (controlled manual method)	Q2 2027 (earliest)	Phase 3 clearance certificates received
Chance Find monitoring – ongoing	Active chance find procedure throughout construction	Throughout construction (2027–2029)	Continuous from mobilisation
Final AMP close-out report	All ACM removed, disposed, manifests reconciled; report to AIIB	Q4 2029	Practical completion of Project

Annex J — Stakeholder Engagement for Cultural Heritage

Community and institutional stakeholder engagement constitutes an integral component of cultural heritage management at RSUP Fatmawati. The following engagement activities shall be undertaken:

Government and Regulatory Engagement

- Formal notification and coordination with Dinas Kebudayaan Provinsi DKI Jakarta regarding heritage structures within the project area;
- Submission of conservation plans and proposed treatment approaches to relevant heritage authorities for review and approval, as required by applicable regulations;
- Regular progress reporting to regulatory bodies on the implementation status of heritage management measures;
- Facilitation of regulatory site visits during construction phases when requested.

Community and Public Engagement

- Public disclosure of the Cultural Heritage Management Plan through appropriate channels (RSUP Fatmawati website, community information boards, public consultation sessions);
- Conduct at minimum one community consultation session specifically addressing cultural heritage management prior to construction commencement;
- Establishment of a heritage-specific grievance channel as part of the project-wide Grievance Mechanism, enabling community members and stakeholders to raise concerns about heritage impacts;
- Production of heritage interpretation materials (informational displays, historical timeline boards) for installation in public areas of the hospital, communicating the historical significance of RSUP Fatmawati to patients, visitors, and staff.

Academic and Heritage Specialist Engagement

- Outreach to relevant Indonesian academic institutions (architecture, history, cultural studies faculties) to facilitate research access to heritage documentation materials;
- Collaboration with the Indonesian Heritage Trust (Yayasan Warisan Indonesia) or equivalent organizations where applicable;
- Consideration of establishment of a Heritage Advisory Group comprising heritage professionals, historians, and community representatives to provide guidance during the development process.

Monitoring, Evaluation, and Reporting

A systematic monitoring program shall be established to verify the effectiveness of heritage management measures and ensure ongoing compliance with this CHMP.

Table K.1. Cultural Heritage Monitoring Framework

Monitoring Aspect	Performance Indicator	Method	Frequency	Responsible Party
Structural condition of heritage buildings	No cracks, settlement, or structural damage exceeding baseline	Visual inspection; crack gauge monitoring;	Monthly (construction); Semi-annual (operation)	Heritage Consultant / Structural Engineer

Monitoring Aspect	Performance Indicator	Method	Frequency	Responsible Party
		engineering assessment		
Construction vibration near heritage zones	Peak particle velocity within acceptable limits (≤5 mm/s for sensitive heritage structures)	Vibration monitoring instruments at heritage building perimeter	Continuous during heavy construction	Environmental Supervisor / Contractor
Documentation completeness	100% of identified heritage structures documented before construction	Document audit; photographic and drawing review	Prior to construction	Project Manager / Heritage Consultant
Chance find incidents	Zero unreported finds; all discoveries formally notified and managed per CFP protocol	Incident reporting system; daily site log review	Daily during excavation	Site Supervisor / Environmental Officer
Heritage conservation compliance	Zero unauthorized alterations to designated heritage structures	Periodic site inspection; review of construction change orders	Monthly	PMU / Heritage Coordinator
Stakeholder satisfaction	No unresolved heritage-related complaints from community or authorities	Grievance log review; stakeholder feedback survey	Quarterly	Community Liaison / ESIA Team

a. Reporting Requirements

The following reports shall be prepared and submitted in accordance with this CHMP:

- Pre-Construction Heritage Documentation Report: Submitted prior to construction commencement; includes completed Heritage Register, survey findings, and approved conservation strategy;
- Monthly Construction Phase Heritage Monitoring Reports: Prepared by the Environmental Supervisor; includes vibration data, visual inspection findings, any chance find events, and compliance status;
- Semi-Annual Heritage Condition Assessment Reports: Prepared by the Heritage Consultant; includes structural condition assessment of heritage buildings and progress of conservation works;
- Annual CHMP Performance Review Report: Prepared by the PMU; assesses overall effectiveness of the CHMP, identifies non-conformances, and recommends plan updates as necessary;

- Post-Construction Heritage Integration Report: Submitted upon project completion; documents the final heritage outcomes, including adaptive reuse achievements, interpretation measures implemented, and residual management requirements.

Institutional Roles and Responsibilities

Effective implementation of this CHMP requires clear delineation of roles and responsibilities across all project stakeholders. Table K.2 below defines the institutional responsibilities for cultural heritage management.

Table K.2 Institutional Roles and Responsibilities for Cultural Heritage Management

Institution / Role	Responsibilities	Coordination Mechanism
RSUP Fatmawati Management	Overall accountability; policy approval; resource allocation for heritage management; final decision-making on adaptive reuse	Internal governance; coordination meetings
Project Management Unit (PMU)	Day-to-day coordination of heritage management activities; reporting; contractor oversight; grievance management	Weekly project coordination meetings
Heritage / Conservation Consultant	Technical documentation; significance assessment; conservation planning; monitoring; chance find assessment support	Formal engagement contract; reporting to PMU
Main Contractor	Implementation of construction impact controls; chance find stop-work; staff heritage awareness training	Environmental Management Plan (EMP) compliance
BPCB / Dinas Kebudayaan DKI Jakarta	Regulatory oversight; approval of conservation plans; chance find assessment and determination; heritage registration verification	Formal notification; coordination meetings as required
Community / Public Stakeholders	Consultation participation; feedback provision; grievance submission	Public consultations; community liaison officer

Capacity Building and Training

To ensure the effective implementation of heritage management requirements, the following capacity building and training activities shall be carried out:

- Heritage awareness training for all site workers, including construction laborers, as part of site induction; training to cover the importance of cultural heritage, recognition of potential archaeological or heritage finds, and the Chance Find Procedure;
- Dedicated training for site supervisors and Environmental Health and Safety (EHS) officers on heritage monitoring protocols and reporting requirements;
- Briefings for project architects and engineers on the architectural integration guidelines applicable to heritage-sensitive zones;
- Orientation sessions for PMU staff on regulatory obligations under Law No. 11 of 2010 and IFC Performance Standard 8;

- Documentation of all training activities, including attendance records and training materials, to be maintained in the project EHS management system.

Budget and Resource Provision

RSUP Fatmawati shall allocate dedicated financial and human resources to support the implementation of this CHMP. Key budget provisions shall include:

- Engagement of a qualified Heritage and Conservation Consultant for the duration of the project design and construction phases;
- Provision for pre-construction heritage documentation surveys, including photogrammetric recording where applicable;
- Procurement and installation of vibration monitoring equipment adjacent to heritage structures;
- Allocation for physical protective measures, including heritage barrier installation and facade protection systems;
- Budget for stakeholder engagement activities, including public consultations and community disclosure materials;
- Provision for heritage interpretation installations as part of the hospital fit-out program;
- Contingency allocation for adaptive reuse design modifications required to integrate heritage structures;
- Budget for annual CHMP performance reviews and reporting.
- Specific budget figures shall be determined during detailed project planning and incorporated into the overall project Environmental and Social Management System (ESMS) budget.

Grievance Mechanism for Cultural Heritage Issues

A dedicated grievance pathway for cultural heritage concerns shall be established as a sub-component of the project-wide Grievance Mechanism. This mechanism shall:

- Be accessible to all community members, hospital staff, heritage specialists, and government representatives;
- Provide for receipt, tracking, and timely resolution of grievances related to heritage management;
- Guarantee confidentiality where requested by the complainant;
- Establish a response timeline of no more than 21 calendar days for initial acknowledgment and 45 calendar days for substantive resolution of heritage-related grievances;
- Document all received grievances and resolutions in a Heritage Grievance Register, to be reviewed quarterly by the PMU;
- Include an escalation pathway to relevant regulatory authorities where grievances cannot be resolved at the project level.

Review and Updating of the CHMP

This Cultural Heritage Management Plan shall be treated as a living document and shall be reviewed and updated under the following circumstances:

- At minimum annually, or more frequently if triggered by significant project changes;
- Upon any change to project scope, design, or construction methodology that may affect cultural heritage assets;
- Following the occurrence of a chance find event or unanticipated heritage impact;
- In response to recommendations from heritage monitoring reports, regulatory feedback, or stakeholder consultations;
- Upon issuance of revised national heritage regulations or updated IFC/World Bank Environmental and Social Standards applicable to the project.

All revisions to this CHMP shall be reviewed by the Heritage Consultant, approved by RSUP Fatmawati Management, and submitted to the relevant regulatory authority as required. Revision history and version control records shall be maintained by the PMU.

Annex K — Standard Operating Procedures (SOPs) on Health, Safety, Security, and Environment

As part of its commitment to maintaining a safe and healthy hospital environment, RSUP Fatmawati has established a series of Standard Operating Procedures (SOPs) that regulate occupational health and safety practices within the hospital. These procedures are applied as practical guidance to support day-to-day operations as well as emergency situations.

The SOPs are structured to manage operational risks related to hospital activities, including fire and disaster response, handling of hazardous materials, infection prevention, and occupational safety for medical and non-medical personnel. The implementation of these SOPs supports systematic risk control and strengthens hospital preparedness in protecting patients, staff, and visitors.

A. Management Policies, Safety, and Emergency Preparedness

1. Emergency Response Management Plan Decree
   (SK Rencana Manajemen Tanggap Darurat, 2022)
2. Risk Control Policy for Construction Activities Decree
   (SK Kebijakan Pengendalian Risiko pada Pembangunan HK 2326, 2022)
3. Occupational Health and Safety Policy for Office Activities Decree
   (SK Keselamatan dan Kesehatan Kerja di Perkantoran HK 1217, 2022)
4. Guidelines for Customer Complaints and Employee Service Ethics
   (SK Panduan Keluhan dan Komplain Pelanggan serta Etika Pegawai HK 7747, 2019)
5. Guidelines for Patient Protection from Physical Violence
   (SK Panduan Perlindungan Pasien dari Kekerasan Fisik HK 2729, 2022)
6. Hospital Safety Management Plan Decree
   (SK Rencana Manajemen Keselamatan di RSUP Fatmawati HK 3072, 2022)
7. Fire Safety Management Plan Decree
   (SK Rencana Manajemen Keselamatan Kebakaran HK 3073, 2022)

B. Emergency and Fire Response SOPs

8. Occupational Health and Safety SOP for Fire Emergency Response
   (SOP AP K3 – Tanggap Darurat Bencana Kebakaran, 2025)
9. Occupational Health and Safety SOP for Fire Emergency Response (Operational)
   (SOP AP K3 – Tanggap Darurat Bencana Kebakaran OT 8470, 2025)

C. Waste and Environmental Management SOPs

10. Standard Procedure for Wastewater Treatment System Management
    (SPO Pengelolaan Sistem Pengolahan Limbah Cair, 2022)
11. Standard Procedure for Solid Waste Management
    (SPO Penatalaksanaan Limbah Padat, 2022)
12. Standard Procedure for Recyclable Waste Processing at Temporary Storage Facility
    (SPO Pengolahan Limbah Daur Ulang di TPS, 2022)
13. Standard Procedure for Hazardous Waste (B3) Storage at Temporary Storage Facility
    (SPO Penyimpanan Limbah B3 di TPS, 2022)
14. Standard Procedure for Handover of Hazardous Waste to Licensed Third Parties
    (SPO Penyerahan Limbah B3 RSUP Fatmawati ke Pihak II, 2022)

15. Standard Procedure for Handover of Recyclable Waste to Third Parties
    (SPO Penyerahan Limbah Daur Ulang ke Pihak II, 2022)

D. Complaint Handling and Protection SOPs

16. Standard Procedure for Handling Customer Complaints
    (SPO Penanganan Keluhan dan Komplain Pelanggan HK 3067, 2022)
17. Hospital Occupational Safety and Environmental Health SOP for Infant Abduction Prevention
    (SPO IKKL3RS – Pencegahan Penculikan Bayi HK 1015, 2022)
18. Standard Procedure for Examination and Services for Victims of Violence
    (SPO Pemeriksaan dan Pelayanan Korban Kekerasan HK 1554, 2022)

E. Boiler and Medical Equipment Monitoring SOPs

19. Standard Procedure for Boiler Maintenance
    (SPO IPSRS – Pemeliharaan Boiler HK 2552, 2022)
20. Standard Procedure for Monitoring Medical Equipment Carried in Linen
    (SPO ISSB – Pemantauan Barang dan Alat Medik Terbawa di Linen HK 751, 2022)

F. Linen Management SOPs

21. SPO ISSB – Pemantauan Kerusakan Linen Setelah Dicuci HK 747 (2022)
    Standard Procedure for Monitoring Linen Damage After Washing
22. SPO ISSB – Pemantauan Pengiriman Linen Infeksius HK 748 (2022)
    Standard Procedure for Monitoring Delivery of Infectious Linen
23. SPO ISSB – Penanganan Linen Kotor di Ruang Rawat HK 756 (2022)
    Standard Procedure for Handling Soiled Linen in Patient Care Areas
24. SPO ISSB – Pendistribusian Linen Bersih ke Satker HK 739 (2022)
    Standard Procedure for Distribution of Clean Linen to Hospital Units
25. SPO ISSB – Pengiriman Linen Kotor ke Binatu HK 749 (2022)
    Standard Procedure for Transport of Soiled Linen to Laundry
26. SPO ISSB – Penjahitan Linen HK 750 (2022)
    Standard Procedure for Linen Sewing and Repair
27. SPO ISSB – Perapihan, Pelipatan, dan Pelipatan Linen Bersih HK 752 (2022)
    Standard Procedure for Sorting, Folding, and Arrangement of Clean Linen
28. SPO ISSB – Serah Terima Linen Bersih (Google Sheet) OT 1392 (2026)
    Standard Procedure for Handover of Clean Linen (Digital Recording)
29. SPO ISSB – Serah Terima Linen Kotor OT 1393 (2026)
    Standard Procedure for Handover of Soiled Linen
30. SPO ISSB – Stok Opname Linen HK 2839 (2022)
    Standard Procedure for Linen Inventory Stocktaking

Annex M — Livelihood Restoration Plan (LRP)

INTRODUCTION

The redevelopment of RSUP Fatmawati under Phase 1 of the TRUST Project requires demolition of the Azalea, Griya Husada, IRJ, Wijaya Kusuma, and Radiology buildings. This will temporarily displace the operating premises of 24 tenants — commercial entities, informal micro-businesses, institutional service points, and vending installations — with no impact on residential dwellings, as none exist on site. In line with AIIB Environmental and Social Standard 2 (ESS 2), this Livelihood Restoration Plan (LRP) sets out the number and profile of affected tenants, their entitlements, the consultation and grievance mechanisms in place, and the implementation timeframe.

1. NUMBER AND PROFILE OF AFFECTED TENANTS

A total of 24 tenants are affected: 6 individual/UMKM (micro-enterprise) operators, 13 corporate F&B/retail businesses, and 5 institutional/utility partners (**Table N.1**). An estimated 48 wage-earning workers are employed across these premises (baseline, June 2026).

Table N.1. List of Affected Tenants

Category	No. of Tenants	Typical Business Type	Baseline Monthly Turnover (reported)*	Employees at Site (reported)*
I – Individual/UMKM	6	Independent food stalls, photocopy service, small booths/kiosks	< IDR 10 million to IDR 10–50 million/month	Mostly 1–5 people; one solo operator
II – Corporate F&B/Retail	13	Mini markets, restaurants, bakeries, juice bar, pizza delivery counter, vending machines, cooperative store	IDR 10 million to > IDR 500 million/month (wide range; 2 entries not reported/TBC)	1 to >10 people
III – Institutional/Utility	5	ATM units (2), water booster pump, parking management, power equipment placement	Not applicable (non-commercial utility function)	Not applicable / TBC
Total	**24**	**—**		

2. ENTITLEMENT

Losses have been evaluated across distinct parameters to establish full eligibility baselines, including monthly turnover and economic losses for employees.

Structural Assets and Space Inventory	A total of 6 permanent commercial spaces and 6 semi-permanent/booth units within the IVPP zone have been inventoried. Affected floor areas range from compact 3 m² independent vendor booths to a major 113 m² corporate convenience store footprint. Because all permanent structures are situated on state-owned land under hospital administrative control, compensating for land equity is not applicable. Instead, compensation shifts to the loss of structural utility and business disruption.
Revenue and Business Income Loss	Unmitigated relocation presents an immediate threat of total income cessation. Based on the financial census, baseline net daily revenues range

from small-scale operators generating IDR 300,000 to high-volume commercial franchises averaging up to IDR 15,000,000.

Employment and Wage Disruption

Following the cut off date in June 2026, the project maps a risk of job loss for 48 wage-earning workers employed across these entities, particularly within independent food kiosks where personnel are highly dependent on continuous cash flow.

Baseline Turnover and Income Register

The socioeconomic survey conducted in June 2026 among affected tenants (see Table N.4) shows a tenant base composed of a small number of high-throughput, low-headcount corporate or franchise operations alongside a cluster of small, low-turnover individual operators.

Table N.2 Baseline Monthly Turnover and Employees at Site

No.	Cooperation Partner / Tenant Name	Tenant Category	Baseline Monthly Turnover (IDR)	Employees At Site	Designated Relocation Sites
1	PT. Midi Utama Indonesia	II – Corporate F&B/Retail	> IDR 500 million/month	2 people	Temporary New Space Cluster
2	PT. VM Indonesia	II – Corporate F&B/Retail	> IDR 500 million/month	2 people	New IVPP Hub Area
3	PT. Petra Global Utama	II – Corporate F&B/Retail	IDR 10–50 million/month	1–5 people	New IVPP Hub Area
4	PT. Tritama Selaras Makmur	II – Corporate F&B/Retail	IDR 51–150 million/month	6–10 people	New IVPP Hub Area
5	PT. Golden Dolbe	II – Corporate F&B/Retail	IDR 151–500 million/month	>10 people	New IVPP Hub Area
6	H. Eddy	I – Individual/UMKM	< IDR 10 million/month	1–5 people	Temporary New Space Cluster
7	CV. Sari Multi Boga	II – Corporate F&B/Retail	IDR 10–50 million/month	1–5 people	New IVPP Hub Area
8	PT. Sebastian Citra Indonesia	II – Corporate F&B/Retail	No response (question declined)	1–5 people	New IVPP Hub Area
9	CV. Secera Nusantara	II – Corporate F&B/Retail	IDR 10–50 million/month (rent basis: Don't Know)	1–5 people	Temporary New Space Cluster
10	PT. Sarimelati Kencana Tbk	II – Corporate F&B/Retail	< IDR 10 million/month	1 person (owner)	Temporary New Space Cluster
11	Fiki Yurianda	I – Individual/UMKM	IDR 10–50 million/month	1–5 people	New IVPP Hub Area
12	Nurul Hidayati	I – Individual/UMKM	< IDR 10 million/month	1–5 people	Bougenville Building, 1st Floor

No.	Cooperation Partner / Tenant Name	Tenant Category	Baseline Monthly Turnover (IDR)	Employees At Site	Designated Relocation Sites
13	PAM Jaya	III – Institutional/Utility	[tbc]	[tbc]	In-situ Infrastructure Alignment
14	PT. Bank Mandiri (Persero) Tbk	III – Institutional/Utility	[tbc]	[tbc]	Bougenville Building, 1st Floor
15	Koperasi Sejahtera	II – Corporate F&B/Retail	[tbc]	[tbc]	Bougenville Building, 1st Floor
16	PT. Centerpark Citra Corpora	III – Institutional/Utility	[tbc]	[tbc]	In-situ Parking Structural Shift
17	PT. Kilat Power Indonesia	III – Institutional/Utility	[tbc]	[tbc]	Bougenville Building, 1st Floor
18	Achyani Maliki	I – Individual/UMKM	< IDR 10 million/month	1–5 people	New IVPP Hub Area
19	PT. Segar Jeruk Abadi	II – Corporate F&B/Retail	[tbc]	[tbc]	New IVPP Hub Area
20	Hedi Permana Ahya	I – Individual/UMKM	IDR 10–50 million/month	1 person (owner)	New IVPP Hub Area
21	Yulfa Rizki Amita	I – Individual/UMKM	< IDR 10 million/month	1–5 people	Temporary New Space Cluster
22	PT. Lancar Wiguna Sejahtera	II – Corporate F&B/Retail	IDR 10–50 million/month	1–5 people	Ex Dharma Wanita Building Plot
23	PT. Era Aplikasi Nusa	II – Corporate F&B/Retail	[tbc]	[tbc]	New IVPP Hub Area
24	PT. Bank Rakyat Indonesia (BRI)	III – Institutional/Utility	[tbc]	[tbc]	Bougenville Building, 1st Floor

Table N.3 Entitlement Matrix

No.	Impact / Loss	Affected Party	Entitlement	Responsible Entity
1	Temporary loss of operating premises during Phase 1 construction	All 24 tenants (incl. 5 Category III utility/institutional partners)	Free physical relocation (dismantling, transport, reassembly); replacement space on a 1:1 floor-area basis or improved layout; zero-cost infrastructure fit-out (upgraded electrical, grease traps, subsidized potable water for first 3 months)	PMU / IPKH / Designated Contractor

No.	Impact / Loss	Affected Party	Entitlement	Responsible Entity
2	Business disruption and revenue loss during relocation	All 24 tenants	Rental fee waiver ("Rental Holiday") during initial relocation phase; rental stabilization cap for remainder of Phase 1 construction	PMU / BLU
3	Loss of customer visibility and foot traffic	All 24 tenants	Complex-wide directional signage; digital patient/visitor notifications; promotional support during transition	IPKH
4	Heightened vulnerability	6 Category I individual/UMKM operators	Priority layout positioning for visibility and consumer flow; targeted consultation and support	PMU / E&S Safeguard Consultants
5	Second relocation to the permanent Main Buildings	All 24 tenants, conditional on continuous operation and a compliant business line under the Interim Contract	Entitlements mirrored from the first relocation: zero-cost move, infrastructure fit-out, one-off transition disturbance allowance (applied a second time); repeat public consultation and GRM orientation ahead of the move	PMU / IPKH
6	Post-relocation lease/tenancy in the permanent Main Buildings	All 24 tenants, incl. 5 Category III partners	Pending PMU/Kemenkes decision among three options: (a) preferential continuation at baseline rate; (b) open competitive tender; (c) hybrid — one-off disturbance allowance plus rental stabilization cap for turnover-linked tenants (current PMU recommendation)	PMU / Kemenkes
7	Employment and wage disruption	48 workers employed across the 24 tenants	Continuity supported indirectly through Entitlements 1–3 above; tracked through monthly revenue and employment monitoring	PMU / K3RS

3. CONSULTATION AND FEEDBACK FROM TENANTS

RSUP Fatmawati has held structured Public Consultation (Konsultasi Publik) sessions with all 24 tenants, covering the Phase 1 technical master plan and demolition sequence, temporary site allocation, and GRM orientation. Tenant input has directly shaped the relocation plan: site layouts were adjusted to match individual electrical load and plumbing requirements, and the 6 Category I vulnerable operators were given priority, high-visibility positioning to protect consumer flow. Feedback collection will continue through GRM channels once the temporary hubs become operational (from April 2027).

Table N.4 List of Affected Tenants (full register)

Party Second	Type Of Tenant	Rent Period		Affected Development JKN Tower (Yes No)	Separated Contract (Yes No)	Action Carry on (E.g. Socialization, Relocation: Where, start When, Agreement Addition)
PT. Midi Main Indonesia	Mini Market Midi Fresh	11/3/2025	10/3/2026	Yes	Yes	Socialization related plan

Party Second	Type Of Tenant	Rent Period		Affected Development JKN Tower (Yes No)	Separated Contract (Yes No)	Action Carry on (E.g. Socialization, Relocation: Where, start When, Agreement Addition)
						affected tenant areas
PT. VM Indonesia	Vending Machine	5/3/2026	4/3/2026	Yes	Yes	Socialization related plan affected tenant areas
PT. Petra Global Main	Promise Soul	7/8/2023	6/8/2026	Yes	Yes	Socialization related plan affected tenant areas
PT. Tritama Selaras Makmur	Meatballs Poor Oasis	1/2/2025	1/12/2026	Yes	Yes	Socialization related plan affected tenant areas
PT. Golden Dolbe	MM Juice	23/7/2025	22/7/2026	Yes	Yes	Socialization related plan affected tenant areas
H. Eddy	Cuisine Padang Trio Authentic	1/5/2024	1/12/2026	Yes	Yes	Socialization related plan affected tenant areas
CV. Sari Multi Boga	Porridge Dairy Breakfast	8/3/2024	1/12/2026	Yes	Yes	Socialization related plan affected tenant areas
PT. Sebastian Citra Indonesia	Shop Bread O	1/4/2024	1/12/2026	Yes	Yes	Socialization related plan affected tenant areas
CV. Secera Nusantara	Shop Hi Cup	16/5/2024	1/12/2026	Yes	Yes	Socialization related plan affected tenant areas
PT. Sarimelati Kencana Tbk	Pizza Hut Delivery	June 20, 2025	June 19, 2026	Yes	Yes	Socialization related plan affected tenant areas
Fiki Yurianda	Dim Sum Rakha	8/7/2025	7/7/2026	Yes	Yes	Socialization related plan affected tenant areas
Nurul Hidayati	Photocopy	1/5/2025	1/12/2026	Yes	Yes	Socialization related plan

Party Second	Type Of Tenant	Rent Period		Affected Development JKN Tower (Yes No)	Separated Contract (Yes No)	Action Carry on (E.g. Socialization, Relocation: Where, start When, Agreement Addition)
						affected tenant areas
PAM Jaya	Placement Booster PAM	1/4/2024	1/12/2026	Yes	Yes	Socialization related plan affected tenant areas
PT. Bank Mandiri (Persero) Tbk	ATM in Parent, Lotus, IGH, IGD	1/1/2024	1/12/2026	Yes	Yes	Socialization related plan affected tenant areas
Koperasi Sejahtera	Satellite Mini Market IRJ	18/8/2023	17/8/2026	Yes	Yes	Socialization related plan affected tenant areas
PT. Centerpark Citra Corpora	Management Parking	1/2/2025	1/12/2026	Yes	Yes	Socialization regarding the development plan for the affected tenant area
PT. Kilat Power Indonesia	Rental Equipment Placement Power bank	1/7/2025	30/6/2026	Yes	Yes	Socialization regarding the planned development of the tenant area affected
Achyani Maliki	Rent land Booth Shop Vania	1/4/2026	1/12/2026	Yes	Yes	Socialization related plan affected tenant areas
PT. Segar Jeruk Abadi	Rent Land Vending Squeeze Machine	5/3/2025	3/4/2026	Yes	Yes	Socialization related plan affected tenant areas
Hedi Permana Ahya	rent land Booth Hasanah Kebab	June 20, 2025	June 19, 2026	Yes	Yes	Socialization related plan affected tenant areas
Yulfa Rizki Amita	rent land Booth SummerFling	4/8/2025	3/8/2026	Yes	Yes	Socialization related plan affected tenant areas
PT. Lancar Wiguna Sejahtera	Rent Land Mini Market Lawson	Start Operational (Plan 1	2 years from start	Yes	No	Relocation on ex Canteen Dharma Woman

Party Second	Type Of Tenant	Rent Period		Affected Development JKN Tower (Yes No)	Separated Contract (Yes No)	Action Carry on (E.g. Socialization, Relocation: Where, start When, Agreement Addition)
			operational			
PT. Era Application Nusa	Rent land Pukis City New	10/20/2025	10/19/2026	Yes	Yes	Socialization related plan affected tenant areas
PT. Bank Rakyat Indonesia	ATM in IRJ	1/8/2025	1/12/2026	Yes	Yes	Socialization related plan affected tenant areas

4. GRIEVANCE REDRESS MECHANISM (GRM)

A project-level GRM is already in place, established under RSUP Fatmawati Director's Decree No. HK.01.07/VIII.2/7747/2019 and managed by IPKH (Instalasi Promosi Kesehatan & Humas). Tenants may lodge complaints in person at the Humas Grievance Office, via a dedicated hotline (081219934999), or through digital channels (hospital website and monitored email). Grievances are triaged and resolved within fixed timeframes according to risk category:

Grievance Grade	Trigger Parameters & Risk Profile	Mandated Resolution Framework	Maximum Resolution Window
RED CATEGORY	Matters involving formal legal threats, severe law enforcement intersection, critical infrastructural failures causing complete business stoppage, or active institutional damage.	Immediate intervention by the Director of General Affairs and Human Resources, escalating to the Director General if necessary. Immediate on-site technical or legal mitigation is deployed.	≤ 24 Hours
YELLOW CATEGORY	Issues with potential for negative mass media coverage, operational friction regarding spatial boundaries, or utility allocation disputes causing partial revenue reductions.	Formal investigation by the IPKH team, involving joint mediation with the affected tenant and construction management to implement structural modifications.	≤ 3 Days (72 Hours)

GREEN CATEGORY	Minor logistical feedback, standard queries regarding construction scheduling adjustments, or requests for additional signage support.	Direct resolution at the unit level by the designated field Liaison Officer through immediate localized coordination.	≤ 7 Days

COST AND BUDGET

All costs associated with the implementation of this Livelihood Relocation Plan are fully internalized within the BLU budget. These expenses are funded through a combination of the AIIB loan allocation and RSUP Fatmawati operational reserves.

Budgetary Line Item Description	Funding Source Allocation	Cost Estimate (Idr)
Construction & civil fit-out of the New Outdoor IVPP Vending Hub	BLU Budget	450,000,000
Infrastructural electrical/plumbing modifications inside the Bougenville Building	BLU Budget	180,000,000
Logistical moving services and physical transit contracting costs	BLU Budget	75,000,000
Comprehensive signage, directional mapping, and public relations campaigns	BLU Budget	45,000,000
Vulnerable operator transitional grant reserves and emergency support pool	BLU Budget	120,000,000
Independent third-party E&S compliance auditing and reporting	AIIB Loan - Project Management Support	150,000,000
TOTAL LRP CORE OPERATIONAL BUDGET	**Combined Project Funds**	**1,020,000,000**