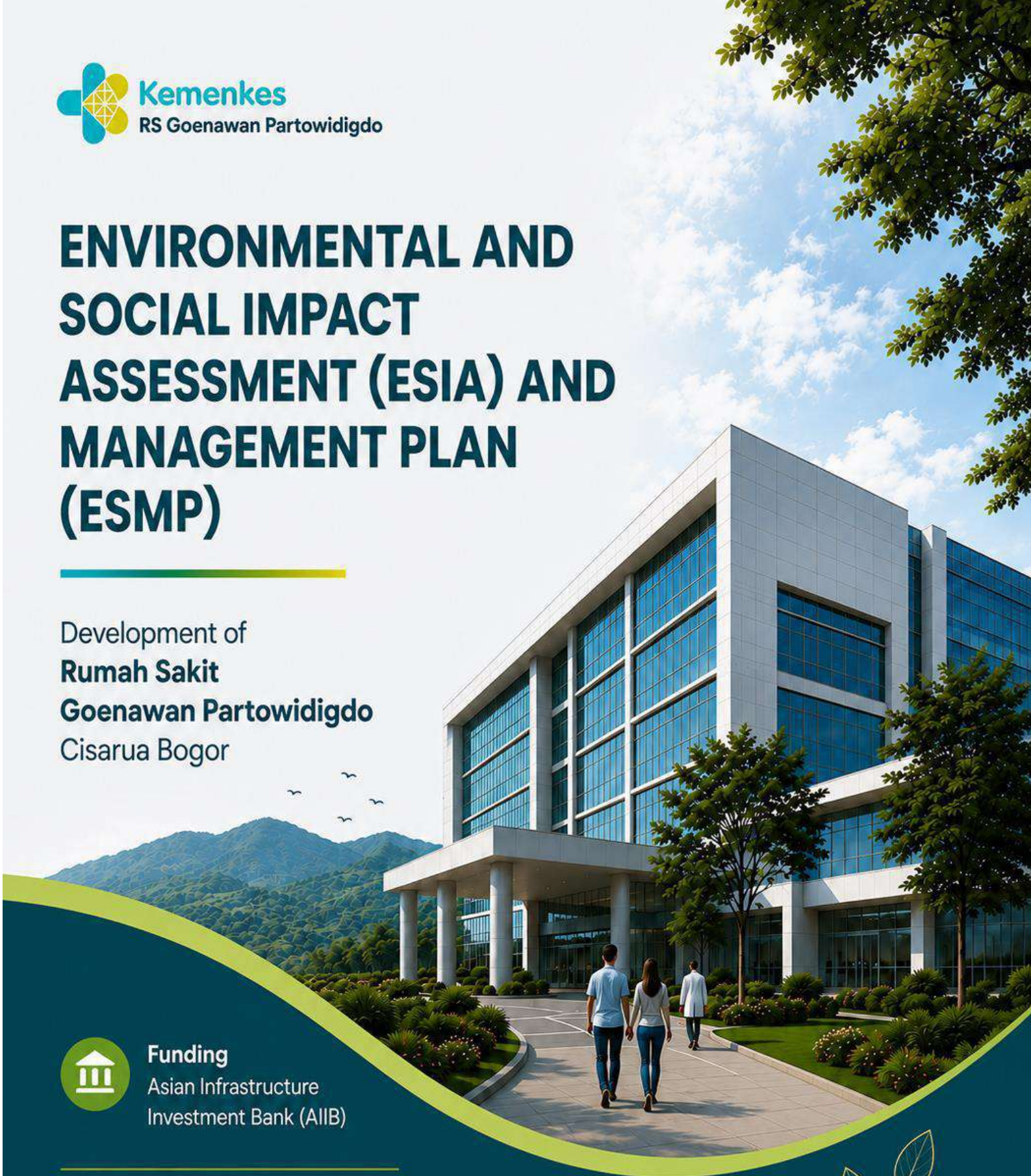
Kemenkes
RS Goenawan Partowidigdo

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

Development of
Rumah Sakit Goenawan Partowidigdo
Cisarua Bogor



Funding
Asian Infrastructure Investment Bank (AIIB)

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This document is a Living Document and will be updated periodically in line with the progress of the RSGP Detail Engineering Design (DED), more detailed environmental studies (AMDAL), traffic management analysis (ANDALALIN), and input from the Asian Infrastructure Investment Bank (AIIB), the Ministry of Health of the Republic of Indonesia, and other stakeholders.

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GLOSSARY AND ABBREVIATIONS

AIIB	Asian Infrastructure Investment Bank, Lender of the TRUST Project
AMDAL	Analisis Mengenai Dampak Lingkungan, Indonesian Environmental Impact Assessment
ANDAL	Analisis Dampak Lingkungan, main impact assessment document within AMDAL
ANDALALIN	Analisis Dampak Lalu Lintas, Traffic Impact Analysis
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 (BPCB West Java)
BPS	Badan Pusat Statistik, Central Statistics Agency (RSGP = BPS Kabupaten Bogor)
B3 (LB3)	Bahan Berbahaya dan Beracun (Limbah B3), Hazardous and Toxic Materials (Wastes)
BLU	Badan Layanan Umum, Public Service Agency status of RSGP (NPWP 00.144.706.9-434.000)
BMKG	Badan Meteorologi, Klimatologi, dan Geofisika , Reference station, Stasiun Klimatologi Citeko
BOR	Bed Occupancy Rate
CHMP	Cultural Heritage Management Plan, Annex I
DED / DEDC	Detailed Engineering Design / DED Consultant
DLH	Dinas Lingkungan Hidup, Environment Agency (RSGP = DLH Kabupaten Bogor)
DOTS	Directly Observed Treatment, Short-course, TB treatment strategy
EGI / EQUATOR	PT Equator Global Internasional, Safeguards Consultant
ESF	Environmental and Social Framework (AIIB, 2024)
ESIA / ESMP	Environmental and Social Impact Assessment / Environmental and Social Management Plan
ESS1 / ESS2 / ESS3	Environmental and Social Standards 1, 2, 3 of the AIIB ESF
FS / Pre-FS	Feasibility Study / Pre-Feasibility Study (RSGP Pre-FS issued 11 March 2026)
GBIF	Global Biodiversity Information Facility
GBV / SEAH	Gender-Based Violence / Sexual Exploitation, Abuse, and Harassment

GHG	Greenhouse Gas
GISD	Global Invasive Species Database
GRM	Grievance Redress Mechanism
HEPA	High-Efficiency Particulate Air, filter standard for TB isolation rooms
HVAC	Heating, Ventilation and Air Conditioning
IBSAP	The Indonesian Biodiversity Strategy and Action Plan
IMB / PBG	Izin Mendirikan Bangunan / Persetujuan Bangunan Gedung (RSGP IMB 2014, PBG under PP 16/2021)
IPAL	Instalasi Pengolahan Air Limbah, Wastewater Treatment Plant
IPPT	Izin Penggunaan Peruntukan Tanah (RSGP IPPT 2013) , predecessor to KKPR
IUCN	International Union for Conservation of Nature
JKN	Jaminan Kesehatan Nasional, National Health Insurance scheme
KA-ANDAL	Kerangka Acuan ANDAL, Terms of Reference for the impact assessment
KBA	Key Biodiversity Area
KBLI	Klasifikasi Baku Lapangan Usaha Indonesia (RSGP = 86101 Aktivitas RS Pemerintah)
Kemenkes	Kementerian Kesehatan Republik Indonesia, Ministry of Health
KJSU	Kanker, Jantung, Stroke, Uro/Nefro, National priority complex services
KKPR / PKKPR	Konfirmasi / Persetujuan Kesesuaian Kegiatan Pemanfaatan Ruang (RSGP PKKPR No. 14072210213201073, 14 Juli 2022, luas 6.70 Ha)
KMK	Keputusan Menteri Kesehatan (RSGP Master Plan = KMK No. HK.01.07/MENKES/1954/2024)
KPA	Komisi Penilai AMDAL, AMDAL Assessment Commission
KSPN	Kawasan Strategis Pariwisata Nasional, Puncak listed as KSPN
MDR-TB / TB-RO	Multi-Drug-Resistant Tuberculosis / Tuberkulosis Resisten Obat
MoEF	Ministry of Environmental and Forestry
NIB	Nomor Induk Berusaha (RSGP NIB 9120304812536, terbit 23 Agustus 2019, perubahan ke-18 27 Juni 2022)
NPWP	Nomor Pokok Wajib Pajak (RSGP NPWP 00.144.706.9-434.000)
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 (BMAL / Emisi)
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, detailed technical document for B3 storage
RSGP	Rumah Sakit Goenawan Partowidigdo Cisarua Bogor
RSPPU	Rumah Sakit Pendidikan Penyelenggara Utama, Primary Teaching Hospital
RSTP	Rumah Sakit Tuberkulosa Paru-Paru
RTRW / RDTR	Rencana Tata Ruang Wilayah / Detail Tata Ruang, Spatial Plans
SEP	Stakeholder Engagement Plan (Annex C)
SIO	Surat Izin Operasional (RSGP SIO 2025 perpanjangan via OSS)
SK SOTK	Surat Keputusan Susunan Organisasi dan Tata Kerja (RSGP = HK.02.03/D.XLII.2/02560/2024 tanggal 23 Februari 2024)
SLO	Sertifikat Laik Operasi
SOP / SPO	Standard Operating Procedure / Standar Prosedur Operasional
TB	Tuberculosis, RSGP core specialty since 1928 Sanatorium era
TNGGP	Taman Nasional Gunung Gede Pangrango
TPA / TPS	Tempat Pemrosesan Akhir / Penampungan Sementara , Final Disposal Site / Temporary Storage
TT	Tempat Tidur , Bed (hospital capacity unit, RSGP existing 177, target 270)
TWATW	Taman Wisata Alam Telaga Warna
UI / UIN	Universitas Indonesia / Universitas Islam Negeri Syarif Hidayatullah Jakarta, RSGP PPDS partners
UKL-UPL	Upaya Pengelolaan Lingkungan , Upaya Pemantauan Lingkungan (semester reports)
UNESCO	United Nations Educational, Scientific and Cultural Organization
WBG	World Bank Group
WHO	Worls Health Oragnization

FOREWORD

The transformation of Indonesia's national health system, accelerated by Law No. 17 of 2023 on Health and the Government's strategic priority to strengthen referral capacity and specialist medical education, has placed Rumah Sakit Goenawan Partowidigdo Cisarua Bogor (RSGP) at the centre of national efforts to expand access to high-quality pulmonary, respiratory, and complex tertiary services. Established in 1914 as the Methodist Zending Hospital Tjisaroea, and continuously evolving through its 1928 designation as Sanatorioem Tjisaroea Bogor for tuberculosis care, its 1978 elevation to Rumah Sakit Tuberkulosis Paru Cisarua Bogor (RSTP), its 2004 renaming as Rumah Sakit Paru Dr. M. Goenawan Partowidigdo, and its 2020 reaffirmation as a Class A Specialty Hospital under Ministerial Decree HK.02.02/I/3856/2020, RSGP today stands as a 'PARIPURNA'-accredited national referral centre with deep institutional memory in tuberculosis, pulmonology, and respiratory medicine.

Pursuant to the RSGP Master Plan formalised through KMK No. HK.01.07/MENKES/1954/2024 and the Pre-Feasibility Study issued by the RSGP management on 11 March 2026, the Hospital is preparing to construct four new building complexes, Building A (Clinical Core integrating Emergency, Intensive Care, Operating Theatre Centre, and Cathlab), Building B (In-Patient Wards), Building C (JKN Service Block with 144 beds), and Building J-M (7-storey Education, Training, and Research Block) , to support its transformation into a 270-bed General Hospital with Pulmonary Excellence and to fulfil its newly assigned role as a Rumah Sakit Pendidikan Penyelenggara Utama (RSPPU) under the national specialist physician education roadmap. The total investment requirement is estimated at IDR 817.79 billion (approximately USD 51.7 million), of which civil works (IDR 467.84 billion) and medical equipment (IDR 226.86 billion) will be funded through the Asian Infrastructure Investment Bank (AIIB) loan, complemented by Government of Indonesia BLU funds for project management and supervision.

This Environmental and Social Impact Assessment (ESIA) and Environmental and Social Management Plan (ESMP), hereafter collectively referred to as the ESIA-ESMP, has been prepared by PT Equator Global Internasional (EGI) under the requirements of the AIIB Environmental and Social Framework (ESF, 2024) , applying ESS1 (Environmental and Social Assessment and Management) as the principal standard and screening for ESS2 and ESS3 , and the prevailing Government of Indonesia legal framework, principally 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.

The ESIA is one of seven safeguards deliverables commissioned to PT Equator Global Internasional (EGI) under contract 111-AGB-2026, the others being the AMDAL (KA-ANDAL, ANDAL, RKL-RPL) issued in 2026, the Pertek BMAL (Wastewater Technical Approval), the Pertek BMUE (Stack Emission Technical Approval), the Rintek B3 (Hazardous Waste Storage Detailed Technical Document), and the ANDALALIN (Traffic Impact Analysis). All seven deliverables share the same primary baseline data set and the same institutional engagement architecture led by RSGP, the Directorate General of Tertiary Health Services of the Ministry of Health, and the AIIB.

On behalf of the Project Implementation Unit (PIU) of the Ministry of Health and the Direksi of RS Goenawan Partowidigdo Cisarua Bogor, sincere appreciation is extended to all parties who have

contributed substrate, time, and expertise to the preparation of this preliminary draft , including the RSGP management led by Direktur Utama DR. dr. Zulvayanti, Sp.OG(K), M.Kes (whose signed Decree KP.01.05/MENKES/88/2026 of 10 February 2026 anchors the Hospital's current organisational structure), the designated Penanggung Jawab Lingkungan whose KTP and NPWP credentials are filed in support of the OSS submissions, the Directorate General of Tertiary Health Services, the AIIB safeguards team, and the EGI consultant team led by Said Mahadi Kifli, S.Si, M.Si, MT.

Bogor, August 2026

Direktur Utama RS Goenawan Partowidigdo

DR. dr. Zulvayanti, Sp.OG(K), M.Kes

RINGKASAN EKSEKUTIF

Ringkasan Eksekutif ini menyarikan temuan utama, lingkup kajian, risiko dominan, dan rekomendasi prioritas dari ESIA-ESMP. Ringkasan disusun agar pembaca tingkat pimpinan dapat memahami posisi safeguards (pengamanan lingkungan dan sosial) Proyek dalam waktu sekitar lima menit; uraian substantifnya disajikan pada Bab 1-12.

Latar Belakang

RS Goenawan Partowidigdo Cisarua Bogor (RSGP) adalah rumah sakit khusus paru Kelas A di bawah Kementerian Kesehatan, berlokasi pada tapak eksisting seluas 67.847 m² di Jalan Raya Puncak-Gadog KM 83, Desa Cibeureum, Kecamatan Cisarua, Kabupaten Bogor. Tapak tersebut telah tercakup dalam PKKPR Nomor 14072210213201073 yang diterbitkan pada 14 Juli 2022. Beroperasi sejak tahun 1914, RSGP berfungsi sebagai rumah sakit rujukan nasional bidang paru sekaligus rumah sakit pendidikan.

Proyek akan mengembangkan kembali kompleks rumah sakit eksisting melalui pembangunan Gedung A, B, C, dan J-M beserta utilitas dan fasilitas pendukungnya, sehingga meningkatkan kapasitas tempat tidur dari 177 menjadi sekitar 270 tempat tidur, serta mendukung pengembangan RSGP menjadi Rumah Sakit Umum dengan Keunggulan Paru dan Rumah Sakit Pendidikan Utama (RSPPU).

Karena Proyek berada di dalam lingkungan rumah sakit yang tetap beroperasi, pekerjaan akan mencakup pembongkaran bertahap, pembersihan lahan, relokasi atau perlindungan bangunan dan fasilitas eksisting. Kegiatan pembongkaran menuntut relokasi layanan, penapisan bahan berbahaya dan asbes, pemeriksaan cagar budaya, pemutusan/isolasi utilitas, pengendalian debu, kebisingan dan getaran, pengelolaan limbah, serta perlindungan terhadap pasien, pekerja, pengunjung, dan akses kegawatdaruratan.

Wilayah Pengaruh (Area of Influence/AoI) tidak terbatas pada tapak bangunan baru, melainkan meluas ke seluruh kompleks rumah sakit dan area sekitarnya yang berpotensi terkena dampak lalu lintas konstruksi, kebisingan, debu, getaran, drainase, air limbah, pengangkutan limbah, akses masyarakat, serta kesinambungan pelayanan rumah sakit, termasuk Desa Cibeureum dan koridor Jalan Raya Puncak.

Lingkup dan Pendekatan Kajian

ESIA-ESMP ini disusun sesuai dengan Kerangka Kerja Lingkungan dan Sosial (Environmental and Social Framework/ESF, 2024) Asian Infrastructure Investment Bank, dengan ESS1 (Environmental and Social Assessment and Management) sebagai standar utama, dan diselaraskan dengan peraturan perundang-undangan Republik Indonesia, antara lain Undang-Undang Nomor 32 Tahun 2009 tentang Perlindungan dan Pengelolaan Lingkungan Hidup, Peraturan Pemerintah Nomor 22 Tahun 2021, serta kerangka AMDAL/UKL-UPL. Lingkup kajian mencakup empat blok bangunan baru (tapak direncanakan di dalam alokasi lahan rumah sakit eksisting berstatus HPL Kementerian Kesehatan yang dikonfirmasi melalui PKKPR), fasilitas terkait (associated facilities) berupa pasokan PLN, antarmuka peningkatan kapasitas IPAL, dan pengolah limbah B3 pihak ketiga berdasarkan MoU yang berlaku, serta transformasi operasional layanan. Metodologi kajian memadukan telaah data klien, triangulasi data

sekunder (BMKG Stasiun Klimatologi Citeko, BPS Kabupaten Bogor, Balai Besar TNGGP), pengambilan data rona awal (baseline) dan konsultasi pemangku kepentingan dalam dua tahap.

- Skema pendanaan: pinjaman AIIB untuk pekerjaan sipil (IDR 467,84 miliar) dan peralatan kesehatan (IDR 226,86 miliar), serta dana BLU Pemerintah Republik Indonesia untuk konsultansi manajemen proyek (DEDC, CMC, EQC).
- Kebutuhan investasi total: IDR 817,79 miliar (setara sekitar USD 51,7 juta), dengan indikator kelayakan finansial menurut Pra-Studi Kelayakan (Pre-FS): Nilai Kini Bersih (Net Present Value) IDR 77,24 miliar, Tingkat Pengembalian Internal (Internal Rate of Return) 13,50%, dan masa pengembalian (payback) 6,95 tahun.
- Antarmuka safeguards utama: AMDAL (KA-ANDAL, ANDAL, RKL-RPL), Pertek BMAL, Pertek BMUE, Rintek B3, dan ANDALALIN, yang seluruhnya dikerjakan secara paralel dalam kontrak EGI Nomor 111-AGB-2026.
- Rona awal perizinan yang aktif telah dikonfirmasi melalui OSS: NIB 9120304812536 (KBLI 86101 Aktivitas Rumah Sakit Pemerintah, status PMDN), PKKPR Nomor 14072210213201073, IMB 2014, IPPT 2013, SIO perpanjangan 2025, SK SOTK Nomor HK.02.03/D.XLII.2/02560/2024, UKL-UPL eksisting, serta SK Persetujuan Kesanggupan Pengelolaan Lingkungan Hidup dari KLH.

Temuan Utama dari Analisis Data Operasional

Data operasional periode 2021-2025 mengonfirmasi bahwa RSGP menghadapi peningkatan permintaan layanan dan memiliki profil keunggulan bidang paru yang kuat. Jumlah pasien rawat inap meningkat dari 4.184 pasien pada 2021 menjadi 10.050 pasien pada 2025, sementara tingkat hunian tempat tidur (bed occupancy rate) meningkat dari 51,0% menjadi 61,59% dengan jumlah tempat tidur yang berfluktuasi pada kisaran 156-187 tempat tidur. Kunjungan Instalasi Gawat Darurat meningkat dari 10.667 kunjungan pada 2021 menjadi 18.864 kunjungan pada 2025, dengan puncak 19.937 kunjungan pada 2024.

Profil penyakit rumah sakit didominasi oleh penyakit pernapasan dan penyakit menular, antara lain tuberkulosis BTA-negatif, tuberkulosis BTA-positif, TB resistan obat (MDR-TB), bronkiektasis, bronkopneumonia, demam berdarah dengue, dan neoplasma paru. Kondisi ini menegaskan relevansi strategis jalur pengembangan keunggulan paru sekaligus kebutuhan akan pencegahan dan pengendalian infeksi (PPI) yang kuat, ruang isolasi bertekanan negatif, biosafety laboratorium yang memadai, pengelolaan limbah medis tersendiri, serta penanganan yang cermat terhadap sputum dan aliran limbah infeksius.

Rona awal ketenagakerjaan masih menjadi kesenjangan data (data gap) penting yang harus dilengkapi pada draf berikutnya. Draf saat ini merujuk pada Profil RSGP 2024 yang mencatat 448 personel, terdiri atas 253 pegawai laki-laki dan 195 pegawai perempuan. Data ini perlu dimutakhirkan dengan data Sumber Daya Manusia tahun 2026, mencakup status kepegawaian, fungsi, jenis kelamin, tenaga kerja kontraktor, serta proyeksi kebutuhan pegawai untuk gedung-gedung baru.

Risiko Dominan dan Strategi Mitigasi

Proyek diperkirakan menghasilkan dampak positif yang penting melalui peningkatan akses terhadap layanan rumah sakit yang lebih bermutu, penguatan layanan paru dan pernapasan, perluasan fungsi kegawatdaruratan, diagnostik, rawat inap, pendidikan, pelatihan, dan penelitian, serta penguatan peran RSGP sebagai rumah sakit rujukan dan rumah sakit pendidikan. Pada masa konstruksi, Proyek juga berpotensi menciptakan kesempatan kerja sementara, peluang pengadaan lokal, dan peningkatan permintaan barang dan jasa lokal, sepanjang perekrutan tenaga kerja lokal dan pelibatan pemasok lokal dikelola secara adil dan transparan.

Risiko fase konstruksi yang paling material bersumber dari pelaksanaan pekerjaan besar di dalam kompleks rumah sakit yang tetap beroperasi. Risiko utama meliputi debu dan emisi udara dari pekerjaan tanah dan penanganan material; kebisingan dan getaran yang memengaruhi pasien, staf, pengunjung, warga sekitar, pelaku usaha lokal, dan fungsi rumah sakit yang sensitif; dampak lalu lintas konstruksi pada Jalan Raya Puncak-Gadog yang telah padat dan berfungsi sebagai koridor pariwisata utama; tekanan terhadap sistem drainase pada kondisi curah hujan tinggi; risiko keselamatan dan kesehatan kerja (K3); risiko arus masuk pekerja (labour influx) dan kondisi kerja; serta potensi gangguan terhadap kesinambungan pelayanan rumah sakit.

Cagar budaya juga merupakan risiko material. Rumah sakit memiliki bangunan lama yang berkaitan dengan periode Methodist Zending 1914 dan Sanatorium 1928. Bangunan-bangunan tersebut berpotensi memiliki nilai sejarah, arsitektur, kelembagaan, dan kesejarahan medis, sehingga harus diperlakukan dengan pendekatan kehati-hatian (precautionary approach) sampai penapisan formal dan konsultasi dengan instansi pelestarian cagar budaya yang berwenang dituntaskan. Kegiatan gangguan tanah, penggalian, pekerjaan fondasi, dan relokasi utilitas juga mensyaratkan prosedur temuan tidak terduga (chance find procedure).

Risiko fase operasi terutama berkaitan dengan pencegahan dan pengendalian infeksi untuk TB, MDR-TB, dan patogen pernapasan lainnya; pemenuhan baku mutu air limbah; pengelolaan limbah layanan kesehatan yang berbahaya dan infeksius; emisi cerobong dari peralatan terkait; kualitas udara dalam ruang; peningkatan kebutuhan utilitas; tekanan lalu lintas dan perparkiran; serta kebutuhan untuk mempertahankan mekanisme penanganan keluhan yang berfungsi bagi pasien, pekerja, pengunjung, dan masyarakat sekitar.

Mitigasi akan mengikuti hirarki mitigasi AIIB, yaitu menghindari, meminimalkan, memulihkan, dan apabila diperlukan, mengimbangi (offset) atau memberikan kompensasi. Langkah prioritas mencakup integrasi pengendalian infeksi sejak tahap desain, kapasitas IPAL dan pengelolaan limbah B3 yang memadai, perencanaan konstruksi bertahap, perencanaan kesinambungan pelayanan rumah sakit, manajemen lalu lintas, pengendalian debu dan kebisingan, penyediaan akomodasi pekerja yang aman beserta persyaratan kode etik pekerja, penapisan cagar budaya, keterlibatan pemangku kepentingan, dan penanganan keluhan. Untuk memaksimalkan dampak positif, Proyek juga perlu menerapkan perekrutan tenaga kerja lokal secara transparan, partisipasi pemasok lokal sejauh memungkinkan, desain akses yang inklusif bagi pasien dan pengunjung, fasilitas yang responsif gender, pelatihan staf, serta pemantauan mutu layanan, keselamatan pasien, dan umpan balik masyarakat.

Rekomendasi Prioritas

Terdapat lima tindakan prioritas yang perlu dituntaskan pada tahapan penyempurnaan Draf ESIA sebagai dokumen hidup (living document). Tindakan-tindakan ini menjawab kesenjangan data yang paling material serta menuntaskan proses kelembagaan yang diperlukan untuk mengunci pendekatan safeguards menjelang target penyampaian kepada AIIB pada September 2026. Lembar kendali dokumen mencatat bahwa V1 disampaikan kepada AIIB pada 31 Mei 2026, V2 pada 30 Juni 2026, dan V3 pada 12 Agustus 2026, serta menegaskan bahwa ESIA tetap merupakan dokumen hidup yang akan dimutakhirkan mengikuti masukan DED, AMDAL, ANDALALIN, AIIB, Kementerian Kesehatan, dan pemangku kepentingan.

- Menutup kesenjangan data rona awal teknis dan memverifikasi risiko pembongkaran yang telah dilaksanakan. Finalisasi bukti rona awal yang tersisa untuk kualitas udara, kebisingan, getaran, kualitas air, bahan mengandung asbes (ACM), keanekaragaman hayati, transportasi darat, dan kesehatan masyarakat. Kajian cepat atas pekerjaan pembongkaran yang telah selesai beserta Rencana Pengelolaan Asbes (Asbestos Management Plan) harus diperlakukan sebagai bukti safeguards prioritas, karena risiko yang berkaitan dengan pembongkaran tidak dapat dikelola hanya melalui mitigasi di masa mendatang.

- Memperoleh konfirmasi formal status cagar budaya. Memulai konsultasi formal dengan instansi pelestarian cagar budaya yang berwenang untuk memastikan status bangunan yang terkait dengan periode Methodist Zending 1914 dan Sanatorium, serta menuangkan hasilnya ke dalam Kajian Dampak Cagar Budaya (Heritage Impact Assessment) dan Rencana Pengelolaan Cagar Budaya (Cultural Heritage Management Plan). Sampai konfirmasi diperoleh, ESIA harus tetap menerapkan pendekatan kehati-hatian, termasuk pengendalian getaran, prosedur temuan tidak terduga, dan pembatasan pekerjaan intrusif di sekitar bangunan yang sensitif terhadap nilai cagar budaya.

- Memastikan antarmuka keanekaragaman hayati dengan TNGGP. Menjalin komunikasi dengan Balai Besar TNGGP / Kantor Cibodas untuk memastikan apakah tapak rumah sakit atau wilayah pengaruh proyek berada di dalam zona penyangga atau zona pengelolaan taman nasional. Hasilnya akan menentukan perlu tidaknya langkah keanekaragaman hayati tambahan, penguatan pemantauan, atau komitmen yang bersifat imbal (offset).

- Mengunci pengendalian lalu lintas, aksesibilitas, dan kesinambungan pelayanan rumah sakit. Finalisasi masukan ANDALALIN, asumsi lalu lintas konstruksi, pengaturan pintu masuk dan keluar, jendela waktu pengiriman material, langkah prioritas ambulans, serta pengaturan akses alternatif sebelum mobilisasi konstruksi. Hal ini harus dikaitkan langsung dengan ESMP, mengingat lokasi berada di rumah sakit yang tetap beroperasi dan sensitivitas koridor Puncak.

- Mengoperasionalkan SEP, GRM, serta safeguards ketenagakerjaan, gender, dan kelembagaan. Menuntaskan program pengungkapan informasi Tahap 1, memperkuat GRM proyek dan GRM pekerja, memastikan pembagian peran dan indikator kinerja utama (KPI), serta memfinalkan Rencana Pengelolaan Ketenagakerjaan (Labour Management Plan) dan Rencana Aksi Gender (Gender Action Plan). Pelibatan harus menjangkau instansi pemerintah, warga Desa Cibeureum,

pasien, pendamping pasien, penyewa/tenant, pekerja, kelompok rentan, dan pelaku usaha di sekitar tapak, disertai kejelasan tanggung jawab, rekaman pengungkapan informasi, dan indikator pemantauan.

Mekanisme Penanganan Keluhan dan AIIB PPM

Proyek akan menyelenggarakan Mekanisme Penanganan Keluhan (Grievance Redress Mechanism/GRM) yang mudah diakses, tidak dipungut biaya, transparan, dan bebas dari pembalasan (non-retaliasi) sepanjang masa konstruksi dan operasi. GRM Proyek akan dibangun di atas mekanisme DUMAS yang telah berjalan di RSGP, dengan tambahan prosedur khusus proyek untuk menerima, mencatat, menilai, mengeskalasi, menyelesaikan, dan melaporkan keluhan lingkungan dan sosial. Beragam saluran akan disediakan bagi pasien, pendamping pasien, pekerja, penyewa/tenant, masyarakat sekitar, pelaku usaha, kelompok rentan, dan pemangku kepentingan lainnya. Keluhan anonim dan rahasia akan diterima, dengan prosedur penanganan terbatas untuk kasus sensitif seperti Kekerasan Berbasis Gender/Eksploitasi, Penyalahgunaan dan Pelecehan Seksual (GBV/SEAH), diskriminasi terkait HIV, keluhan pekerja, dan kerahasiaan pasien. GRM tempat kerja tersendiri akan disediakan bagi pekerja proyek. Penggunaan GRM tidak membatasi hak pengadu untuk menempuh jalur peradilan, administratif, mediasi, atau upaya penyelesaian lain yang tersedia.

Masyarakat terkena dampak proyek juga akan diberi informasi mengenai Project-affected People's Mechanism (AIIB PPM), yaitu mekanisme akuntabilitas independen Asian Infrastructure Investment Bank. Perorangan atau kelompok yang meyakini dirinya telah atau berpotensi terkena dampak merugikan akibat kegagalan AIIB menerapkan Kebijakan Lingkungan dan Sosialnya dapat mengajukan pengaduan kepada PPM, apabila keluhan tersebut belum tertangani secara memuaskan melalui GRM Proyek maupun proses manajemen AIIB. Informasi mengenai GRM dan PPM, termasuk cara mengaksesnya, akan diungkapkan dalam Bahasa Indonesia dan format lain yang sesuai melalui situs web Proyek, meja informasi, materi konsultasi, papan pengumuman, dan kegiatan keterlibatan pemangku kepentingan. Kinerja dan hasil GRM akan dipantau serta dilaporkan kepada publik dalam bentuk agregat tanpa mengungkapkan identitas pengadu atau informasi sensitif.

Mekanisme Akuntabilitas Independen: Mekanisme Masyarakat yang Terkena Dampak Proyek (PPM) telah dibentuk oleh Bank Investasi Infrastruktur Asia (AIIB) sebagai mekanisme akuntabilitas independennya. PPM memberikan kesempatan untuk peninjauan yang independen dan tidak memihak terhadap pengaduan yang diajukan oleh masyarakat yang terkena dampak proyek yang meyakini bahwa mereka telah atau kemungkinan besar akan mengalami dampak negatif akibat kegagalan AIIB dalam menerapkan Kebijakan Lingkungan dan Sosial (ESP)-nya, dalam situasi di mana kekhawatiran mereka tidak dapat ditangani secara memuaskan melalui Mekanisme Penyelesaian Keluhan di Tingkat Proyek atau proses manajemen AIIB. Informasi mengenai ketersediaan PPM dan cara mengaksesnya akan disampaikan kepada masyarakat yang terkena dampak proyek dengan cara yang mudah diakses dan dimengerti, termasuk dalam Bahasa Indonesia serta melalui situs web terkait proyek dan kegiatan keterlibatan pemangku kepentingan.

EXECUTIVE SUMMARY

This Executive Summary distils the principal findings, scope, dominant risks, and priority recommendations of the ESIA-ESMP. It is structured to allow a senior reader to grasp the project's safeguards posture in approximately five minutes, the substantive text follows in Chapters 1-12.

Background

RS Goenawan Partowidigdo Cisarua Bogor (RSGP) is a Class A specialty pulmonary hospital under the Ministry of Health, located on an existing 67,847 m² site at Jalan Raya Puncak-Gadog KM 83, Desa Cibeureum, Kecamatan Cisarua, Kabupaten Bogor. The site is covered by PKKPR No. 14072210213201073, issued on 14 July 2022. Operating since 1914, RSGP functions as a national pulmonary referral and teaching hospital.

The Project will redevelop the existing hospital campus through construction of Buildings A, B, C, and J-M, together with supporting utilities and facilities, increasing bed capacity from 177 to approximately 270 beds and supporting RSGP's development as a General Hospital with Pulmonary Excellence and Primary Teaching Hospital (RSPPU).

As the Project is within an active hospital, works will include phased demolition, site clearance, relocation, or protection of existing buildings and facilities. Demolition will require service relocation, hazardous-material and asbestos screening, cultural heritage checks, utility isolation, dust/noise/vibration control, waste management, and protection of patients, workers, visitors, and emergency access.

The Area of Influence (AoI) extends beyond the new building footprints to the wider hospital campus and surrounding areas potentially affected by construction traffic, noise, dust, vibration, drainage, wastewater, waste transport, community access, and hospital service continuity, including Desa Cibeureum and the Jalan Raya Puncak corridor.

Scope and Approach of the Assessment

This ESIA-ESMP has been prepared in accordance with the Asian Infrastructure Investment Bank's Environmental and Social Framework (ESF, 2024), with ESS1 (Environmental and Social Assessment and Management) as the principal standard, and aligned with Government of Indonesia legislation including Law No. 32 of 2009 on Environmental Protection and Management, Government Regulation 22/2021, and the AMDAL/UKL-UPL framework. The assessment scope covers the four new building blocks (footprint planned within the existing Hospital land allocation under HPL Kemenkes confirmed via PKKPR), associated facilities (PLN supply, IPAL upgrade interface, B3 third-party processor under existing MoU), and the operational transformation of services. The methodology integrates desk review of client data, secondary data triangulation (BMKG Stasiun Klimatologi Citeko, BPS Kabupaten Bogor, Balai Besar TNGGP), and stakeholder consultation in two phases.

- Funding architecture, AIIB loan for civil works (IDR 467.84 billion) and medical equipment (IDR 226.86 billion), Government of Indonesia BLU funds for project management consultancy (DEDC, CMC, EQC).
- Total investment requirement, IDR 817.79 billion (approximately USD 51.7 million), financial viability indicators per Pre-FS, Net Present Value IDR 77.24 billion, Internal Rate of Return 13.50%, payback 6.95 years.
- Key safeguards interfaces, AMDAL (KA-ANDAL, ANDAL, RKL-RPL), Pertek BMAL, Pertek BMUE, Rintek B3, ANDALALIN, all delivered in parallel under the same EGI contract 111-AGB-2026.
- Live regulatory baseline confirmed via OSS, NIB 9120304812536 (KBLI 86101 Aktivitas RS Pemerintah, status PMDN), PKKPR Nomor 14072210213201073, IMB 2014, IPPT 2013, SIO 2025 perpanjangan, SK SOTK HK.02.03/D.XLII.2/02560/2024, UKL-UPL existing, and SK Persetujuan Kesanggupan Kelola Lingkungan KLH.

Key Findings from Operational Data Analysis

Operational data from 2021-2025 confirms that RSGP is experiencing increasing service demand and has a strong pulmonary specialty profile. In-patient volumes increased from 4,184 patients in 2021 to 10,050 patients in 2025, while bed occupancy increased from 51.0% to 61.59% across a fluctuating bed inventory of 156-187 beds. Emergency department visits increased from 10,667 in 2021 to 18,864 in 2025, with a peak of 19,937 visits in 2024.

The hospital's disease profile is dominated by respiratory and infectious disease conditions, including BTA-negative tuberculosis, BTA-positive tuberculosis, MDR-TB, bronchiectasis, bronchopneumonia, dengue haemorrhagic fever, and pulmonary neoplasms. This confirms the strategic relevance of the pulmonary excellence pathway and the need for strong infection prevention and control, negative-pressure isolation, appropriate laboratory biosafety, dedicated clinical waste management, and careful management of sputum and infectious waste streams.

The workforce baseline remains an important data gap for the next draft. The current draft refers to the RSGP Profile 2024, which records 448 personnel consisting of 253 male and 195 female staff. This will need to be updated using 2026 Human Resources data, including employment status, function, gender, contractor labour, and projected staffing needs for the new buildings.

Dominant Risks and Mitigation Strategies

The Project is expected to generate important positive impacts by improving access to higher-quality hospital services, strengthening pulmonary and respiratory care, expanding emergency, diagnostic, inpatient, teaching, training, and research functions, and supporting RSGP's role as a referral and teaching hospital. During construction, the Project may also create temporary employment, local procurement opportunities, and increased demand for local goods and services, provided that local hiring and vendor engagement are managed fairly and transparently.

The most material construction-phase risks are linked to undertaking major works within an active hospital campus. Key risks include dust and air emissions from earthworks and material handling, noise and vibration affecting patients, staff, visitors, nearby residents, local businesses and sensitive hospital functions, construction traffic impacts on Jalan Raya Puncak-Gadog, which is already congested and functions as a major tourism corridor, drainage stress under high rainfall conditions, occupational health and safety risks, labour influx and working condition risks, and potential disruption to hospital service continuity.

Cultural heritage is also a material risk. The hospital has older buildings associated with the 1914 Methodist Zending and 1928 Sanatorium periods. These structures may have historical, architectural, institutional, and medical heritage value and should be treated under a precautionary approach until formal screening and consultation with the relevant cultural heritage authorities are completed. Ground disturbance, excavation, foundation works, and utility relocation also require a chance finds procedure.

Operational-phase risks relate mainly to infection prevention and control for TB, MDR-TB and other respiratory pathogens, wastewater quality compliance, hazardous and infectious healthcare waste management, stack emissions from relevant equipment, indoor air quality, increased demand for utilities, traffic and parking pressures, and the need to maintain a functioning grievance mechanism for patients, workers, visitors, and surrounding communities.

Mitigation will follow the AIIB mitigation hierarchy, avoid, minimise, restore, and, where required, offset or compensate. Priority measures include design-stage integration of infection control, adequate IPAL and B3 capacity, staged construction planning, hospital service continuity planning, traffic management, dust and noise controls, safe labour accommodation and worker conduct requirements, cultural heritage screening, stakeholder engagement, and grievance handling. To maximise positive impacts, the Project should also apply transparent local hiring, local vendor participation where feasible, inclusive access design for patients and visitors, gender-responsive facilities, staff training, and monitoring of service quality, patient safety, and community feedback.

Priority Recommendations

Five priority actions stand out for closure between V1 and V2 of this Draft ESIA Living Document. These actions address the most material remaining data gaps and the institutional engagements required to lock in the safeguards approach for the AIIB submission target of September 2026. The document control confirms that V1 was submitted to AIIB on 31 May 2026, V2 on 30 June 2026, V3 on 12 August 2026, and that the ESIA remains a Living Document to be updated with DED, AMDAL, ANDALALIN, AIIB, Ministry of Health, and stakeholder inputs.

- Close technical baseline gaps and verify completed demolition risks. Finalise the remaining baseline evidence for air quality, noise, vibration, water quality, asbestos-containing materials, biodiversity, land-based transportation, and community health. The rapid assessment of completed demolition works and the Asbestos Management Plan should be treated as priority safeguards evidence because demolition-related risk cannot be managed only through future mitigation.

- Secure formal cultural heritage confirmation. Initiate formal consultation with the relevant cultural heritage authorities to confirm the status of the 1914 Methodist Zending / Sanatorium-related buildings and reflect the outcome in the Heritage Impact Assessment and Cultural Heritage Management Plan. Until confirmation is received, the ESIA should continue to apply a precautionary approach, including vibration controls, chance-find procedures, and restrictions on intrusive works near heritage-sensitive structures.
- Confirm the biodiversity interface with TNGGP. Engage Balai Besar TNGGP / Cibodas Office to confirm whether the hospital site or project area of influence falls within any formal national park buffer or management zone. The outcome should determine whether additional biodiversity measures, enhanced monitoring, or offset-type commitments are needed.
- Lock in traffic, access, and hospital service-continuity controls. Finalise the ANDALALIN inputs, construction traffic assumptions, entry/exit arrangements, delivery windows, ambulance priority measures, and alternative access arrangements before construction mobilisation. This should be linked directly to the ESMP, given the active hospital setting and the sensitivity of the Puncak corridor.
- Operationalise SEP, GRM, labour, gender, and institutional safeguards. Complete the Phase 1 disclosure programme, strengthen the project GRM and worker GRM, confirm roles and KPIs, and finalise the Labour Management Plan and Gender Action Plan. Engagement should cover government agencies, Desa Cibeureum residents, patients, caregivers, tenants, workers, vulnerable groups, and nearby businesses, with clear responsibilities, disclosure records, and monitoring indicators.

Grievance Redress Mechanism and AIIB PPM

The Project will maintain an accessible, free, transparent, and non-retaliatory Grievance Redress Mechanism (GRM) throughout construction and operation. The Project GRM will build on RSGP's existing DUMAS mechanism while providing project-specific procedures for receiving, recording, assessing, escalating, resolving, and reporting environmental and social complaints. Multiple channels will be available to patients, caregivers, workers, tenants, nearby communities, businesses, vulnerable groups, and other stakeholders. Anonymous and confidential complaints will be accepted, with restricted handling procedures for sensitive cases such as GBV/SEAH, HIV-related discrimination, worker grievances, and patient privacy. A separate workplace GRM will be maintained for project workers. Use of the GRM will not restrict access to judicial, administrative, mediation, or other available remedies.

Project-affected people will also be informed about the Asian Infrastructure Investment Bank's Project-affected People's Mechanism (AIIB PPM), which is the Bank's independent accountability mechanism. Individuals or groups who believe they have been, or may be, adversely affected by AIIB's failure to apply its Environmental and Social Policy may submit a complaint to the PPM when their concerns have not been satisfactorily addressed through the Project GRM or AIIB management processes. Information on the GRM and PPM, including how to access them, will be disclosed in Bahasa Indonesia and other appropriate formats through the Project website, information desks, consultation materials, notice boards, and stakeholder engagement activities. GRM performance and

outcomes will be monitored and publicly reported in an aggregated form without disclosing complainants' identities or sensitive information.

Independent Accountability Mechanism: The Project-affected People's Mechanism (PPM) has been established by the Asian Infrastructure Investment Bank (AIIB) as its independent accountability mechanism. The PPM provides an opportunity for an independent and impartial review of submissions from Project-affected people who believe they have been or are likely to be adversely affected by AIIB's failure to implement its Environmental and Social Policy (ESP), in situations where their concerns cannot be addressed satisfactorily through the Project-level Grievance Redress Mechanism or AIIB Management processes. Information on the availability of the PPM and how it may be accessed will be disclosed to Project-affected people in an accessible and understandable manner, including in Bahasa Indonesia and through the Project-related website and stakeholder engagement activities.[1]

[1] For information on how to make submissions to the PPM https://www.aiib.org/en/policies-strategies/operational-policies/policy-on-the-project-affected-mechanism.html"

1 INTRODUCTION

The Environmental and Social Impact Assessment (ESIA) and Environmental and Social Management Plan (ESMP), referred to in this report as the ESIA-ESMP, for the Development of Rumah Sakit Goenawan Partowidigdo Cisarua Bogor (RSGP), referred to as the Project, evaluates the potential environmental and social risks and impacts associated with the redevelopment and operational transformation of the hospital. The Project includes the construction of new Building A, Building B, Building C, and Building J-M within the existing RSGP campus to support the transformation of the hospital into a general hospital with pulmonary excellence and a Primary Teaching Hospital.

The ESIA-ESMP is prepared as a living document. It will be updated as more detailed information becomes available from the Detailed Engineering Design (DED), primary baseline surveys, AMDAL documentation, traffic impact analysis (ANDALALIN), technical approvals for wastewater and emissions, hazardous waste technical documentation, and stakeholder engagement. This approach follows the structure used in ESIA-ESMP while applying the specific environmental, social, health, heritage, and operational context of RSGP.

At this stage, the ESIA-ESMP is aligned with the Government of Indonesia environmental approval process and the Asian Infrastructure Investment Bank (AIIB) Environmental and Social Framework. It provides the initial assessment basis for identifying key risks, mitigation measures, monitoring requirements, institutional responsibilities, and data gaps that must be closed before formal submission and construction mobilisation.

1.1 Project Overview & Rationale

RSGP is a Class A pulmonary specialty hospital under the Directorate General of Tertiary Health Services, Ministry of Health of the Republic of Indonesia. The hospital has a long institutional history, beginning with the Methodist Zending Hospital Tjisaroea in 1914 and later developing as Sanatorioem Tjisaroea Bogor for tuberculosis care in 1928. This institutional identity remains important for the Project because the campus includes older buildings and a heritage setting that must be assessed before any demolition, renovation, or construction activity.

The proposed redevelopment is not a greenfield hospital. It is an expansion and modernisation of an operating national health facility. The Project currently provides pulmonary and respiratory referral services, MDR-TB services, emergency care, intensive care, diagnostic services, inpatient care, training, and clinical education. The Project therefore has two parallel objectives, improving healthcare infrastructure and maintaining continuity of existing services during construction.

RSGP already provides several disability-accessible facilities, including accessible toilets and wheelchair access paths. However, the available schematic design information does not yet confirm whether all new AIIB-funded patient-service buildings will fully comply with universal access requirements. The final Detailed Engineering Design should therefore clearly identify compliant ramps, continuous wheelchair circulation routes, accessible lifts and toilets, appropriate signage, safe

passenger drop-off and pick-up points, and inclusive emergency evacuation arrangements. These provisions should be prioritised in all patient-facing areas, particularly the emergency department, outpatient clinics, diagnostic and laboratory services, inpatient wards, rehabilitation services, pharmacy, and other areas regularly accessed by patients, caregivers, older persons, pregnant women, and persons with disabilities.

Table 1 Key Features of The Hospital and The Redevelopment

Component	Current / confirmed information	Safeguards relevance
Hospital identity	RS Goenawan Partowidigdo Cisarua Bogor, Class A pulmonary specialty hospital under the Ministry of Health.	Defines institutional responsibility and the operational baseline for the ESIA-ESMP.
Site location	Jl. Raya Puncak-Gadog KM 83, Desa Cibeureum, Kecamatan Cisarua, Kabupaten Bogor, West Java.	Construction traffic, community access, tourism corridor congestion, and emergency access must be managed.
Land status and area	Existing Ministry of Health hospital land of approximately 6.70 ha / 67,000-67,847 m2, no new land acquisition identified.	ESS2 risk is expected to be limited, but internal relocation of services and assets must be managed.
Existing service role	Pulmonary and respiratory referral hospital with TB/MDR-TB relevance, emergency services, inpatient care, laboratories, and teaching functions. No related ongoing Project at Project Location except the existing hospital operations.	Hospital service continuity, infection prevention, wastewater, B3 waste, indoor air, and OHS are material risks.
Project buildings	Redevelopment of a Building A, B, C, and J-M to support clinical, inpatient, JKN, education, training, and research functions.	Construction risks occur within an active hospital campus and require staged implementation.
Target service direction	Transformation into a general hospital with pulmonary excellence and a Primary Teaching Hospital (RSPPU).	The ESIA-ESMP must assess both construction impacts and long-term operational changes.

1.1.1 Location

The Project is located within the existing RSGP campus in Desa Cibeureum, Kecamatan Cisarua, Kabupaten Bogor, West Java. The site is positioned in the Puncak highland corridor at approximately 800 metres above sea level, with access from Jalan Raya Puncak-Gadog. This setting gives the hospital strategic accessibility for regional patients but also creates construction and operational constraints because the Puncak corridor is already sensitive to traffic congestion, tourism flows, rainfall, drainage, slope stability, and landscape values.

The site is within an existing hospital landholding. Based on the available feasibility and planning documents, the Project does not require acquisition of additional community land. However, internal service relocation, temporary changes to parking and patient circulation, and management of existing buildings remain important and must be addressed through the construction phasing plan, hospital transition plan, and ESMP.

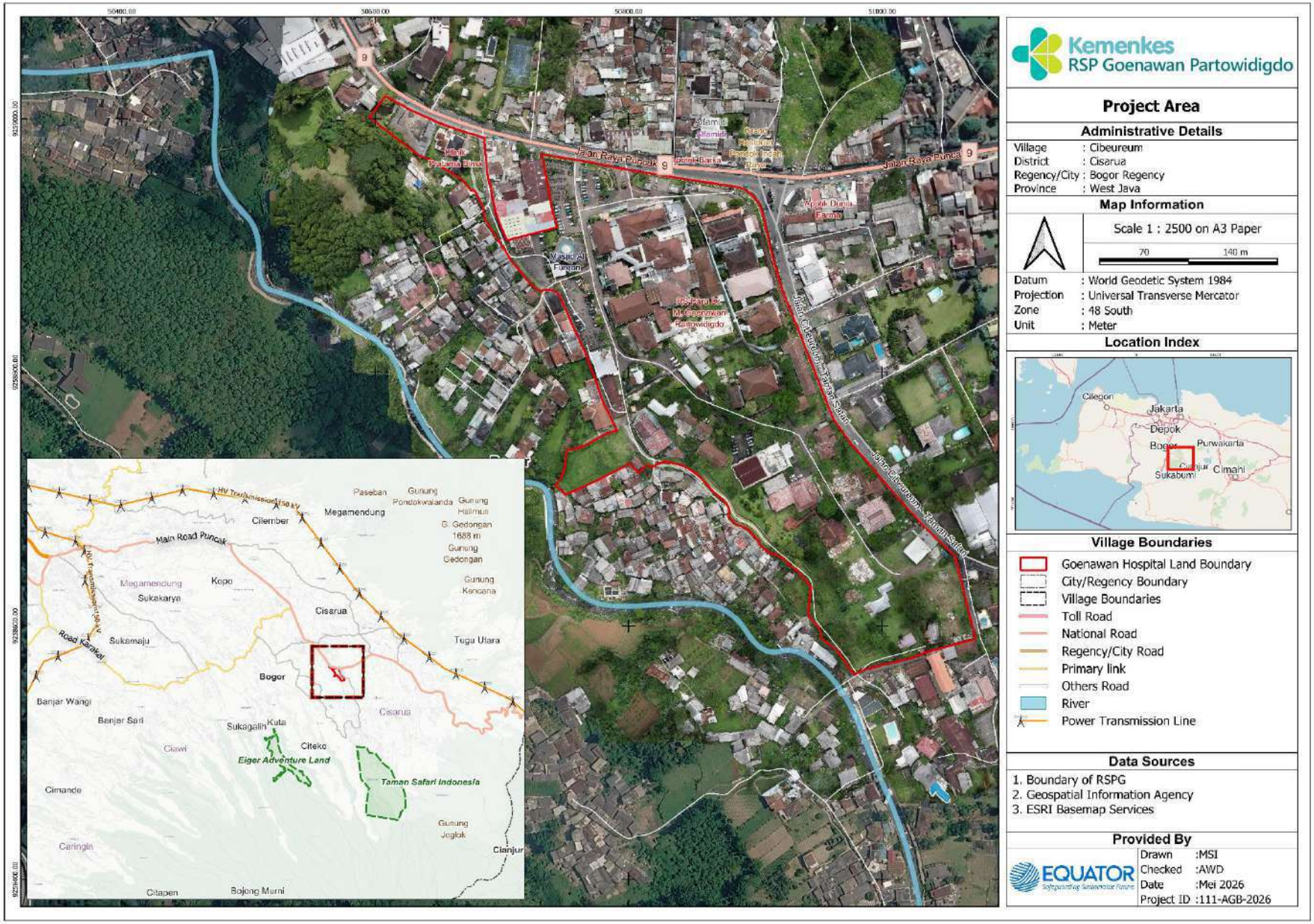


Figure 1 Project Location of RS Goenawan Partowidigdo

1.1.2 Project Alternative

The Project is situated on the premises of the Ministry of Health. The hospital's development was initiated by the Ministry of Health, eliminating the potential for land acquisition when selecting a location. This primary alternative significantly reduces environmental and social impacts.

A location alternative outside the current RSGP campus is not considered suitable for this Project because the objective is to strengthen the existing national pulmonary referral hospital and teaching hospital function. Relocating the development to a separate site would weaken integration with existing clinical services, staff, laboratories, patients, utilities, and institutional heritage. It could also introduce unnecessary land acquisition, permitting, and social risks.

However, the available FS, schematic design, permits, and hospital profile do not yet appear to provide a clear comparative assessment of design alternatives. The schematic design identifies the planned masterplan and building functions, but it does not clearly document whether alternative building layouts, building heights, access arrangements, parking options, service relocation options, utility alignments, construction phasing, or heritage-avoidance design options were assessed and compared.

The main alternatives that remain relevant at this stage are design, sequencing, and mitigation alternatives within the existing campus. These include the final building layout, floor-by-floor compliance with hospital design standards, internal circulation, parking provision, temporary service relocation, demolition methods, heritage protection measures, and construction traffic scheduling. The no-project option is not preferred because it would leave existing service capacity, teaching facilities, diagnostic integration, and patient flow constraints unresolved.

The no-project option is not preferred because it would leave existing service capacity, teaching facilities, diagnostic integration, and patient flow constraints unresolved. However, the preferred design option should still be justified through a short design-alternative review during DED, showing why the selected layout and phasing best avoid or minimise environmental, social, health, safety, and heritage risks.

1.1.3 Project Rationale

Referring to the Feasibility Study document by the Ministry of Health in February 2026, hospital development to improve access and quality of teaching hospital services, assessed from a technical and administrative perspective, is by developing hospitals that are already in operation.

The Project is justified by the need to improve access to specialist pulmonary and respiratory services, strengthen hospital-based specialist medical education, expand priority tertiary services, and modernise aging or fragmented hospital infrastructure. The feasibility study indicates increasing hospital service demand, including rising emergency and inpatient service use, while the national policy direction supports transformation of selected hospitals into stronger referral and teaching hospitals.

The redevelopment is also intended to support a balanced service model. Building C strengthens regular/JKN inpatient capacity, Building B supports private and executive inpatient services and outpatient expansion, Building A integrates emergency, diagnostic, laboratory, intensive care, operating theatre and cathlab functions, while Building J-M provides dedicated education, training, simulation, meeting, and auditorium functions. This integrated approach is expected to improve patient flow, clinical coordination, education capacity, and operational efficiency.

1.1.4 Existing Institutional Profile

Rumah Sakit Goenawan Partowidigdo Cisarua Bogor (RSGP) is a Class A specialty pulmonary hospital under the Directorate General of Tertiary Health Services, Ministry of Health of the Republic of Indonesia. The Hospital traces its institutional lineage to 1914, when the Methodist Zending Hospital Tjisaroea was established by Dr. R.G. Perkins on a 7-hectare highland site at 800 metres above sea level in Desa Cibeureum, Cisarua. Through successive transformations , 1928 Sanatorioem Tjisaroea Bogor for tuberculosis care, 1978 Rumah Sakit Tuberkulosis Paru Cisarua Bogor (RSTP) under Ministerial Decree 137/SK/Men.Kes/IV/1978, 2004 renaming as RS Paru Dr. M. Goenawan Partowidigdo per Ministerial Decree 190/SK/MenKes/2004, and 2020 reaffirmation as a Class A Specialty Hospital under Ministerial Decree HK.02.02/I/3856/2020 , RSGP has continuously evolved as a national pulmonary referral centre, today operating with PARIPURNA accreditation (KARS Edisi 1, 2021).

The Hospital is currently led by Direktur Utama DR. dr. Zulvayanti, Sp.OG(K), M.Kes, whose Decree KP.01.05/MENKES/88/2026 of 10 February 2026 anchors the current Susunan Organisasi dan Tata Kerja (SOTK) of the institution. The legal status of RSGP is Badan Layanan Umum (BLU) under the Ministry of Health, with an active Nomor Induk Berusaha (NIB 9120304812536, originally issued 23 August 2019, eighteenth amendment dated 27 June 2022, status PMDN), KBLI 86101 (Aktivitas Rumah Sakit Pemerintah), and NPWP 00.144.706.9-434.000. Operational continuity is secured by the 2025 Surat Izin Perpanjangan Operasional (SIO) issued via OSS, valid through 2030. As of December 2024, RSGP operated with 448 personnel across the medical, nursing, allied health, and administrative cadres, served patients across 177 in-patient beds, recorded 18,864 emergency visits and 10,050 in-patient admissions, and delivered specialist services across pulmonology, cardiothoracic surgery, internal medicine, paediatrics, obstetrics, cardiology, anaesthesiology, radiology, clinical pathology, anatomical pathology, clinical microbiology, and rehabilitation medicine. The institution simultaneously functions as a teaching base for the Universitas Indonesia and Universitas Islam Negeri Syarif Hidayatullah specialist physician programmes (PPDS), with active participants growing from 24 (2024) to 41 (2025).

- Land area, confirmed 6.70 hectares (≈ 67,000 m²) per PKKPR Nomor 14072210213201073 of 14 July 2022, consistent with the 67,847 m² stated in the RSGP Profile 2024 and the Pre-FS.
- Existing built-up area, 27,127.48 m² per the RSGP Profile 2024.
- Geographic coordinates, -6.6879° South, 106.9° East, address Jl. Raya Puncak-Gadog KM 83, Desa Cibeureum, Kecamatan Cisarua, Kabupaten Bogor, Provinsi Jawa Barat 16750.

- Setting, highland Puncak corridor at 800 m elevation, with views of Gunung Gede and Gunung Pangrango, and within the influence area of the Taman Nasional Gunung Gede Pangrango (TNGGP).
- Specialty depth, pulmonology (7 specialists, including 5 consultants), MDR-TB DOTS programme, cardiothoracic surgery (the only such service in the Bogor regional network), bronchoscopy, BSL-3 microbiology capability planned, sputum-handling laboratory.
- Active permits and registrations corpus (verified via OSS and document submissions May 2026), NIB, KBLI, BLU, PKKPR, NPWP, SIO 2025, IMB 2014, IPPT 2013, SK SOTK 2024, UKL-UPL existing, SK Persetujuan Kesanggupan Kelola Lingkungan KLH, MoU *Pengelolaan Limbah* B3.

1.1.5 Strategic Direction of the Redevelopment

The Ministry of Health's assessment of The Project is inseparable from the assessment of potential that can be developed by assessing the capabilities of existing human resources and facilities. The strategic analysis that made The Project the choice for the Ministry of Health to be a hospital to be developed includes,

- The Project has excellent pulmonary and respiratory services with a Primary level leading to Full Level,
- The Project has the potential to develop services for Cancer, Heart, Stroke and Urology & Nephrology), as well as strengthening its role as a TB hospital,
- The Project can rebrand as a General Hospital with Pulmonary and Respiratory Specialties and,
- Developing neurosurgery, ophthalmology and orthopaedic services.

The redevelopment programme responds to two converging policy directions issued by the Ministry of Health between November 2025 and January 2026. First, the Director General of Tertiary Health Services, through Decree HK.02.02/D/5367/2025 dated 10 November 2025 on the Transformation of Specialty Hospitals into General Hospitals with Pulmonary and Respiratory Excellence, formally redirects RSGP from a pure pulmonary specialty hospital towards a general hospital retaining and deepening its pulmonary excellence, including the addition of the KJSU (Cancer, Heart, Stroke, Urology/Nephrology) priority service complex. Second, Letter TK.02.04/D/135/2026 dated 10 January 2026 on the RSPPU Roadmap 2025-2026 designates RSGP as one of the 120 candidate Primary Teaching Hospitals (RSPPU) within a national portfolio of 154 specialist programme tracks. The four-building redevelopment is the physical infrastructure investment required to operationalise both directions.

- Bed capacity expansion, from existing 177 to target 270 in-patient beds (Pre-FS Bab 5).
- Service portfolio expansion, retention and deepening of pulmonary, MDR-TB, and cardiothoracic strengths, addition of KJSU complex services, expansion of executive (Heritage) services to balance JKN and non-JKN segments.

- Teaching mandate, dedicated 7-storey Education and Training Block (Building J-M) housing OSCE simulation laboratories, surgical phantom suites, audiovisual learning rooms, and an auditorium to anchor the RSPPU programme.
- Smart Hospital and Green Hospital strategy, integrated information systems (LIS, RIS, EMR), rainwater harvesting, natural lighting and ventilation, energy-efficient envelope, and green-building material specification per the pre-FS environmental commitments.

1.2 Project Objectives

The Project aims to enhance the availability, accessibility, quality, safety, and resilience of healthcare services at RSGP by expanding and modernising clinical, inpatient, diagnostic, emergency, education, and training facilities within the existing hospital campus. The Project also aims to support RSGP's transformation into a general hospital with pulmonary excellence and a Primary Teaching Hospital, while managing environmental and social risks in accordance with Indonesian regulations and the AIIB Environmental and Social Framework.

The redevelopment is defined by five interlocking objectives that together support the transformation of RSGP into a general hospital with pulmonary excellence and a primary teaching hospital under the RSPPU framework. These objectives frame the safeguards risk envelope assessed in this ESIA-ESMP.

- Expand and modernise clinical service capacity through the construction of Building A (integrated Clinical Core), Building B (In-Patient Wards), and Building C (JKN Service Block).
- Strengthen specialist medical education capacity through the construction of Building J-M (7-storey Education and Training Block) including OSCE simulation, surgical phantoms, BSL-3 capable microbiology, and clinical research unit space.
- Expand pulmonary excellence services to include comprehensive MDR-TB management, advanced bronchoscopy, lung cancer therapy, and integrated KJSU (Cancer, Heart, Stroke, Urology/Nephrology) priority services.
- Apply Smart Hospital and Green Hospital design principles to maximise resource efficiency, occupant well-being, and lifecycle cost-effectiveness.
- Maintain the institutional heritage of RSGP (1914 Methodist Zending → 1928 Sanatorium → 2026 General Hospital) by preserving and adaptively reusing colonial-era buildings within the integrated campus master plan.

1.3 Project Activities and Expected Results

The Project encompasses the following main activities,

- **Construction of Building A - Clinical Core,** including emergency services, radiology, diagnostic rooms, integrated laboratories, intensive care, operating theatre centre, cathlab, CSSD, parking, and supporting mechanical-electrical functions.

- **Construction of Building B - Outpatient and Inpatient Block,** including parking, VIP/BPJS polyclinics, pharmacy, executive outpatient/MCU/vaccination services, cathlab/ICCVCU, private inpatient wards, isolation beds, treatment rooms, and rehabilitation services.
- **Construction of Building C - JKN and Priority Service Block,** including chemotherapy, chemotherapy pharmacy, haemodialysis, doctor-nurse lounge, regular/JKN inpatient wards, isolation beds, treatment rooms, and staff zones.
- **Construction of Building J-M - Education, Training and Research Block,** including lobby, retail, meeting rooms, audiovisual rooms, training rooms, OSCE/simulation rooms, laboratory stations, surgical simulation, lockers, discussion rooms, and auditorium.
- **Medical, teaching and support equipment upgrade,** including diagnostic, laboratory, emergency, intensive care, haemodialysis, chemotherapy, operating theatre, education, simulation, and digital hospital systems, subject to final procurement scope.
- **Smart and green hospital measures,** including digital hospital integration, energy efficiency, water efficiency, rainwater harvesting where feasible, natural lighting/ventilation where clinically appropriate, resilient building systems, and environmental health controls.
- **Safeguards and regulatory deliverables,** including ESIA-ESMP, AMDAL, Pertek BMAL, Pertek BMUE, Rintek B3, ANDALALIN, stakeholder engagement, grievance management, and monitoring arrangements.
- **Service continuity and transition planning,** including internal relocation of functions, patient transfer procedures, emergency access protection, utility continuity, and management of temporary changes to patient, visitor, worker, and vehicle circulation.

The expected results include increased bed capacity, improved emergency and diagnostic capacity, better infection prevention and control infrastructure, stronger teaching and research capacity, improved patient flow, improved service quality for both JKN and non-JKN patients, and stronger compliance with hospital environmental health and safety requirements. The transition plan should aim to maintain ongoing services during construction, with any temporary reduction in service availability managed so that essential hospital functions continue and service reduction does not exceed the agreed planning threshold of 15 percent unless approved by hospital management and the Ministry of Health.

1.4 Purposes of the ESIA/ESMP

The purpose of the ESIA-ESMP is to evaluate and manage the potential environmental and social risks and impacts of the RSGP redevelopment, the purposes are:

- **Informed decision making,** to provide decision-makers with clear information on environmental, social, health, safety, heritage, climate, and operational risks before construction and financing decisions are finalised.

- **Regulatory compliance,** to support compliance with Indonesian environmental, spatial, building, traffic, labour, health, hospital, wastewater, emissions, hazardous waste, and cultural heritage requirements.
- **AIIB ESF alignment,** to align the Project with AIIB ESS1 and screen whether ESS2 and ESS3 are triggered or require further confirmation.
- **Community and patient well-being,** to ensure the Project contributes to better healthcare access and service quality while minimising adverse impacts on patients, hospital staff, visitors, surrounding communities, and vulnerable groups.
- **Public health protection,** to assess risks related to infection control, TB/MDR-TB management, wastewater, hazardous medical waste, indoor air, construction disturbance, emergency access, and hospital service continuity.
- **Sustainable development,** to integrate resource efficiency, climate resilience, green building principles, waste reduction, safe materials management, and operational environmental performance into the Project.
- **Trust and transparency,** to support meaningful stakeholder engagement, information disclosure, grievance handling, and traceable responses to concerns raised by patients, staff, neighbouring communities, regulators, and other stakeholders.
- **Monitoring and adaptive management,** to establish practical mitigation measures, monitoring indicators, reporting duties, and corrective actions that can be implemented by the PIU, hospital management, contractors, supervision consultants, and operating units.

1.5 Methodology for Preparing ESIA

The preparation of the ESIA-ESMP follows a structured methodology l ESIA-ESMP, adapted to the RSGP site and project context. The key steps are described below.

Table 2 Environmental and Social Assessment Stages

Methodological step	Main activities	RSGP application / status
Scoping and initial screening	Identify project components, applicable standards, likely environmental and social risks, and key data gaps.	Completed at v0.1 using available FS, schematic design, permits, hospital profile, and AIIB ESF requirements, to be refined after DED.
Document review	Review feasibility study, masterplan, schematic design, permits, UKL-UPL records, hospital service data, applicable regulations, and comparable ESIA references.	RSGP v0.1 is based on existing planning and administrative documents, several records remain placeholders to be obtained or verified.
Baseline data collection	Collect environmental and social baseline data, including air, noise, water, traffic, biodiversity, land use, cultural	Environmental monitoring conducted by the RSGP will be used as environmental baseline data, secondary data will be

Methodological step	Main activities	RSGP application / status
	heritage, workforce, service users, and vulnerable groups.	triangulated with BPS, BMKG, DLH, hospital data, and site observations.
Impact and risk assessment	Identify positive and adverse impacts across pre-construction, construction, operation, and decommissioning considerations.	Priority risks include dust, noise, vibration, drainage, construction waste, B3 waste, hospital service continuity, traffic, OHS, community health and safety, infectious disease control, and heritage.
Mitigation and ESMP development	Apply the mitigation hierarchy and prepare management measures with responsibilities, timing, monitoring indicators, and reporting.	Measures will be integrated into the Contractor ESMP, hospital transition plan, infection prevention controls, waste management, traffic management, and heritage protection procedures.
Stakeholder engagement	Consult affected and interested parties and disclose relevant information in accessible formats.	Engagement should include hospital staff, patients, local government, surrounding communities, regulators, TNGGP/BPCB if relevant, vulnerable groups, and service providers.
Monitoring and reporting	Define monitoring parameters, frequency, responsible parties, data records, escalation triggers, and corrective actions.	Monitoring arrangements will be updated after DED, AMDAL, ANDALALIN, Pertek, and baseline results are available.

1.5.1 Data Sources Underpinning the Assessment

The analytical foundation has been substantially strengthened by the comprehensive data corpus provided by RSGP. Secondary data sources comprise,

- Pre-Feasibility Study RSGP (11 March 2026), internal pre-FS issued by RSGP management led by Direktur Utama DR. dr. Zulvayanti, Sp.OG(K), M.Kes.
- KMK No. HK.01.07/MENKES/1954/2024 on the Master Plan for the Development of RSGP.
- Masterplan RS Paru Goenawan Cisarua (detailed master plan PDF, 20.8 MB).
- Profil RSGP 2024 (institutional profile and 2024 operational data).
- Skematik Desain RS Paru Cisarua 260207 R0 (visual schematic design slides, February 2026).
- OSS-confirmed permits corpus, NIB 9120304812536, KBLI 86101, PKKPR 14072210213201073 (14 Juli 2022, *luas* 6.70 Ha, 17 vertex coordinates), NPWP 00.144.706.9-434.000, IMB RSGP 2014, IPPT RSGP 2013, SIO 2025 *perpanjangan operasional*, KTP & NPWP Penanggung Jawab.
- SK SOTK RSGP, HK.02.03/D.XLII.2/02560/2024 dated 23 February 2024, current organisational structure.

- UKL-UPL document (296 pages, scanned, May 2026) and SK Persetujuan Kesanggupan Kelola Lingkungan KLH (37 pages), text extraction from scanned files pending, key parameter trends will be incorporated.
- MoU *Pengelolaan Limbah* B3, *sampah domestik, dan sejenis*, third-party processor contracts.
- AIIB Environmental and Social Framework (2024) and supporting guidance notes.
- National legislation registers (Law 32/2009, PP 22/2021, PermenLHK 4/2021, Permenkes 7/2019 on Hospital Environmental Health, Law 11/2010 on Cultural Heritage).

1.5.2 Screening for Associated Facilities

Under the AIIB Environmental and Social Framework, Associated Facilities are facilities or activities that are not included in the Project description in the legal agreement but are directly and materially related to the Project, are carried out or planned to be carried out contemporaneously with the Project, and are necessary for the Project to be viable and would not be carried out if the Project did not exist. Where the client controls or has influence over such facilities, the applicable AIIB environmental and social requirements should be applied to the extent of that control or influence. Where the client does not control them, the ESIA should identify the risks that such facilities may present and mitigation measures within the client's control.

Based on the screening, Associated Facility identified the hospital's expansion will involve renovating and expanding several existing buildings. Some existing buildings will be demolished to make way for new buildings and facilities.

Several linked infrastructure and service interfaces are nevertheless relevant to the Project and should remain within the ESMP control framework. The screening must be revisited after DED, utility capacity confirmation, ANDALALIN, Pertek, and contractor planning are available.

Management of Client-Controlled Associated Facilities

The existing buildings, utilities, and hospital functions identified as Associated Facilities are located within the RSGP campus and are operated by RSGP under the Ministry of Health. RSGP and the Project Implementation Unit therefore have substantial control over their planning, relocation, demolition, contractor procurement, work sequencing and environmental and social management. The demolition, renovation and relocation activities will consequently be subject to the same environmental and social requirements applied to the main AIIB-funded works, including AIIB ESS1, applicable Indonesian requirements, the Project ESMP, contractor C-ESMP and relevant hospital procedures.

RSGP’s responsibilities include approving the final demolition and relocation scope, confirming that replacement facilities and service-continuity arrangements are operational before existing functions are discontinued, obtaining permits and asset-removal approvals, incorporating environmental and social requirements into procurement documents and contracts, providing adequate budget, supervising contractor performance, managing stakeholder communication and grievances, and

reporting material incidents to the PMU and AIIB. Contractors will implement the approved demolition, relocation and construction controls, while the Supervision Consultant will verify compliance and report outstanding corrective actions.

No AF-related demolition or relocation will commence until a facility-specific risk assessment, method statement and readiness checklist have been approved. These documents must identify the affected facility, current function, users, hazardous-material risks, utilities, replacement location, service-transition sequence, waste-management route, emergency arrangements and responsible parties.

Table 3 Management of Existing Facilities Affected by Project Construction

Associated Facility group	Main facility-specific risks	RSGP/client responsibility	ESMP arrangement
Facilities affected by Building A: Physiotherapy and Administration Building, groundwater tank, water well, generator and incinerator building, garage and cooperative building	Interruption of water and electricity, fuel, oil, ash or contaminated-soil risks around generator and incinerator areas, unsafe well closure, loss of physiotherapy, administration, transport or cooperative functions, asbestos and hazardous materials, dust, noise, vibration and traffic conflicts near active clinical areas	Confirm replacement utilities and temporary service locations before disconnection, approve utility-isolation sequence, complete hazardous-material and contamination screening, obtain well-closure, demolition and asset-removal approvals, maintain emergency power, water and vehicle access	Facility-specific Demolition and Relocation Plan, hazardous-material and asbestos survey, soil inspection around fuel/incinerator areas, lock-out/tag-out procedure, alternative utility supply, service-continuity plan, licensed waste transport, dust, noise and vibration monitoring
Facilities affected by Building B: Pharmacy, operating theatre–ICU–CSSD building, Melur Building, General Administration Building and Nutrition Building	Disruption of pharmacy, surgery, intensive care, sterilisation, administration and patient food services, transfer of medicines, controlled substances, sterile materials and medical records, infection-control failures, food-safety risks, temporary reduction of critical hospital capacity, medical, pharmaceutical and B3 waste	Approve replacement locations and validate that they are operational before relocation, maintain medicine security and cold chain, confirm sterile-supply arrangements, approve patient-transfer procedures, protect medical records, maintain food preparation and distribution capacity	Department-level transition plans, pharmacy inventory and chain-of-custody procedure, CSSD and infection-prevention validation, temporary food-safety and nutrition plan, patient transfer protocol, clean/dirty route separation, service-continuity indicators and weekly management review

Facilities affected by Building C: Mawar inpatient building, Mawar isolation room and male dormitory	Temporary reduction in inpatient and isolation capacity, unsafe transfer of respiratory or infectious patients, infection transmission, interruption of oxygen, medical gas and nursing support, relocation of dormitory occupants, loss of worker accommodation, hazardous materials and demolition safety	Confirm replacement beds and isolation capacity, approve clinical transfer criteria and routes, ensure medical-gas and utility readiness, consult patients, carers, staff and dormitory occupants, provide appropriate alternative accommodation where required	Inpatient and isolation service-transition plan, patient-transfer risk assessment, PPI-approved infection-control arrangements, medical-gas commissioning, temporary wayfinding and accessible routes, accommodation inspection, advance notification and GRM monitoring
Facilities affected by Buildings J-M: Wijaya Kusuma Building, prayer room and Garuda Building	Potential damage to older or heritage-sensitive structures, loss of meeting, training, administrative or worship space, disruption of staff and visitor activities, community concern regarding the prayer room, dust, noise and vibration near retained buildings	Confirm cultural-heritage status before works, provide suitable replacement worship and institutional spaces before closure, consult hospital users, approve buffer zones and building-condition surveys, coordinate with cultural-heritage authorities where required	Cultural Heritage Management Plan, pre-demolition heritage screening, photographic and structural condition survey, vibration and crack monitoring, temporary prayer-room arrangements, stakeholder notification, chance-find procedure, heritage incident-response protocol

Table 4 Associated Facilities Screening

No	Potential Linked Facility / Activity	Financing Source / Responsible Party	Directly and Materially Related to the Project	Contemporaneously with the Project	Necessary / Project-Dependent/viability	Conclusion / ESMP Action
1	IPAL upgrade and wastewater technical approval (Pertek BMAL)	RSGP / DEDC / wastewater specialist / regulator	Directly related to operational compliance of the expanded hospital.	Existing WWTP with capacity 126 m^3/day	The upgraded of WWTP capacity (225 m^3) will be constructed. If the upgrade is included in Project design or mitigation, it is a Project component. If separately financed but necessary, classification must be rechecked.	Not An Associated Facility. Treat as ESMP-critical and reassess after DED and Pertek BMAL scope are confirmed.
2	Future masterplan development beyond Buildings A, B, C, and J-M	RSGP / Ministry of Health / future financier	May be institutionally related but outside current project scope.		Not necessary for the current Project to operate as designed unless later integrated into the legal agreement or DED scope.	Not an Associated Facility. Track as cumulative/future development if timing overlaps.
3	Physiotherapy & Administration building, GWT building, Water Well, Generator and Incinerator room, Garage, and Union Cooperative Building	AIIB	Will be partially renovated or demolished for the construction needs of Building A - Clinical Core.	Existing facilities of the hospitals	Yes, based on the current design. Building A cannot be constructed safely or as designed unless the affected buildings, utilities, and support functions are demolished, modified, relocated, or protected. These works would not be carried out in the same form, location, or timing without the RSGP redevelopment Project.	Associated facilities

No	Potential Linked Facility / Activity	Financing Source / Responsible Party	Directly and Materially Related to the Project	Contemporaneously with the Project	Necessary / Project-Dependent/viability	Conclusion / ESMP Action
4	Pharmacy Building, OK-ICU-CSSD Building, Melur Building, General Administration building, and Nutrition building	AIIB	Will be partially renovated or completely demolished for the construction needs of Building B - Outpatient and Inpatient Block.	Existing facilities of the hospitals	Yes, based on the current design. Building B cannot be constructed as planned unless the affected buildings and functions are first relocated, protected, renovated, or demolished. These works are Project-dependent and would not occur in the same form, location, or timing without the RSGP redevelopment Project.	Associated facilities
5	Mawar inpatient building, Mawar Isolation room, Men Dormitory	AIIB	Will be partially renovated or completely demolished for the construction needs of Building C - JKN Service and Priority Service Block.	Existing facilities of the hospitals	Yes, based on the current design. Building C cannot be constructed as planned unless the affected buildings and associated functions are first relocated, renovated, protected, or demolished. These works are Project-dependent and would not occur in the same form, location, or timing without the RSGP redevelopment Project.	Associated facilities
6	Wijaya Kusuma building, Prayer room and Garuda building	AIIB	Will be partially renovated or completely demolished for the construction needs of Building J-M -	Existing facilities of the hospitals	Yes, based on the current design. The Education, Training and Research Block cannot be constructed as planned unless the affected buildings and functions are first relocated, renovated,	Associated facilities

No	Potential Linked Facility / Activity	Financing Source / Responsible Party	Directly and Materially Related to the Project	Contemporaneously with the Project	Necessary / Project-Dependent/viability	Conclusion / ESMP Action
			Education, Training and Research Block.		protected, or demolished. These works are Project-dependent and would not occur in the same form, location, or timing without the RSGP redevelopment Project.	

Note: This screening is preliminary. It should be updated once the DED, utility designs, ANDALALIN, Pertek BMAL/BMUE, and construction procurement packages are finalised.

Combined and Cumulative Impact Considerations

The conclusion that a linked facility or activity is not an Associated Facility does not exclude it from the Project's cumulative impact assessment. Where other construction, demolition, utility upgrading, hospital renovation, or future masterplan activities occur within or near the RSGP campus during the same period, their combined effects must be considered together with the AIIB-funded Project.

The assessment will consider not only combined environmental impacts, such as dust, noise, vibration, waste generation, wastewater loading, traffic and drainage disruption, but also social impacts affecting workers, patients, hospital staff, nearby communities, businesses and public services. Relevant social pathways include labour influx, demand for accommodation and food, competition for water and transport services, pressure on local health and public services, increased traffic and road-safety risks, disruption of hospital access, competition for local employment and procurement opportunities, changes to tenant and vendor livelihoods, worker–community interaction, GBV/SEA/SH and communicable-disease risks, and possible tension arising from unequal access to Project benefits.

The cumulative assessment should be updated when the DED, construction schedules, contractor workforce requirements, IPAL upgrade programme and future masterplan implementation dates are confirmed. Where activities overlap, RSGP and the PIU should require coordinated scheduling, shared workforce and traffic controls, consolidated stakeholder engagement, common grievance monitoring, and joint reporting of cumulative impacts.

1.6 ESIA-ESMP and AMDAL Preparation Schedule

The preparation of the ESIA-ESMP and AMDAL for the RSGP redevelopment will be undertaken in parallel so that lender safeguards requirements and Government of Indonesia environmental approval requirements are aligned. The ESIA-ESMP will be prepared to meet the AIIB Environmental and Social Framework requirements, while the AMDAL will be prepared in accordance with the Indonesian environmental approval process, including KA-ANDAL, ANDAL, and RKL-RPL. Both processes will use the same project description, baseline data, stakeholder engagement records, impact assessment findings, and mitigation commitments to avoid inconsistency between the ESMP and RKL-RPL.

The schedule is indicative and will be updated as the Detailed Engineering Design, baseline survey results, AMDAL process, ANDALALIN, wastewater and emission technical approvals, Rintek B3, and stakeholder consultation outcomes become available. The timing may also be adjusted based on regulator review, AIIB review, Amdalnet submission requirements, and project design changes.

The ESIA-ESMP and AMDAL schedules must remain linked throughout preparation and implementation. Any material change in project footprint, construction method, demolition scope, hospital service transition, wastewater design, traffic arrangement, or community access must be checked against both documents. Where the ESMP and RKL-RPL contain similar commitments, the higher or more protective requirement should be applied and reflected consistently in contractor requirements and hospital management procedures.

Table 5 ESIA-ESMP and AMDAL Preparation Schedule

No	Activity / Milestone	Main Scope	Indicative Timing	Key Output / Status
1	Initial ESIA-ESMP scoping and document review	Review Feasibility Study, masterplan, schematic design, permits, UKL-UPL records, hospital operational data, applicable regulations, and AIIB ESF requirements.	April-May 2026	Preliminary ESIA-ESMP scope, initial risk screening, data gap list, and draft Chapter 1-3.
2	Project screening and safeguards alignment	Confirm applicable AIIB ESS requirements, screen Associated Facilities, identify key environmental and social risks, and align ESIA scope with AMDAL requirements.	May 2026	Initial safeguards screening, Associated Facilities screening, and ESIA-AMDAL alignment note.
3	Primary baseline survey	Conduct baseline survey covering air quality, noise, vibration, water quality, biodiversity walkover, traffic, social receptors, community access, vulnerable groups, and hospital service continuity issues.	May-June 2026	Baseline dataset and preliminary baseline findings for ESIA-ESMP and AMDAL.
4	KA-ANDAL preparation and public announcement / consultation	Prepare KA-ANDAL scope, identify significant potential impacts, announce the project, conduct required public consultation, and record community inputs.	June-July 2026	KA-ANDAL draft, consultation minutes, stakeholder comments, and response matrix.
5	DED and project design integration	Update project description, building footprint, construction phasing, demolition scope, utility design, access arrangements,	July-August 2026	Updated project description and design-based impact assessment assumptions.

No	Activity / Milestone	Main Scope	Indicative Timing	Key Output / Status
		drainage, wastewater, emissions, and traffic assumptions based on DED progress.		
6	ESIA-ESMP impact assessment and mitigation development	Assess pre-construction, construction, and operational impacts, prepare mitigation hierarchy, ESMP commitments, monitoring indicators, responsibilities, and reporting requirements.	July-September 2026	Draft ESIA-ESMP impact assessment, mitigation matrix, monitoring plan, and ESMP implementation framework.
7	ANDAL and RKL-RPL preparation	Prepare detailed AMDAL impact assessment and environmental management and monitoring plans, ensuring consistency with ESIA-ESMP mitigation and monitoring commitments.	August-October 2026	Draft ANDAL and RKL-RPL for internal review and Amdalnet submission preparation.
8	Supporting technical studies and approvals	Prepare or update ANDALALIN, Pertek BMAL, Pertek BMUE, Rintek B3 / TPS B3, and other technical inputs required for environmental approval and ESMP implementation.	August-November 2026	Draft technical approval documents and safeguards-relevant summaries for ESIA annexes.
9	ESIA-ESMP disclosure version	Prepare and disclose the ESIA-ESMP on the RSGP website, including a plain-language Bahasa Indonesia Executive Summary and accessible information on key impacts, mitigation measures, GRM, and consultation arrangements for affected stakeholders.	September -October Disclosure at least 30 calendar days before AIIB considers the financing for approval, unless AIIB confirms a different disclosure period. Timing to be coordinated with PMU and AIIB.	Disclosure-ready ESIA-ESMP and Bahasa Indonesia Executive Summary, with website posting and disclosure records maintained as evidence.

No	Activity / Milestone	Main Scope	Indicative Timing	Key Output / Status
10	AMDAL submission, review, and revision	Submit KA-ANDAL / ANDAL / RKL-RPL through the applicable AMDAL process, attend technical review meetings, and revise documents based on regulator comments.	October-December 2026, subject to regulatory schedule	Revised AMDAL documents and response-to-comments record.
11	Final ESIA-ESMP and AMDAL harmonisation	Update the ESIA-ESMP and AMDAL based on the latest DED, baseline data, stakeholder feedback, technical studies and approvals, and comments from AIIB and the regulator.	Target date to be agreed after review of DED, AMDAL progress, technical studies, and outstanding data gaps	Harmonised ESIA-ESMP, ANDAL, RKL-RPL, ESMP, monitoring plan, SEP, GRM, GAP, and supporting annexes.
12	Formal submission and clearance process	Submit the final ESIA-ESMP to AIIB and the final AMDAL package to the relevant environmental authority.	To be discussed and formally confirmed by PMU, AIIB, RSGP, the consultant, and the regulator	Final submission package and response-to-comments record. Submission does not itself constitute AIIB or regulatory clearance.
13	Pre-construction update before mobilisation	Update ESMP, Contractor ESMP requirements, construction traffic management plan, hospital transition plan, GRM, workforce plan, and emergency response arrangements before physical works begin.	Before construction mobilisation	Construction-ready ESMP package and contractor safeguards requirements.

No	Activity / Milestone	Main Scope	Indicative Timing	Key Output / Status
14	Construction-phase updates and reporting	Update the ESIA-ESMP as a living document based on monitoring results, grievances, design changes, site inspections, and contractor performance.	Quarterly during construction or as required by AIIB / regulator	ESMP implementation reports, corrective action records, and updated risk register.

The Final ESIA-ESMP date will be confirmed through a reconciled programme showing the dependencies between DED development, baseline surveys, AMDAL preparation, ANDALALIN, Pertek BMAL/BMUE, waste-management approvals, stakeholder consultation, disclosure, and AIIB review. Where any of these inputs remain incomplete, the ESIA-ESMP will continue to be treated as a living document and updated before construction mobilisation.

2 PROJECT DESCRIPTION

The Project involves the redevelopment of RSGP within its existing hospital campus to expand and integrate clinical services, inpatient capacity, emergency and diagnostic functions, and education, training and research facilities. The redevelopment will be undertaken within an operating hospital and will include new buildings, demolition and relocation of selected existing facilities, utility adjustments, and changes to internal circulation and service arrangements.

The Project is based on the current feasibility study, masterplan and schematic design. Building functions, floor areas, capacities, layouts and implementation timing remain indicative and will be confirmed through the Detailed Engineering Design. This chapter describes the planned physical components, spatial organisation, circulation, development phases, demolition and relocation requirements, and expected operational capacity.

2.1 Project Description

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2.1.0 Main Project Components

The redevelopment consists of four main building groups, Building A, Building B, Building C, and Building J-M. These facilities are intended to address current service constraints, improve integration of clinical and support functions, expand JKN and non-JKN inpatient capacity, strengthen pulmonary excellence, support KJSU priority services, and provide dedicated education and training spaces required for the hospital-based specialist education role.

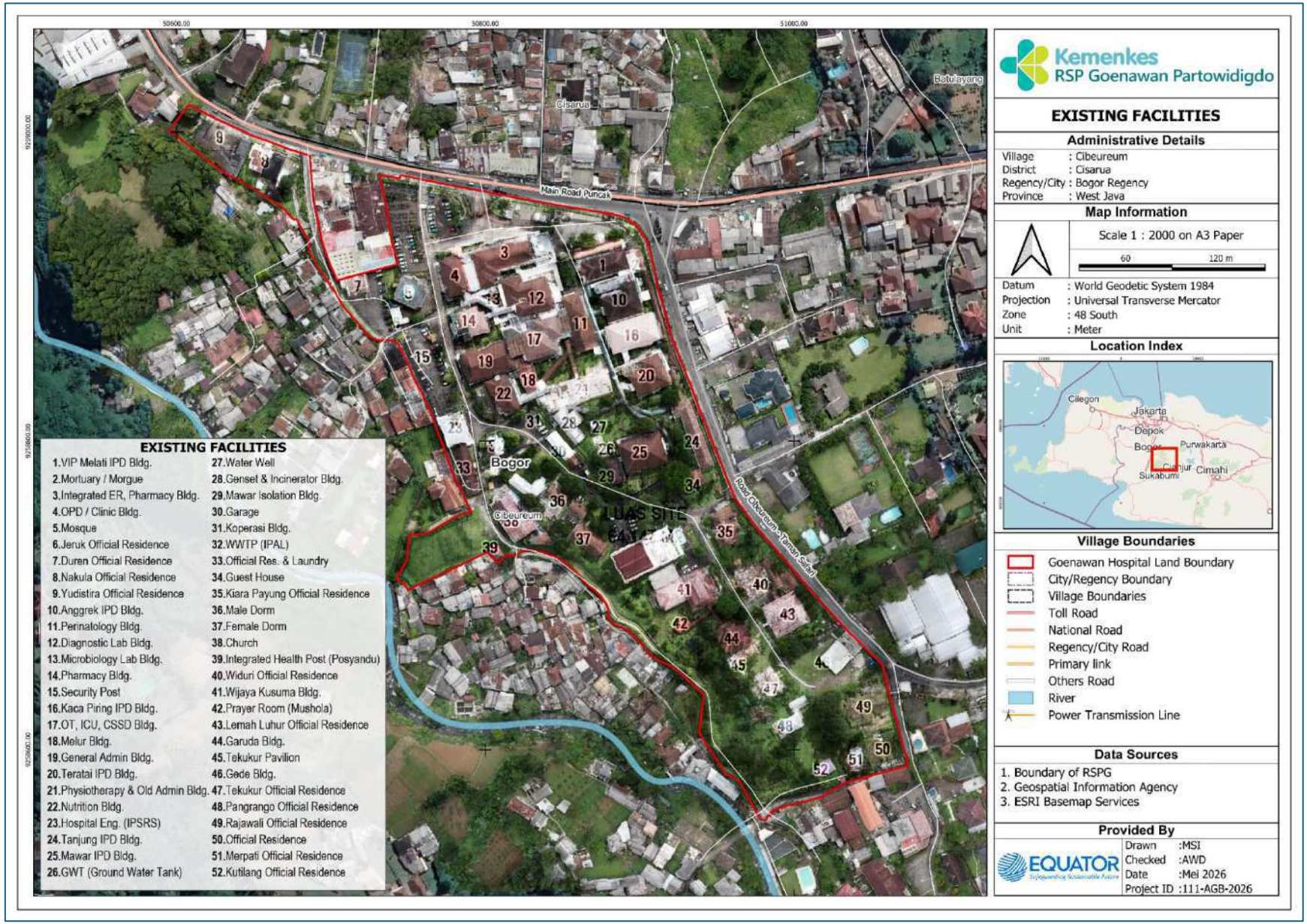


Figure 2 Existing Hospitals Facilities

The AIIB-financed RSGP redevelopment comprises four principal building groups: (1) Building A – Clinical Core, (2) Building B – In-Patient, (3) Building C – JKN Block, and (4) Buildings J-M – Education and Training. These buildings will accommodate emergency, diagnostic, intensive care, surgical, outpatient, inpatient, education, training, and research functions. Final floor areas, layouts, and service allocations remain subject to confirmation through the DED.

Table 6 AIIB-Financed Project Buildings and Main Functions

Component / Building	Indicative Functions	Indicative Area / Capacity	Safeguards And Operational Notes
Building A - Clinical Core	Basement parking and CSSD, Level 1 IGD and radiology, Level 2 diagnostic rooms and integrated laboratory, Level 3 intensive care (ICU-HCU-NICU-ICCU), Level 4 operating theatre centre with 6 operating rooms and cathlab.	Approx. 8,963 m2 total schematic area, includes critical emergency, laboratory, intensive care, operating theatre, and cathlab functions.	High relevance for infection control, emergency access, medical gas, HVAC/negative pressure, B3 waste, wastewater, power redundancy, construction phasing, and service continuity.
Building B - Outpatient and Inpatient Block	Basement parking, Level 1 VIP/BPJS polyclinics and pharmacy, Level 2 executive polyclinic, MCU, vaccination, cathlab/ICCVCU, Levels 3-5 private, Class 1, VIP/VVIP inpatient and isolation rooms, treatment rooms, and rehabilitation services.	Approx. 13,174 m2 total schematic area, inpatient capacity approx. 105 beds including VIP/VVIP, Class 1, private, and isolation beds.	Requires careful patient flow, accessibility, segregation of infectious and non-infectious flows, fire safety, parking, and noise/dust controls during construction.
Building C - JKN Service and Priority Service Block	Level 1 chemotherapy, chemotherapy pharmacy, haemodialysis, meeting/staff lounge, Levels 2-4 regular/JKN inpatient wards, isolation rooms, treatment rooms, and staff zones.	Approx. 6,373 m2 total schematic area, inpatient capacity approx. 144 beds, haemodialysis 8 beds, chemotherapy 4 beds plus seating.	Important for JKN service access, vulnerable patient management, infection prevention, chemical handling, water/wastewater load, B3 waste, and emergency preparedness.
Building J-M Education, Training and Research Block	Lobby/lounge, retail, meeting rooms, audiovisual rooms, training rooms, discussion rooms, OSCE/simulation rooms, lab stations, gas medical training space, simulation operating room, lockers, prefunction area, service rooms, control room, and auditorium.	Building J approx. 4,104 m2, Building M approx. 1,009 m2, includes training rooms, audiovisual rooms, meeting rooms, discussion rooms, and auditorium.	Supports RSPPU role, requires accessibility, student/staff safety, emergency evacuation, traffic/parking planning, gender-responsive facilities, and coordination with clinical service zones.

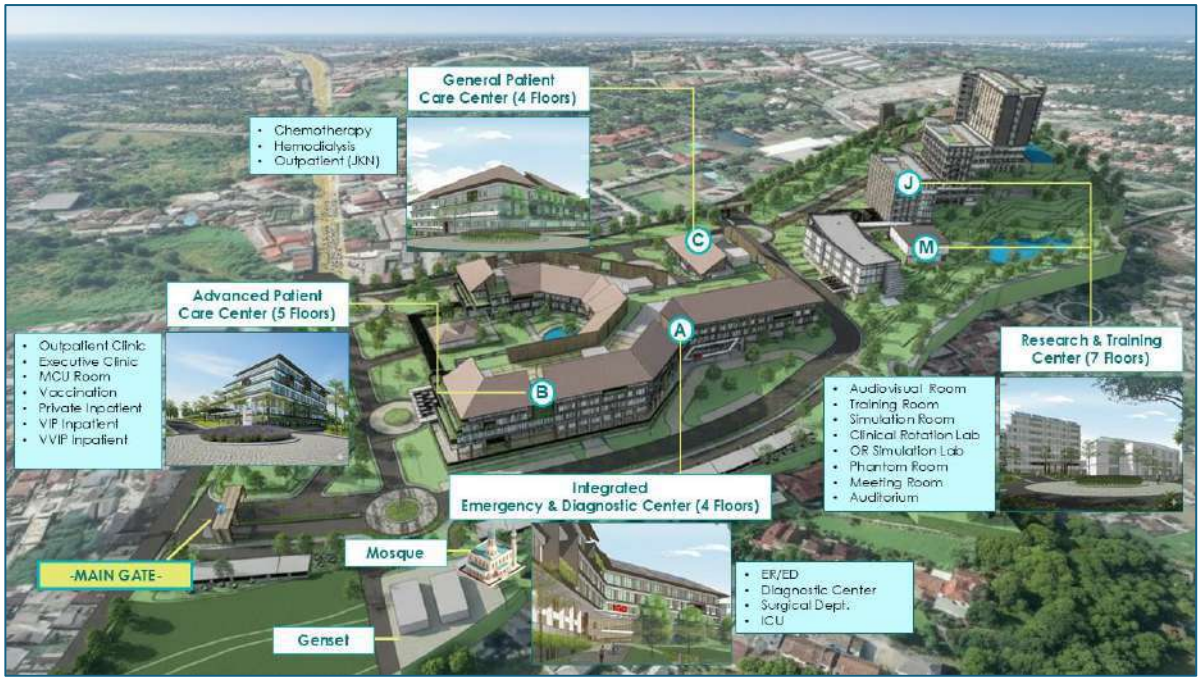


Figure 3 Hospital Development Plan

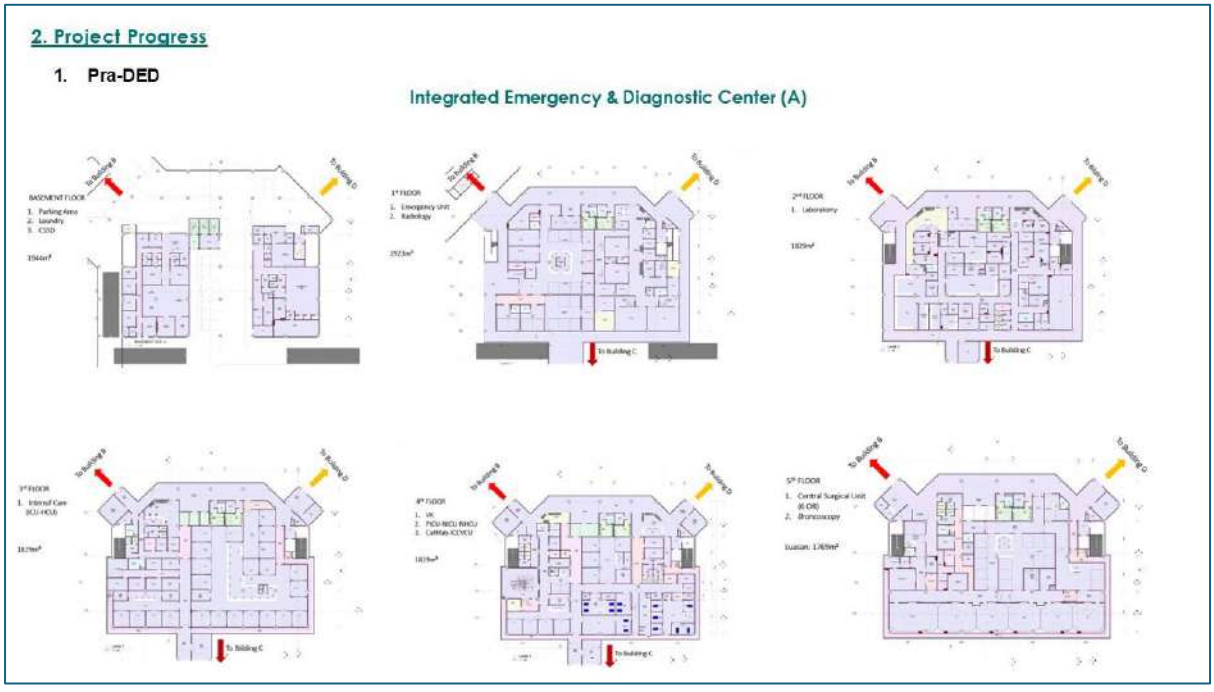


Figure 4 Building A (Integrated Emergency & Diagnostic Center)

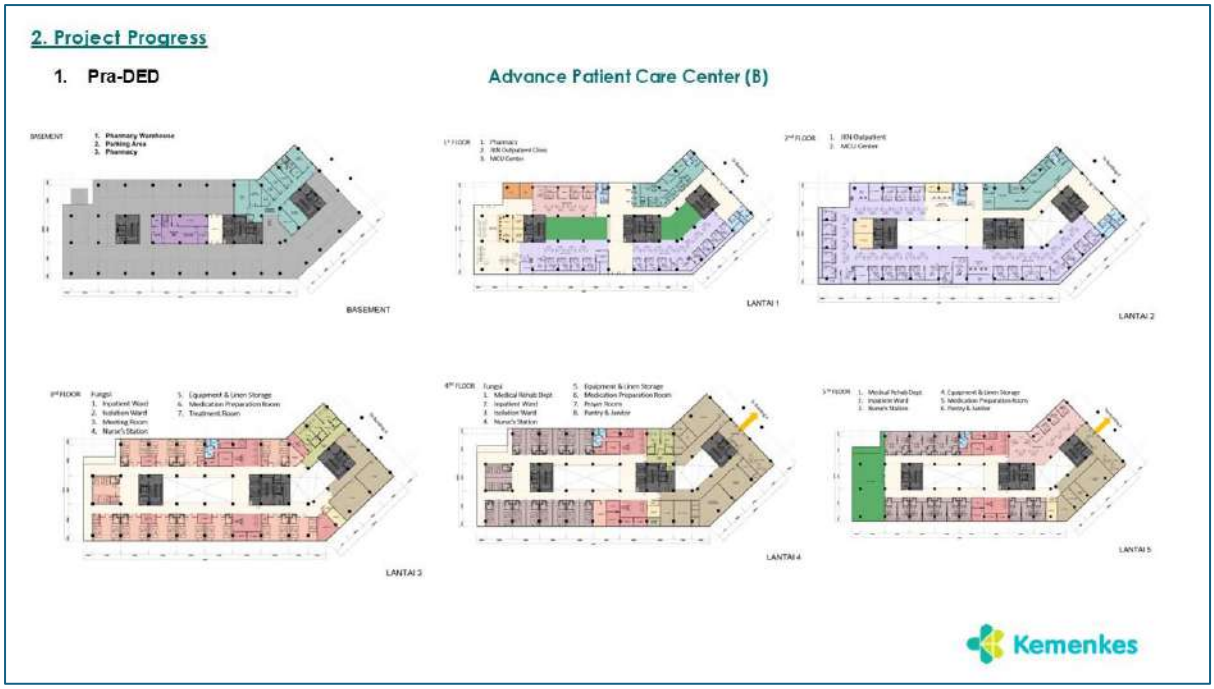


Figure 5 Building B (Advance Patient Care Center)

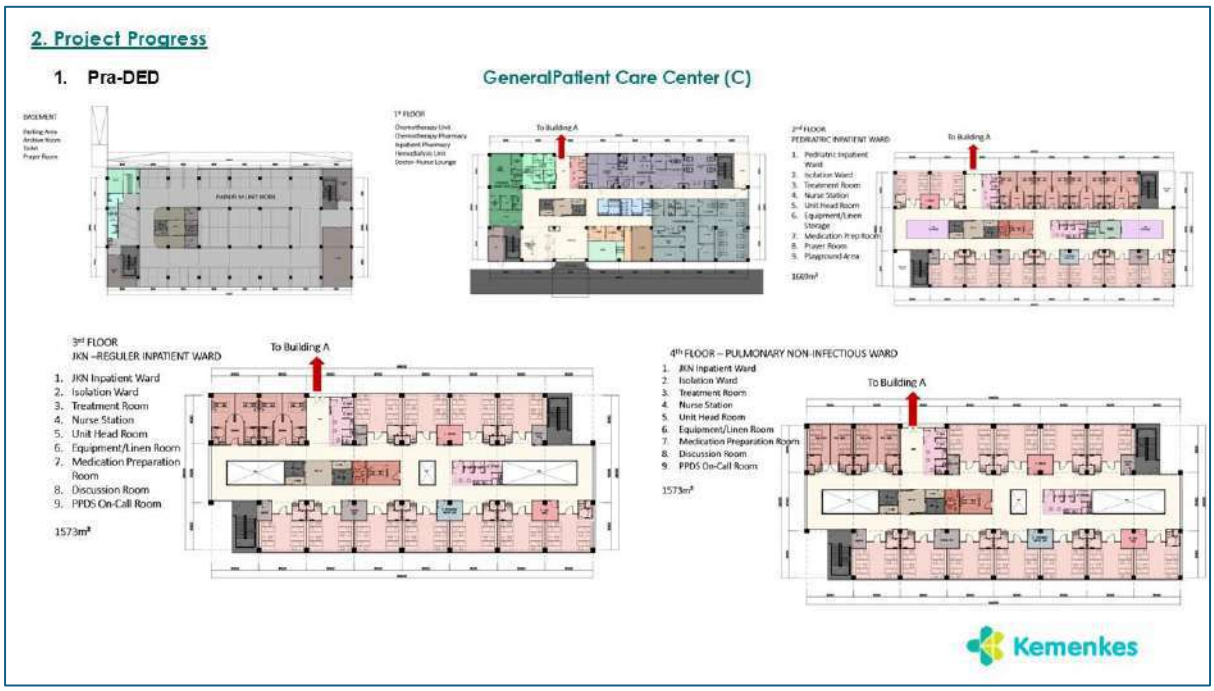


Figure 6 Building C (General Patient Care Center)

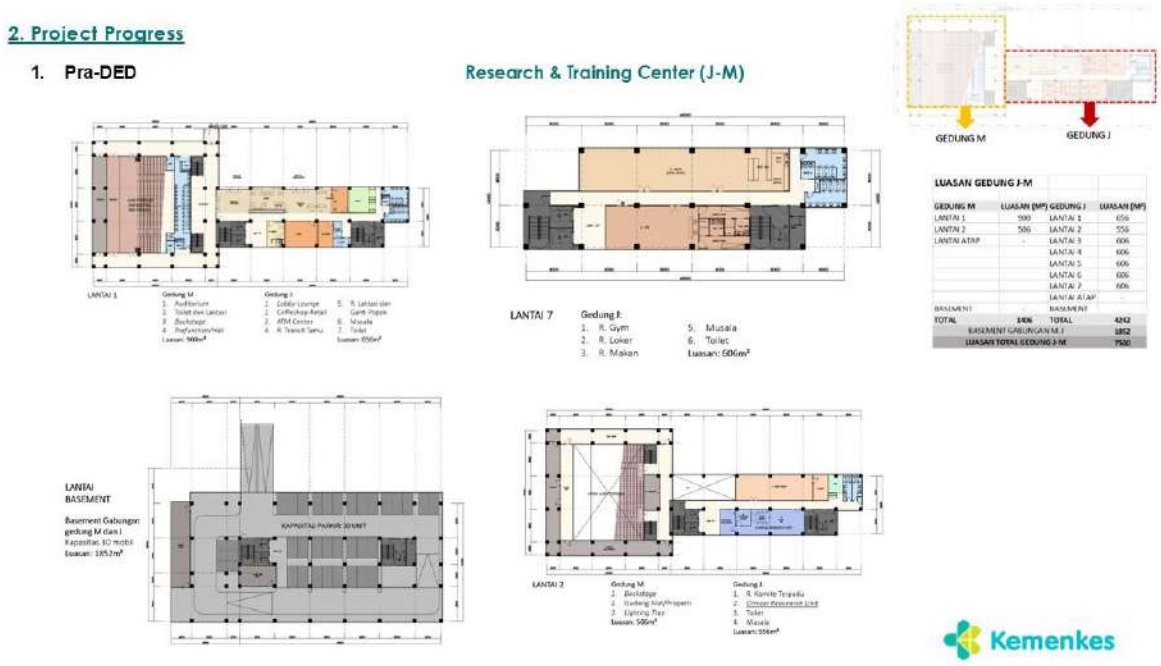


Figure 7 Building J-M section 1 (Research & Training Center)



Figure 8 Building J Section 2 (Research & Training Center)

2.1.1 Building Block Development Concept

The main concept for developing the building blocks is to divide the area into two large groups: a medical zone and a non-medical/support zone. The medical zone serves as the center of patient care

activities, encompassing the emergency room (ER), diagnostic center, procedure rooms, intensive care unit (ICU), outpatient services, regular inpatient services, private inpatient services, and an infectious disease building. Meanwhile, the non-medical zone is developed to support education, training, research, dormitories, auditoriums, hotels, retail, mosques, utilities, open spaces, and other supporting facilities. This division is crucial to avoid mixing high-risk clinical activities with public, academic, and service activities.

The building block development concept also considers circulation integration. Building A, the emergency room and diagnostic center, must be connected to Buildings B and C to allow both outpatients and inpatients access to the laboratory, radiology, ICU, operating rooms, and medical procedures without long distances. Meanwhile, Buildings J-M must remain connected to clinical services as an educational facility, but with controlled access to ensure student activities do not disrupt patient care.



Figure 9 Block Plan

2.1.2 Zoning Plan

The hospital development plan takes into account zoning considerations. The basic principles in determining zoning are:

1. Segregated flows
    - Public flow (patient, family, and visitor)

- Clinical flow (referral patients and clinical internal transport)
- Emergency flow (ambulance and emergency situation)
- Services and logistic flow (goods, waste, foods, and pharmacy)
- Staff and academic flow (employees, students and researchers)

2. Clinical adjacency



3. Infection and safety risk zones

Infection/isolation zones are created “separate” from public flow with dedicated access and controlled utilities.

4. Integrated vertical development

Podium for high-traffic functions (outpatient, diagnostic), tower for inpatient and subspecialty.

5. Phasing without disrupting operations

Phased construction with a "construction buffer" and alternative routes.

The grouping of buildings in the Goenawan Partowidigdo Hospital area will be grouped based on the level of risk of disease transmission, based on the privacy of activities within the hospital, and based on the type of service and function of the hospital.

A. Zoning Based on Risk Level of Disease Transmission

i. Low risk zone

This area consists of rooms that are not included in medical services, including secretarial and administrative rooms, computer rooms, meeting rooms, archives or medical records rooms.

ii. Medium risk zone

This area consists of polyclinic and inpatient rooms that are not used for the treatment of infectious diseases.

iii. High risk zone

This area consists of the ICU, ICCU, ICVCU, NCU, laboratory installation, mortuary installation, and radiology installation.

iv. Very High-risk zone

This area consists of the emergency room, central surgical installation, and inpatient care for infectious diseases.

B. Zoning Based on Activity Privacy

i. Public area

This area has direct access to the hospital's external environment. Facilities that meet these criteria include the registration area, the polyclinic rooms, the emergency room, and the pharmacy.

ii. Semi-public area

This area is an area that does not have direct contact with the outside environment of the hospital. It generally receives workload from the public area. Facilities that fall into this category include the Laboratory, Radiology, and Medical Rehabilitation.

iii. Private area

This area is restricted to general hospital visitors. Private areas, as the name suggests, are enclosed spaces. Facilities that fall into this category include the ICU, central surgical installation, and inpatient care.

C. Zoning Based on Services

This zoning is grouped based on the types of hospital services listed in the Minister of Health Regulation. The zoning based on services is divided as follows.

i. Medical services and care zone

This zone is the hospital's primary medical service area. These zones vary in their exclusivity. Outpatient and emergency departments are at the front and are public. The further inward or upwards, the more private the medical zone, the more restricted it is for patients or specific visitors.

ii. Medical support zone

This zone, as its name suggests, supports the hospital's medical diagnostic activities. The medical support zone is semi-public. Facilities include the pharmacy, radiology, laboratory, and mortuary.

iii. Non-Medical support zone

This zone supports the continuity of non-medical hospital services. Facilities include the CSSD, Nutritional Facilities, Laundry Facilities, and the IPSRS. This zone is located away from the hospital's public activities but is easily accessible to relevant facility staff.

iv. Administrative and management zone

The administration and management zone consists of office areas, medical records, and a hall. This zone is used for hospital management activities.

Table 7 Zones in hospitals based on service type

Medical Services and Care Area	Medical Support Area	Non-Medical Support Zone	Administration and Management Area
1. Outpatient facility 2. Emergency Room (IGD) 3. Inpatient room 4. ICU 5. Surgery facilities 6. Obstetrics and gynecology facilities 7. Hemodialysis Unit	1. Pharmacy facilities 2. Radiology facilities 3. Laboratory 4. Blood bank and transfusion unit 5. Corpse screening and forensics	1. Central sterilization installation (CSSD) 2. Nutrition facilities 3. Laundry 4. Sanitation facilities 5. Facilities maintenance installation	1. Hospital management 2. Medical services 3. Nursing services 4. General administration and finance 5. Medical committee 6. Medical records

The zoning arrangement is designed to align with activities during the operational phase. The overall development plan is divided into five phases.

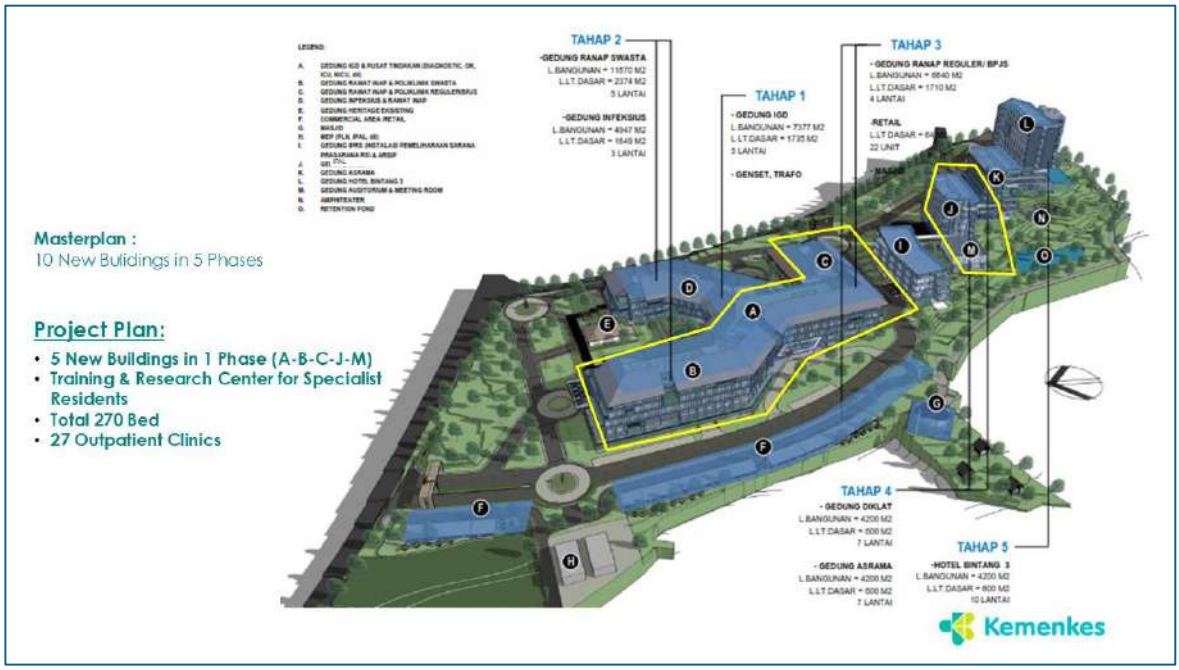


Figure 10 Project Development Phases

Phase 1:

The construction of the building in the first stage is the construction of the Emergency Installation building, Action Center. The Diagnostic Center, intensive care, and the construction or relocation of generators and transformers. The action center is an integrated space in the form of a central surgical installation consisting of five operating rooms. The diagnostic center includes laboratory installations (Clinical Pathology, Anatomical Pathology, and Clinical Microbiology). The intensive care unit consists of an ICU, HCU, NICU, and PICU, with a total of 30 beds.

For the construction of phase 1, it is necessary to demolish the existing building which consists of:

1. Ground water tank
2. Artesian well
3. Generator and incinerator building
4. Garage
5. Staff cooperative building
6. Administration building
7. Fuel tank

Phase 2:

Phase 2 of the development involves the construction of a private service building (outpatient and inpatient) and an infection control facility (outpatient and inpatient). Private services include an executive polyclinic, an international vaccination clinic, and medical check-up services. The private inpatient facility has 14 VVIP and VIP beds. The infectious services building includes an infection control clinic, including MDR-TB services and KRIS inpatient services, with class 1 and class 2 facilities, including negative pressure isolation rooms. Phase 2 of the development requires the demolition of the existing building, which includes:

1. Pharmacy building
2. OK, ICU, CSSD building
3. Melur building
4. Administration building
5. Nutrition building
6. Anggrek inpatient building
7. Kacapiring inpatient building
8. Teratai inpatient building
9. WWTP

Phase 3:

Phase 3 of construction involves the construction of a regular service building (inpatient care for BPJS patients) to KRIS standards and a retail facility near the private service building. Phase 3 will require the demolition of existing buildings, including:

1. Mawar inpatient building
2. Mawar isolation room

3. Men Dormitory
4. IPSRS building
5. Official residence
6. Laundry room

Phase 4:

Phase 4 of construction involves the construction of a training service building and a dormitory for training. The training and dormitory buildings will each have seven floors and cover an area of 4,200 square meters. This fourth phase will require the demolition of the existing building, which includes:

1. Wijaya Kusumah meeting hall
2. Lemah Luhur meeting hall
3. Widuri dormitory
4. Official residence and Tekukur pavilion.

Phase 5:

Phase 5 of the project involves the construction of a 6,000-square-meter three-star hotel and the renovation of the IPSRS building. This phase will require the demolition of the remaining existing buildings, which include the remaining official housing.

Table 8 Development Stages

PHASES	Building Name	Years
Phase1	Generator and Trafo, Emergency	2025
	IGD, OK, ICU, NICU	2027
Phase 2	Infectious and inpatients room	2030
	Inpatients and private polyclinic	2032
Phase 3	WWTP	2034
	Inpatients and regular polyclinic of government insurance (BPJS) building	2035
	Commercial areal	2036
Phase 4	Meeting room and Auditorium	2038
	Training building	2040
	Dormitory building	2040
Phase 5	Hotel	2044

Source: Feasibility Study RSGP, 2026

2.1.3 Relocation Plan During Construction

During the pre-construction phase, relocation of existing utilities is planned before construction of the new building begins. This relocation phase will require hospital SOPs to maintain good environmental management practices and minimize impacts on surrounding buildings, patients, and visitors. The tentative relocation plan is shown in the table below:

Table 9 Relocation and Demolition Plan Timeline

Planned Development	Building/Assets Affected	Relocation Plan	Time	Notes
Integrated Emergency & Diagnostic Center	Generator/Installation	Near mortuary	Q4 2026	New generator location planned
	Water well	Rajawali	Q4 2026	Removal permit 2026, demolition early 2027
	Garage/Driver's room	Melati room	Q4 2026	Removal permit 2026, demolition early 2027
	Existing WWTP	New WWTP at Lebak Muncang	2027	Construct, test and commission the new WWTP before demolition or decommissioning of the existing WWTP
	Laundry IPRS/Supply Storage	Pandawa basement	2028	
Advanced Care Center	Pharmacy	Physiotherapy & Heritage	Q4 2026	Removal permit 2026, demolition early 2027
	Adum (Medical Records & Training Room)	Lemah Luhur room	Q4 2026	Removal permit 2026, demolition early 2027
	Training Room		Q4 2026	Removal permit 2026, demolition early 2027
	Doctor's Room		Q4 2026	Removal permit 2026, demolition early 2027
	Nutrition		Q4 2026	Removal permit 2026, demolition early 2027
	Melur, IT, Webinar room, Melur corridor		Q4 2026	Removal permit 2026, demolition early 2027
Regular Care Center	Mawar A (20 bed) Mawar B (27 bed)	- Teratai room (12 bed) - Lily room (17 bed) - Melati room (25 bed)	Q2-Q3 2026	- Teratai done - Lily done - Melati on progress
	Sudirman Building A, B, C	Demolish	Q4 2026	Removal permit 2026, demolition early 2027
Research & Training Center	Wijaya Kusuma Building	Demolish		Removal permit 2026, demolition early 2027

Source: FS RSGP 2026



Figure 11 Demolition Permits and Process Timeline

2.1.4 Hospital Activity and Circulation Patterns

In the master plan document, the development of Goenawan Partowidigdo Hospital is designed on land of approximately 64,147 m² by dividing the area into medical and non-medical zones, with the main components being an Emergency Room (ER) building and action/diagnostic center, inpatient building and private polyclinic, inpatient building and regular/BPJS polyclinic, infectious and inpatient building, training building, dormitory, hotel, auditorium, IPSRS, IPAL, commercial area, open space, and other supporting facilities at the ultimate stage.

1. Basic concepts of activity patterns

The pattern was developed based on the principle of service zoning, which separates activities based on user characteristics, risk levels, and service needs. Generally, hospital activities are divided into five main groups: patient care, emergency care, infectious diseases, education and research, and operational support activities.

2. External circulation patterns of the area

The area's external circulation is designed to regulate movement from the main road to each service zone. According to the master plan, vehicle access is divided into several lanes: visitor lanes, service lanes, firefighter lanes, and ambulance lanes.

There are three entrances for the emergency room (ER) and the general public, two exits, basement access, and separate drop-off arrangements for the ER, regular/BPJS, private, infectious diseases, polyclinic, management, and other facilities.

This arrangement ensures that ambulances are not mixed with public visitor vehicles, service vehicles do not interfere with patients, and access to the ER is swift and unimpeded by outpatient activities or parking.

3. Emergency patient circulation patterns

Emergency patients are directed directly to the emergency department drop-off point in Building A. From there, patients enter the triage area to be sorted into infectious and non-infectious cases. Patients with severe respiratory symptoms, suspected TB, severe pneumonia, respiratory failure, or infectious conditions are directed through a separate pathway from non-infectious patients.

Building A serves as the main hub because it houses the emergency department, diagnostic center, radiology, laboratory, procedure rooms, operating rooms, ICU, and intensive care services. This ensures that emergency patients do not need to travel far for supporting examinations, procedures, operations, or intensive care. The RC document explains that Building A is designed as an integrated emergency department, diagnostic, surgical, ICU, and laboratory center with Buildings B and C.

4. Outpatient circulation patterns

After registration, patients proceed to the waiting room, polyclinic, supporting examinations, pharmacy, and exit through designated public lanes. Outpatients requiring supporting examinations such as radiology, laboratory, CT scans, or diagnostic procedures are directed through a dedicated lane to the diagnostic center in Building A.

The RC document confirms that the outpatient flow from Building B to the diagnostic center in Building A is designed to be integrated, but remains separate from the visitor and logistics flow.

5. Inpatient circulation patterns

Building B serves as an inpatient center and private polyclinic, Building C as a regular inpatient center, while the infectious disease building is used for patients at risk of transmission, particularly pulmonary and TB cases. Inpatients requiring diagnostic, surgical, or intensive care services are directed to Building A through connecting corridors and dedicated vertical circulation.

This plan aims to reduce unnecessary transfers, minimize crowding in public areas, and maintain patient safety during internal referrals between units.

6. Circulation patterns of infectious and non-infectious patients

Patients with infectious diseases, particularly respiratory diseases and TB, need a separate pathway from entry, drop-off, triage, diagnostic testing, hospitalization, and access to the procedure room. The flow arrangement takes into account the separation of services based on the level of infection risk.

Infectious patients are directed through a separate pathway from non-infectious patients, both in the emergency room (ER), inpatient care, and upon access to diagnostic facilities. This pattern supports the principles of Infection Prevention and Control, including the separation of clean zones and risk zones.

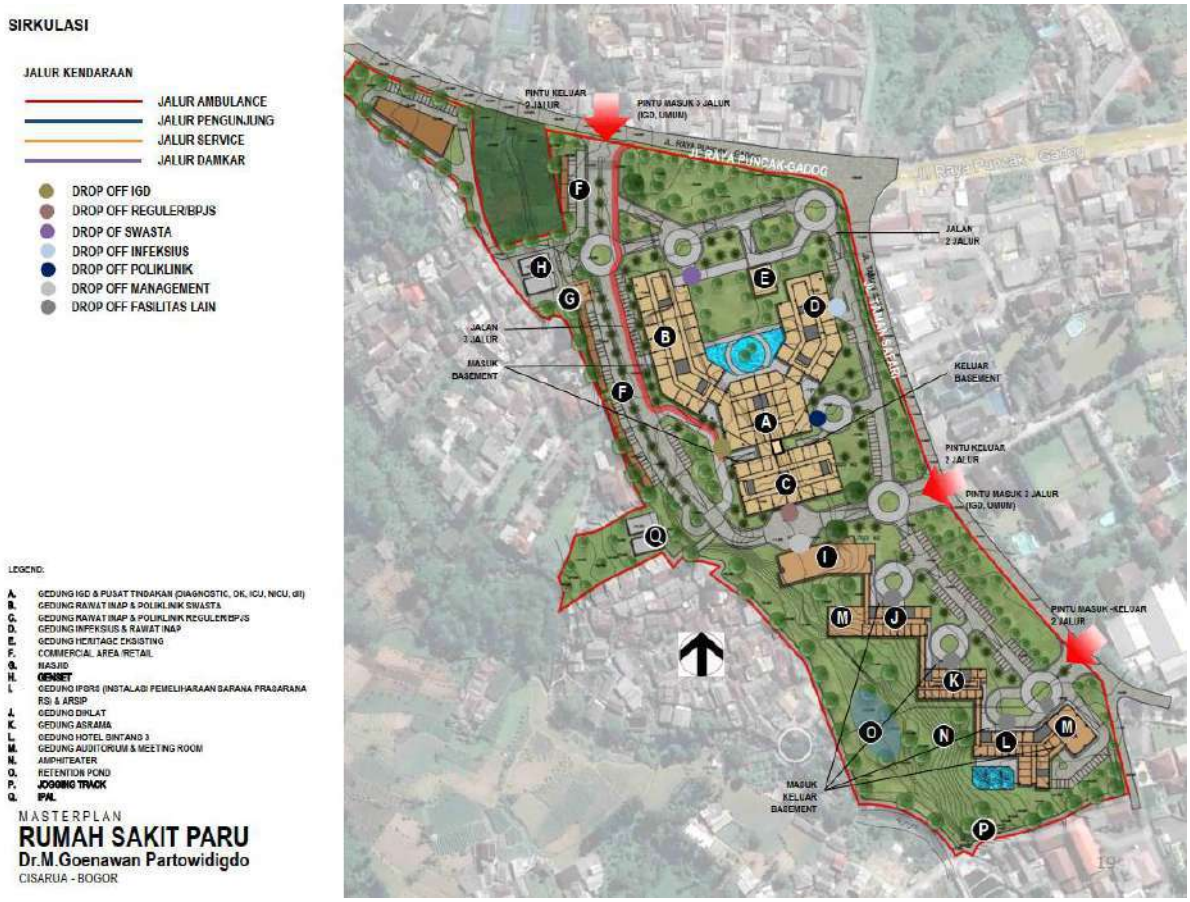


Figure 12 Circulation Patterns

2.1.5 Integrated Teaching Hospital

The Project is intended to shift RSGP from a scattered and capacity-constrained service layout toward a more integrated campus model. Key improvements include stronger zoning between infectious and non-infectious patient flows, improved access to emergency and diagnostic services, better linkage between inpatient and support services, expanded regular/JKN inpatient capacity, and dedicated spaces for teaching and research. Because RSGP will continue operating during construction, the campus integration strategy must be matched with a temporary circulation and service continuity strategy.

The redevelopment is intended to consolidate currently dispersed clinical, inpatient, diagnostic, teaching and research functions into a more integrated hospital campus. Building A will provide the main emergency, diagnostic, surgical and intensive-care functions. Buildings B and C will accommodate outpatient and inpatient services, while Buildings J-M will provide dedicated education, training and research space.

The Project should maintain clear separation between construction zones and active hospital zones. Patients, visitors, staff, ambulance access, emergency routes, infectious disease routes, logistics routes, waste routes, and construction vehicle routes should be mapped before mobilisation and updated during each construction stage.

The proposed arrangement is intended to improve functional connections between hospital departments, reduce internal travel distances, and support the hospital's role as a teaching and referral facility. Final building connections, controlled-access points, vertical circulation and internal transfer routes will be confirmed through the DED.

2.1.6 Design Basis and Compliance Considerations

The current project description is based on the feasibility study, masterplan and schematic design. The following elements remain subject to confirmation during DED:

- final building footprint and floor areas,
- floor-by-floor service allocation,
- number and type of inpatient beds,
- building connections and vertical circulation,
- parking and drop-off arrangements,
- ambulance, visitor, staff and service access,
- utility demand and infrastructure layout,
- medical gas and HVAC systems,
- IPAL capacity and wastewater connections,
- demolition and relocation sequence,
- construction phasing, and
- final implementation schedule.

Environmental and social requirements associated with these design elements are addressed in the impact assessment, mitigation measures and ESMP chapters.

2.1.7 Expected Service Capacity and Operational Results

The redevelopment is expected to increase RSGP inpatient capacity from the current 177 beds toward a target of approximately 270 beds, improve emergency response capacity, integrate diagnostic and laboratory services, strengthen intensive care and operating theatre functions, and improve the physical basis for specialist education. These benefits are expected to support national health service objectives, especially for pulmonary and respiratory excellence, TB/MDR-TB care, KJSU priority services, and hospital-based specialist education.

2.2 Project Construction Phases

The construction phasing described below preparation, enabling works, staged building construction, internal migration of functions, commissioning, and completion. The sequence is indicative and must be finalised by the DEDC, Construction Management Consultant, RSGP management, PIU, and contractor before mobilisation.

Overview

- **Phase 1 - Preparation and detailed design,** completion of DED, confirmation of building code and hospital standard compliance, AMDAL/Pertek/Rintek/ANDALALIN workstreams, baseline surveys, stakeholder engagement, service continuity planning, and contractor procurement.
- **Phase 2 - Enabling works and internal relocation,** site fencing, traffic separation, utility protection, temporary service relocation, temporary parking/circulation arrangements, hazardous material screening, heritage screening, and preparation of any non-heritage demolition or clearing works.
- **Phase 3 - Priority clinical construction,** construction of core clinical facilities, especially Building A functions that enable later internal migration of emergency, diagnostic, laboratory, intensive care, operating theatre, and cathlab services where required.
- **Phase 4 - Inpatient and service expansion,** construction or completion of Building B and Building C functions, with staged activation of inpatient, JKN, private, isolation, chemotherapy, haemodialysis, outpatient, and support services.
- **Phase 5 - Education and training facilities,** construction or completion of Building J-M, including simulation, training, auditorium, meeting, audiovisual, and education support spaces.
- **Phase 6 - Commissioning and completion,** testing and commissioning of buildings, medical equipment, utilities, HVAC, fire safety, wastewater interfaces, B3 systems, digital systems, emergency procedures, staff training, defect rectification, and final handover

2.2.1 Demolition and Construction Phase Planning

Before any demolition or heavy construction begins, RSGP should establish a construction and demolition supervision arrangement. The team should include hospital management, medical services, nursing, IPSRS/engineering, sanitation, OHS/K3RS, infection prevention and control, security, procurement, legal/social, environmental staff, and a heritage specialist if any older building or landscape element may be affected.

The contractor should be required to prepare a Contractor ESMP before mobilisation. The Contractor ESMP should include detailed method statements, worker accommodation and labour management provisions, OHS plan, traffic management plan, emergency response plan, waste management plan, hazardous material plan, dust/noise/vibration controls, community health and safety controls, chance-find and heritage protection procedures, and grievance coordination procedures.

The AIIB-financed development under this ESIA covers the construction of the new Building A, Building B, Building C, and Building J-M within the existing RSGP campus. Existing buildings or facilities located within, or immediately adjacent to, the confirmed construction footprint may require demolition, partial demolition, temporary relocation, permanent relocation, or protection during construction. These existing RSGP buildings are not classified as Associated Facilities. They are treated as Project-enabling works or affected existing assets within the hospital campus and must be managed through the ESMP, Contractor ESMP, demolition plan, service continuity plan, hazardous material/asbestos screening, cultural heritage screening, and stakeholder communication process.

The existing WWTP will remain operational until the replacement facility is completed and commissioned. A new WWTP is planned to be constructed in 2027 at the Lebak Muncang location. Demolition or decommissioning of the existing WWTP shall only proceed after the new facility has been tested, confirmed compliant with the applicable wastewater discharge requirements, and formally accepted for operation by RSGP. This sequence is required to prevent interruption of wastewater treatment during construction and continued hospital operations

The demolition and construction sequence should be confirmed in the DED and contractor method statement. As a planning principle, enabling works should be phased so that each new building footprint is cleared only after the affected service functions have been safely relocated or protected. The indicative sequence is as follows,

1. **Pre-demolition confirmation stage**, finalise DED footprint overlay, affected-building list, BMN documentation, demolition funding source, utility maps, service relocation plan, hazardous material/asbestos survey, and heritage screening.

2. **Building A enabling works**, relocate or protect the affected physiotherapy, administration, generator, water-supply, garage, waste-related and cooperative functions before demolition or site clearance. The replacement WWTP will be constructed at Lebak Muncang in 2027 and must be operational before the existing WWTP is demolished or decommissioned.

3. **Building B enabling works**, relocate or protect pharmacy, OK/ICU/CSSD, administration, nutrition, and affected inpatient/support functions before demolition or site clearance for Building B.

4. **Building C enabling works**, relocate affected Mawar inpatient and isolation functions, confirm bed continuity and infection-control arrangements, and relocate any active dormitory use before site clearance for Building C.

5. **Building J-M enabling works**, relocate or replace affected building functions, including the prayer-room function, before demolition or site clearance for the education, training, and research block.

6. **Construction and commissioning**, proceed with construction, fit-out, testing, commissioning, and staged transfer of services only after safety, infection prevention, fire safety, utility readiness, and operational acceptance checks are completed.

The current physical status presented below is based on the latest relocation schedule, ESIA records and information available at the time of preparing this document. Some demolition and site-clearance activities have already occurred as early enabling works, however, the available records do not identify all demolished buildings, dates, contractors or supporting environmental and social documentation. Therefore, completed works remain subject to a retrospective demolition audit.

Table 10 Current Status of Demolition and Enabling Works

Step	Status	Buildings / Facilities	Current Position
1	Completed	Teratai and Lily receiving rooms	Replacement inpatient spaces have been prepared. This does not confirm demolition of Mawar A or Mawar B.
2	In progress	Melati receiving room, relocation of Mawar A and Mawar B services	Melati preparation is ongoing. Patient, staff, equipment and service-transfer completion must still be confirmed.
3	Operating, replacement planned	Existing WWTP	Existing WWTP remains operational. The new WWTP will be constructed at Lebak Muncang in 2027 and commissioned before the existing WWTP is demolished or decommissioned.
4	Not started—planned for Q4 2026 or early 2027	Generator installation, water well, garage/driver's room, pharmacy, Adum/medical records and training room, doctors' room, nutrition facility, Melur/IT/webinar areas, Sudirman Buildings A–C, Wijaya Kusuma Building	Relocation, removal or demolition is planned but has not been confirmed as started.
5	Not started—later programme	Laundry/IPSRS/supply storage	Relocation is indicated for 2028.
6	Status not confirmed	Groundwater tank, generator and incinerator building, cooperative building, administration building, fuel tank, OK–ICU–CSSD building, Anggrek, Kacapiring and Teratai buildings, male dormitory, IPSRS building, official residences, laundry room, prayer room, Garuda Building	RSGP must confirm whether each facility is operating, vacated, relocated, partly demolished or fully demolished.

The available schedule confirms completion of the Teratai and Lily receiving rooms, ongoing preparation of Melati, and planned relocation or demolition dates for several other facilities. The available documentation does not confirm that ACM and cultural heritage screening preceded all earlier demolition or site-clearance activities. A retrospective audit is required for completed works, and building-specific ACM and heritage screening must be completed before any further demolition.

Table 11 Minimum Planning Requirements for Enabling Works and Demolition

Step	Activity	Key Controls	Output / Evidence	Current Availability / Status and ESIA Reference
1	Pre-demolition and pre-construction survey	Confirm affected buildings, utilities, service functions, structural condition, asbestos or other hazardous materials, heritage sensitivity, nearby receptors, emergency routes, and drainage conditions.	Survey report, heritage screening note, hazardous material register, utility map, receptor map.	Initial ACM screening identified three samples as suspect ACM, but asbestos has not yet been definitively confirmed or excluded. Suspect materials shall be treated as ACM until confirmation. A detailed pre-demolition survey and confirmation

Step	Activity	Key Controls	Output / Evidence	Current Availability / Status and ESIA Reference
				testing are required once the DED is finalized, and the AMP in Annex H remains applicable and shall be updated accordingly
2	Hospital transition and service relocation planning	Identify services to be temporarily relocated, patient transfer routes, staff responsibilities, equipment relocation, medical records protection, and communication with patients and visitors.	Approved transition plan, patient transfer SOP, PIC matrix, communication materials.	Draft framework available. Section 2.2.2 and Table 10 describe service relocation and transfer requirements. The approved Service Continuity Plan, facility-specific plans, PIC matrix, and communication materials remain outstanding. The Relocation and Patient Transfer SOP should be included in Annex I.
3	Site separation and access control	Install fencing, hoarding, warning signs, controlled entry/exit points, pedestrian separation, lighting, security, and emergency access protection.	Site layout plan, access control logs, inspection records.	Design information available. General circulation and building layouts are shown in the masterplan. Detailed site logistics, hoarding, temporary access routes, and access controls will be prepared through the C-ESMP and Traffic Management Plan. Logs will be generated during construction.
4	Utility isolation and protection	Isolate or protect power, water, wastewater, oxygen/medical gas, communication, drainage, and fire safety systems before works affect them.	Permit-to-work, lockout records, utility isolation certificate.	Partially available at design stage. Some utility and IPAL drawings are available. Detailed utility-interface drawings, permits-to-work, lockout records, and isolation certificates must be prepared before each activity and maintained under the C-ESMP.
5	Selective dismantling / demolition if required	Apply low-impact methods where near active services or heritage fabric, control dust, noise, vibration, debris fall, and worker exposure.	Method statement, daily supervision reports, vibration/noise logs.	Not yet available for planned works. Demolition method statements and monitoring logs will be prepared after contractor appointment and DED confirmation. Heritage and asbestos requirements are provided in Annexes F and H. Earlier works require a

Step	Activity	Key Controls	Output / Evidence	Current Availability / Status and ESIA Reference
				retrospective demolition audit.
6	Waste segregation and removal	Separate recyclable materials, non-hazardous construction waste, hazardous waste, medical waste, and any asbestos-containing material if identified. Use licensed transport and disposal.	Waste manifest, disposal receipts, B3 records, chain-of-custody documents.	Procedures available, implementation records pending. Annex H covers ACM handling and disposal, and hospital B3 procedures are available. Work-package waste manifests, disposal receipts, and chain-of-custody records must be produced during implementation. Earlier records should be retrieved where available.
7	Site cleanup and handover for construction	Confirm no hazardous material remains, drainage is protected, surfaces are stable, and construction access is safe.	Site clearance certificate, environmental inspection checklist, photos before/after.	Not yet available. Site-clearance and handover records will be issued after demolition, waste removal, and inspection. Planned areas require joint approval by the Contractor, Supervision Consultant, RSGP, and PIU. Previously cleared areas require retrospective inspection and documentation.

2.2.2 Internal Service Continuity and Patient Transfer

RSGP is an active hospital, therefore construction must be planned around patient safety, infection prevention and control, and continuity of essential hospital services. RSGP, as the hospital operator and owner of internal clinical operations, shall be the lead responsible party for preparing the Internal Service Continuity and Patient Transfer Plan before contractor mobilisation.

Based on the discussion with Mr. Asep (RSGP staff) explained patient relocation will not be carried out during construction. Patient relocation will occur once the new building is ready for use. Relocation was carried out at several facilities but not at existing patients.

The plan shall be prepared by RSGP Direksi through the relevant hospital units, including medical services, nursing, emergency services, pharmacy, laboratory, OK/ICU/CSSD, infection prevention and control, IPSRS/engineering, K3RS/OHS, security, Humas, quality assurance, and other affected service units.

The PIU / Ministry of Health shall review and approve the plan as part of project readiness before demolition, enabling works, or construction mobilisation. The construction supervision consultant shall verify that the plan is complete, practical, and consistent with the construction phasing and ESMP requirements. The contractor shall provide construction schedule, work-zone layout, access-route,

utility-disruption, and safety-interface information required for the plan, and shall comply with all approved service continuity, access, infection-control, and patient-transfer requirements. The contractor shall not start works that may affect active hospital services until the relevant service continuity and transfer arrangements have been approved by RSGP and the PIU.

The Internal Service Continuity and Patient Transfer Plan shall define which services remain in place, which services move temporarily, which services are phased, and how emergency, inpatient, ICU, isolation, infectious disease, pharmacy, laboratory, operating theatre, CSSD, nutrition, ambulance, and visitor access functions will continue during each construction stage. The planning target should be that essential hospital services continue and that any temporary reduction in overall service availability does not exceed 15 percent without prior approval and a documented mitigation plan. This target should be translated into measurable service continuity indicators, such as number of beds available, emergency response time, operating theatre availability, laboratory turnaround time, isolation room availability, ambulance access, and patient complaint trends.

The plan shall be approved before mobilisation and updated before each major construction phase, including enabling works for Building A, Building B, Building C, and Buildings J-M.

A short Draft SOP covering stakeholder notification, receiving-unit readiness, patient/equipment/record transfer, post-transfer verification, and weekly service-continuity monitoring is included in **Annex I**. Required records include disclosure logs, transfer checklists, patient-transfer forms, post-transfer verification forms, incident logs, and weekly service-continuity reports. Formal RSGP/PIU approval, facility-specific transfer plans, routes, and named PICs remain to be completed.

Table 12 The Minimum Service Transfer Process

No	Action	Responsible Unit	Standard Control	Record
1	Inform patients, families, staff, and visitors about temporary route or service changes.	Hospital management, Humas, nursing, security	Clear signage, announcements, patient-friendly language, special support for vulnerable users.	Disclosure log, signage photos, briefing records.
2	Confirm readiness of receiving ward/unit before transfer.	Medical service, nursing, IPSRS, infection control	Receiving room ready, equipment available, oxygen/medical gas functional, cleaning completed.	Transfer checklist.
3	Transfer patient, equipment, and records using approved route.	Sending and receiving units, porter, security	Stable patient condition, privacy maintained, infection prevention applied, route kept clear.	Patient transfer form, incident log if any.
4	Verify post-transfer condition and service availability.	Receiving doctor/nurse, quality unit	Patient condition checked, equipment functioning, family informed, medical record updated.	Post-transfer verification form.

No	Action	Responsible Unit	Standard Control	Record
5	Monitor service continuity during construction.	Hospital management, PIU, supervision consultant	Monitor bed availability, emergency access, complaints, incidents, downtime, and infection control indicators.	Weekly service continuity report.

2.2.3 Vehicle Circulation, Parking and Construction Traffic

Construction traffic will affect internal hospital circulation and may also affect Jalan Raya Puncak-Gadog, which is already sensitive to tourism and weekend congestion. A Construction Traffic Management Plan should be prepared and aligned with the ANDALALIN. The plan should identify construction vehicle entry and exit points, delivery windows, haulage routes, wheel washing, flagmen, pedestrian separation, ambulance priority routes, temporary parking arrangements, and coordination with local traffic authorities.

The contractor shall coordinate with the hospital to develop a Traffic Management Plan (TMP) which will be a reference for vehicle circulation at the project site during the construction phase. TMP is a specific and detailed plan that will be used by all parties involved in construction activities (main contractor, sub-contractor and material supplier).

The traffic baseline for the ESIA/ESMP shall document, at minimum, the existing hospital access points, internal circulation routes, ambulance and emergency access routes, patient and visitor drop-off areas, staff and visitor parking areas, pedestrian routes, public transport stopping areas, logistics/service vehicle routes, temporary parking areas, and any known congestion points within and around the hospital frontage. The baseline shall also identify periods of higher traffic sensitivity, including hospital peak arrival and discharge times, school/community peak periods, Friday prayer or religious activity periods where relevant, public holidays, weekends, and peak Puncak tourism traffic periods.

The ESIA/ESMP shall also document community property and public-use assets that may be affected by construction traffic or temporary access changes. These may include public roads, road shoulders, pedestrian paths, drainage channels, informal access routes, parking areas, public transport waiting or stopping points, local business frontages, community access routes, places of worship or prayer-room functions, nearby community facilities, and any other public or community-use assets within the construction traffic area of influence. These assets shall be mapped and verified through site inspection, consultation with RSGP, Desa Cibeureum, local road users, nearby businesses or tenants, and relevant traffic authorities.

The Construction Traffic Management Plan shall be prepared by the contractor and aligned with the ANDALALIN, ESMP, hospital service continuity plan, and construction phasing. The plan shall define construction vehicle entry and exit points, delivery windows, haulage routes, vehicle registration and access control, wheel washing, truck queuing control, traffic marshals/flagmen, pedestrian separation, ambulance priority routes, emergency access protection, temporary parking

arrangements, signage, lighting, public notification, and coordination with Dinas Perhubungan and Polantas where required.

As a minimum, heavy vehicle movements shall avoid peak hospital arrival and discharge times, school/community peak periods, and the busiest Puncak tourism traffic periods where practical. Emergency vehicle access shall remain open at all times. Construction traffic shall be separated from patient, visitor, pedestrian, and ambulance routes as far as feasible. Any temporary loss of parking, access, pedestrian route, public-use area, or community property shall be disclosed in advance to affected users, with safe and clearly marked alternative arrangements provided.

The contractor shall not mobilise heavy equipment, bulk materials, or demolition debris transport until the Construction Traffic Management Plan has been reviewed by RSGP, PIU / Ministry of Health, the supervision consultant, and, where required, the relevant traffic authorities. The plan shall be updated when the DED, construction phasing, ANDALALIN findings, haulage routes, or internal hospital circulation arrangements change.

2.2.4 Environmental, Social, Health and Safety Controls During Construction

Construction controls should be implemented through the Contractor ESMP and supervised by the PIU, CMC, hospital management, and relevant technical units. Key controls include,

- Dust generation control through water spraying, covered trucks with tarpaulin during the materials transfer (mob-demob), material storage management at dedicated area that will prevent the risk related to safety and security, and wheel washing for all project-related vehicles leaving the Project area to prevent exposure to soil spills in the vehicle entry and exit areas.
- Noise and vibration control through daytime scheduling where feasible, equipment maintenance, temporary barriers to inhibit noise vibrations from light and heavy equipment (such as PVC temporary fence and tarpaulin), monitoring near sensitive receptors around the hospitlas (Public facility, schools, worship place, and clinics) and complaint response through the GRM implementation during pre-construction, construction activities).
- Drainage and erosion control through temporary drains considering that the hospital's drainage system leads to residential areas in Cibereum Village, even though existing drainage systems already exist, maintenance is essential during the construction phase to prevent excessive water runoff. Sediment traps must be made in related constructed areas to minimize the increase in sediment in existing drainage within the hospital, which is to prevent blockage of drainage coming out of the hospital. Protected stockpiles are designed in areas with the lowest potential for runoff exposure during the rainy season. This prevents organic material from being carried into drainage systems, which could increase the risk of sediment build up, and rapid response during heavy rain.
- Waste management through segregation and socialization to construction workers. Licensed transport vendor must have legal status from the Ministry of Transportation and the Ministry of Environment. Authorised disposal must be confirmed to the waste transporter vendor that they will dispose of waste from construction activities to an official and legal location Reuse/recycling

where safe from the construction wase, and strict control of hazardous waste and medical waste interfaces.

- OHS management through induction is implemented by contractors through induction programs for prospective workers. HSSE induction is necessary to ensure all workers understand the work area, current job status, potential hazards, construction administration processes, and familiarization with the facilities at the project site. The PPE used must be appropriate for the designated work area and certified personnel. PPE must be divided into several parts such as PPE for working at high altitude such as (Full body harness, lanyard & shock absorber, shock absorber, anchor point, lifeline, fall arrestor, safety helmet with chin strap, gloves & safety shoes). Permit-to-work, During construction work, PPE (Personal Protective Equipment) for electricity is also required, as there will be electrical installations, so special PPE is needed to prevent shocks, burns, and exposure to arcs. This equipment includes: Non-Conductive Safety Helmets, Electrical Insulating Gloves, Insulating (Dielectric) Shoes, as well as flame-resistant clothing and Goggles or Face Shields. During the excavation activities Safety factors that must be considered include: excavation protection systems (such as shoring or sloping slopes), safe entry and exit access (ladders), hard barricading of areas, and complete PPE for all workers.

  Contractors are required to identify project areas at risk of fire through a Fire Risk Assessment (FRA) process. This includes mapping potential hazards such as flammable materials, hot spots, and temporary electrical installations to minimize workplace accidents. Control measures include identifying fire-prone areas in Hot Works Project Zones: Areas where welding, metal cutting, or asphalt heating takes place. Sparks can easily ignite surrounding materials.

  Chemical and material storage areas: fuel (diesel, gasoline), paint, thinner, and LPG storage areas.

  Flammable material warehouses: storage areas for wood, paper, foam, or tarpaulins that are susceptible to fire.

  Temporary electrical installations: exposed cable connections, temporary electrical panels (Bouw plank), and generator use, which can potentially trigger short circuits.

  Emergency drills are mandatory for construction activities to ensure worker safety, train preparedness, and test the reliability of emergency procedures and equipment in high-risk project environments.

  Creating an incident report is mandatory during the construction phase. This formal document records not only work accidents but also near-misses and property damage. Incident or accident reporting deadlines generally require reporting and documenting within 2 x 24 hours of the incident. The primary purpose is to provide evidence of legal compliance, assist investigations in determining the root cause, prevent recurrence of accidents, and provide insurance and legal protection. Report elements include basic facts such as the date, time, location, a chronological description of the incident, witnesses, and immediate corrective actions taken.

- Community health and safety through fencing, signage, access control, traffic marshals, lighting, security, labour code of conduct, GBV/SEAH prevention, and public communication.

- Infection prevention and control through separation between construction and clinical areas, dust containment, housekeeping, indoor air protection, and coordination with PPI/K3RS.
- Heritage protection through avoidance where possible, vibration monitoring, archival recording, chance-find procedure, and specialist supervision if works occur near heritage fabric.

2.2.5 Operational Phase Considerations

After commissioning, the operational phase will shift the risk profile from construction disturbance to hospital environmental health and safety performance. Key operational controls include wastewater compliance, medical and B3 waste management, infectious disease control, indoor air quality, HVAC maintenance, emergency preparedness, worker OHS, patient and visitor safety, traffic and parking management, resource efficiency, and grievance handling. These controls should be reflected in the operational ESMP, hospital SOPs, monitoring plan, and reporting system.

2.2.6 Decommissioning Considerations

The Project does not involve decommissioning of RSGP as a hospital. Decommissioning considerations are limited to temporary facilities, construction laydown areas, and the long-term end-of-life of building components. Temporary construction areas should be restored after use, with waste removed, contamination checked, drainage reinstated, and access safely handed back to hospital management

3 POLICY, LEGAL, AND ADMINISTRATIVE FRAMEWORK

This chapter summarises the policy, legal, and administrative framework applicable to the Development of Rumah Sakit Goenawan Partowidigdo Cisarua Bogor (RSGP). presenting, (i) the national legal framework of Indonesia, (ii) the Asian Infrastructure Investment Bank (AIIB) Environmental and Social Framework (ESF), (iii) other international standards and good international industry practice (GIIP) relevant to hospital construction and operation, and (iv) a gap analysis between AIIB ESF requirements and Indonesian legal requirements. The chapter is designed to guide the impact assessment, the ESMP, and the permitting interface with AMDAL, Pertek BMAL/BMUE, Rintek B3 and ANDALALIN.

3.1 Hospital Institutional Framework and Internal Policies

The institutional framework of a hospital is a governance system that regulates its structure, functions, and authorities. In Indonesia, this is regulated by Law No. 44 of 2009 concerning Hospitals and its derivative regulations, which mandate the implementation of good clinical governance and good corporate governance.

Based on Law No. 11 of 2020 concerning Job Creation, RSGP already has a Business Identification Number (9120304812536) with Domestic Investment status. This NIB is classified as a Government Hospital Activity under the standard Indonesian business field.

The hospital has made official provisions regarding the hospital's institutional structure through the decision of the Main Director of RSGP Number: HK.02.03/D.XLII.2/02560/2024 concerning the Organization and Work Procedures of the RS Goenawan Partowidigdo.

Because HIV–STI risks are an important public health concern in Cisarua District, RSGP should ensure that hospital facilities, occupational health measures, and procedures adequately protect both construction and operational workers from potential HIV–STI exposure. For health risks requiring specialist support, RSGP should clearly identify the responsible internal unit and the appropriate external referral or coordinating authority.

For HIV–STI matters, the institutional arrangement should include a designated RSGP clinical focal point, RSGP PPI, K3RS, Puskesmas Cisarua, and Dinas Kesehatan Kabupaten Bogor, with clearly defined roles for health education, voluntary and confidential counselling and testing referral, TB–HIV coordination, non-discrimination, clinical referral, and authorised aggregate public-health reporting. The final ESIA should also confirm whether RSGP currently has a formal HIV service, VCT/CST function, written referral arrangement, or formally designated HIV focal point.

In its operational activities, RSGP has created several guidelines and SOPs to support hospital activities to align with national regulations, including:

1. Guidelines for organizing environmental health and Occupational Health and Safety installations in hospitals – 2025. This document provides guidelines and guidance for Environmental Health

and Occupational Safety and Health Officers of hospitals in carrying out Environmental Health Activities as well as Occupational Safety and Health Management Systems and the implementation of Hospital Occupational Safety and Health Standards. These guidelines refer to nationally applicable regulations ranging from Laws, Government Regulations, Regulations of the Minister of Health, Regulations of the Minister of Environment, Decrees of the Minister of Health.

2. Guide to Preparedness, Disaster Management and Evacuation / Hospital Disaster Plan – 2025. This guide is a form of hospital disaster management plan / Hospital Disaster Plan (HDP), prepared to improve hospital preparedness and response to internal and external disasters. This document contains the command and organizational structure for disaster management. The stages and steps involved in disaster management are clearly outlined.

3. SOP for handling external disaster hazards – 2025. This procedure is a document that explains the steps for handling external disasters caused by natural disasters that have a direct impact on the physical environment of the hospital, thus threatening the safety of patients, staff, visitors, and disrupting the operation of medical services such as (earthquakes, floods, riots). This document contains the command and organizational structure for disaster management. The stages and steps involved in disaster management are clearly outlined.

4. SOP for handling internal disaster hazards – 2025. This procedure is a document that explains the steps for handling internal disasters that occur within the physical environment of the hospital such as (fire, explosion, gas leak or chemical exposure, food poisoning, biological or infectious substance spill, HVAC or medical gas system failure, building structure failure, internal security breach. This document contains the command and organizational structure for disaster management. The stages and steps involved in disaster management are clearly outlined.

5. SOP for Using Light Fire Extinguishers – 2025. This procedure serves as a guideline for implementing the steps for using a portable fire extinguisher in the event of a fire. Available fire extinguishers include multipurpose dry chemical powder and CO2.

6. SOP for Using 50 kg Fire Extinguishers – 2025. This procedure serves as a guideline for implementing the steps for using a portable fire extinguisher in the event of a fire. Available fire extinguishers include multipurpose dry chemical powder and CO2.

7. SOP for Medical Hazardous Waste Management – 2026. This procedure provides guidelines and systematic steps in the implementation of recording and monitoring of B3 waste generation effectively and efficiently. This SOP has not explained the detailed steps in handling medical waste in accordance with applicable national regulations (Medical waste management in Indonesia is strictly regulated by the Ministry of Health and the Ministry of Environment and Forestry (KLHK). The main regulations include Ministerial Regulation of LHK No. P.56/Menlhk-Setjen/2015 concerning procedures for managing B3 medical waste, as well as Ministerial Regulation of Health No. 18 of 2020 concerning area-based waste management)

8. SOP for Storage of Hazardous Materials and Waste – 2022. The procedure does not yet include details regarding the storage procedures for materials and waste as stated in the Minister of Environment and Forestry Regulation No. 6 of 2021. The procedure must be equipped with a

visual form of the facility, the suitability of the building equipped with a good ventilation system, waterproof floors, spill/spillage channels, appropriate B3 symbols/labels.

9. SOP for Handling B3 Spills and Infectious Body Fluids – 2022. This procedure provides knowledge and understanding of the use of Spill Kits for cleaning service workers and related hospital employees) regarding exposure and potential B3 and B3 waste spills in each service work unit and to prevent disease transmission to all hospital employees. The steps are not yet detailed as stipulated in the Minister of Environment and Forestry Regulation No. 6 of 2021 which must include the type of PPE used, reporting and evaluation after cleaning the waste.

10. HIV/STI Prevention, Referral and Institutional Coordination. HIV/STI-related responsibilities should be coordinated between RSGP, Puskesmas Cisarua, and Dinas Kesehatan Kabupaten Bogor. Within RSGP, responsibility should be assigned to a designated HIV/STI clinical focal point or clinician experienced in HIV and TB-HIV care, supported by PPI, K3RS, occupational health, laboratory, pharmacy, counselling, and medical-record personnel as applicable. Puskesmas Cisarua should support local counselling, voluntary testing and referral, community outreach, and local surveillance, while Dinas Kesehatan Kabupaten Bogor should provide public-health oversight, programme coordination, reporting guidance, and referral-network support. Project contractors should coordinate HIV/STI awareness and voluntary referral arrangements through these authorised health institutions rather than establishing a separate project surveillance system. Project reports must use only aggregated and non-identifying information and must not disclose individual HIV status. Field information collected from RSGP and Puskesmas Cisarua indicates that HIV remains a relevant local public-health issue requiring continued education, screening, counselling, treatment referral, and stigma prevention.

3.2 National Legal Framework of the Republic of Indonesia

The Indonesian legal framework applicable to the RSGP redevelopment covers environmental approval, technical approvals for pollution control, hospital service regulation, building and spatial planning, traffic, cultural heritage, labour, occupational health and safety, and public information. The project is a hospital redevelopment within an existing Ministry of Health hospital land parcel, therefore, the key legal question is not land-acquisition, but whether the new buildings and modified operations remain compliant with environmental, spatial, hospital, patient safety, and building standards during construction and operation.

Table 13 Summary of Main National Legal Requirements Relevant To RSGP

Legal Area	Laws and Regulations	Relevance To RSGP Redevelopment	Required Project Response
Environmental protection and approval	Law No. 32/2009 on Environmental Protection and Management as amended, Government Regulation No. 22/2021, Minister of Environment and Forestry Regulation No. 4/2021, Minister of Environment and Forestry Regulation No. 18/2021.	Determines whether AMDAL, UKL-UPL or SPPL applies and sets the environmental approval process. The existing RSGP operations are covered by UKL-UPL and an environmental management commitment approval, while the new redevelopment is being processed through the AMDAL track.	Prepare KA-ANDAL, ANDAL and RKL-RPL in parallel with the ESIA-ESMP. Ensure the ESIA and AMDAL are internally consistent and that ESMP commitments do not conflict with RKL-RPL commitments.
Risk-based business licensing and OSS	Government Regulation No. 5/2021 on Risk-Based Business Licensing, OSS-RBA system requirements.	RSGP holds NIB 9120304812536 under KBLI 86101 (Government Hospital Activities). New approvals or updates may be needed for building, environmental, technical, and operational permits.	Maintain an updated permit register and confirm whether changes to capacity, services, building function or medical equipment require OSS updates before operation.
Wastewater and water pollution control	Government Regulation No. 22/2021, Minister of Environment and Forestry Regulation No. 5/2021 on technical approvals and operational feasibility in pollution control, Minister of Environment and Forestry Regulation No. 68/2016 on domestic wastewater standards, applicable BMAL technical approval.	The project will increase bed capacity and clinical activity, affecting wastewater flow and pollutant load. Existing IPAL capacity and Pertek BMAL must be confirmed against the 270-bed target and new functions.	Update water balance, confirm IPAL capacity, obtain or revise Pertek BMAL and SLO where required, and include compliance parameters in the ESMP monitoring plan.
Air quality and stationary source emissions	Government Regulation No. 22/2021 ambient air standards, Minister of Environment and Forestry Regulation No. 5/2021 on technical approval and SLO for pollution control, applicable emission standards for gensets, boilers and incinerators.	Construction may generate dust and exhaust emissions. Operation may involve gensets, boilers and any medical waste incinerator or other combustion source.	Prepare dust and emission controls in the C-ESMP. Confirm Pertek BMUE or applicable technical approval status for stationary sources. Collect baseline and stack emission monitoring data.

Legal Area	Laws and Regulations	Relevance To RSGP Redevelopment	Required Project Response
Hazardous and toxic waste (B3) and healthcare waste	Government Regulation No. 22/2021, Minister of Environment and Forestry Regulation No. 6/2021 on B3 waste management, hospital environmental health requirements under Minister of Health Regulation No. 7/2019.	RSGP generates infectious waste, sputum and respiratory specimens, sharps, pharmaceutical waste, chemical reagents, used filters, sludge, and potential incinerator residue. Construction may also generate hazardous materials from demolition or renovation.	Update Rintek TPS B3, verify third-party transporter/processor permits, prepare waste segregation procedures, and include TB/MDR-TB infectious waste controls in the ESMP. conduct an audit of existing facilities for the possible presence of ACM
Traffic and transportation	Minister of Transportation Regulation PM 17/2021 on Traffic Impact Analysis (ANDALALIN), local traffic management requirements.	The site is located on Jl. Raya Puncak-Gadog KM 83, a congested tourism corridor. Construction trucks, worker vehicles and patient/visitor traffic may affect access and emergency response.	Prepare ANDALALIN and a construction Traffic Management Plan, including truck routes, delivery windows, flagmen, emergency access, parking management and community information.
Spatial planning and building approval	Law No. 26/2007 on Spatial Planning, Government Regulation No. 21/2021, PKKPR/KKPR under OSS, Government Regulation No. 16/2021 on buildings, PBG and SLF requirements.	RSGP holds PKKPR No. 14072210213201073 for approximately 6.70 ha and historical IMB/IPPT for existing buildings. New buildings require PBG and later SLF before use.	Cross-check DED against RDTR/RTRW, KDB, KLB, KDH, GSB and building height rules. Process PBG and SLF prior to occupancy and operation.
Hospital services, patient safety and hospital environmental health	Law No. 17/2023 on Health, Government Regulation No. 28/2024, Government Regulation No. 47/2021, Minister of Health Regulation No. 14/2021, Minister of Health Regulation No. 40/2022, Minister of Health Regulation No. 7/2019, Minister of Health Regulation No. 11/2017, Minister of Health Regulation No. 27/2017, Minister of Health Regulation No. 66/2016.	RSGP will continue operating during redevelopment and must maintain patient safety, infection prevention and control, K3RS, hospital environmental health, and service continuity. RSGP is a pulmonary referral hospital, so TB/MDR-TB controls are material.	Prepare a hospital service continuity plan, internal patient/asset transfer procedure, infection prevention and control plan, construction isolation measures and clear standards for temporary service areas.
Cultural heritage	Law No. 11/2010 on Cultural Heritage and implementing institutional procedures through BPCB/Disbudpar.	RSGP has operated since 1914 and includes colonial-era hospital/sanatorium buildings that may meet the age threshold for cultural heritage consideration.	Request formal status confirmation from BPCB West Java Prepare a Cultural Heritage Management Plan and chance-find procedure before demolition or intrusive works near old buildings.

Legal Area	Laws and Regulations	Relevance To RSGP Redevelopment	Required Project Response
Labour, working conditions and OHS	Law No. 13/2003 as amended by Law No. 6/2023, Government Regulation No. 50/2012 on SMK3, Minister of Manpower Regulation No. 8/2010 on PPE, Minister of Health Regulation No. 66/2016 on K3RS.	Construction will involve contractors and subcontractors working inside an operating hospital. Risks include falls, lifting, traffic, dust, infectious disease exposure, electrical works, confined spaces and community interface risks.	Require Contractor ESMP, Labour Management Plan, OHS plan, worker induction, PPE, permit-to-work, emergency response, worker GRM, code of conduct, SEA/SH prevention, and monitoring by the PIU/CMC.

3.2.1 Environmental Approval and AMDAL Framework

Environmental Approval is the principal gate for environmental compliance under Indonesian law. For the RSGP redevelopment, the safeguard work stream is not limited to the ESIA-ESMP. It also includes the parallel AMDAL package consisting of KA-ANDAL, ANDAL and RKL-RPL. The AMDAL process must cover the construction of Buildings A, B, C and J-M, interfaces with existing hospital operations, wastewater and B3 waste systems, traffic, community health and safety, and operational changes linked to the 270-bed target. The ESIA-ESMP should be aligned with the AMDAL but should not simply duplicate it. The ESIA should add AIIB ESF requirements where Indonesian AMDAL is less explicit, including cumulative risk screening, associated facility screening, labour and working conditions, social risk management, stakeholder engagement, GRM, and climate risk.

3.2.2 Water Pollution Control and Wastewater

Based on the Minister of Health Regulation No. 7 of 2019, health facilities are required to implement the following operational standards,

- 24-Hour Wastewater Treatment Plant (WWTP) System, Wastewater Treatment Plants (WWTP) must operate non-stop 24 hours a day to maintain the quality of processed products continuously.
- Separation of Channels, Domestic wastewater channels (toilets, kitchens) and clinical wastewater/medical activities (radiology, laboratories, operations) must be separated before entering the processing process.
- Daily Self-Monitoring, Hospitals are required to independently test wastewater indicators every day, at least for DO (dissolved oxygen), temperature, and pH parameters.
- Accredited Laboratory Testing,
- Periodic wastewater quality checks must be carried out at external laboratories that have been nationally accredited.
- Routine Reporting, the results of waste effluent tests must be reported periodically to the local Environmental Agency (DLH).

3.2.3 Air Quality and Stationary Source Emissions

The primary regulation governing air quality in hospitals in Indonesia is Minister of Health Regulation No. 2 of 2023 concerning Environmental Health. This regulation revokes some of the environmental media provisions previously contained in Minister of Health Regulation No. 7 of 2019 concerning Hospital Environmental Health.

This regulation divides air quality parameters into three categories, physical, chemical, and biological parameters that are indoors and outdoors, Physical Parameters, Sets safe limits for temperature,

humidity, lighting, ventilation rate, noise, and levels of micro dust particulates such as PM2.5 and PM10. Chemical Parameters, sets maximum levels allowed for toxic gases such as Carbon Monoxide (CO), Sulfur Dioxide (SO2), Nitrogen Dioxide (NO2), Ozone (O3), lead (Pb), and volatile organic compounds (VOCs). Biological Parameters, Sets maximum limits for the content of microorganisms in the air, such as the total number of germs/bacteria and contaminant fungi indoors.

3.2.4 Solid Waste, Medical Waste and B3 Waste

Hospital solid waste is all solid waste generated from medical and supporting activities within the hospital environment. Its management is strictly regulated under Minister of Environment and Forestry Regulation No. 56 of 2015 to prevent infection and environmental pollution.

Regulations regarding hospital solid waste management in Indonesia are primarily governed by Minister of Health Regulation No. 7 of 2019 concerning Hospital Environmental Health and Minister of Environment and Forestry Regulation No. P.56 of 2015 concerning Procedures and Technical Requirements for Hazardous and Toxic Waste Management from Healthcare Facilities. Solid Waste Classification, Hospital solid waste is broadly divided into two main types,

- Non-Medical Waste (Domestic), Solid waste from office, kitchen, and yard activities that is not contaminated with bodily fluids or hazardous chemicals.
- Medical Waste/Hazardous and Toxic Materials (B3), Waste that is infectious, pathological, sharp, chemical, pharmaceutical, cytotoxic, or contains heavy metals.

3.2.5 Traffic, Road Access and ANDALALIN

ANDALALIN regulations have undergone significant integration through the Job Creation Law, which stipulates that ANDALALIN documents no longer stand alone as separate permits, but are instead integrated directly into the Environmental Approval (Amdal or UKL-UPL).

The authority to assess ANDALALIN results is divided based on the status of the road where the project's access points are built,

- National Roads, Assessed and approved by the Minister of Transportation (through the Directorate General of Land Transportation/BPTD).
- Provincial Roads, Assessed and approved by the Governor (through the Provincial Transportation Agency).
- Regency/City Roads, Assessed and approved by the Regent/Mayor (through the Regency Transportation Agency/Disperkim).

3.2.6 Gender Based Violence

Regulations regarding Gender-Based Violence (GBV) in Indonesia are regulated through several specific laws and ministerial regulations, with the main pillars being Law No. 12 of 2022 concerning Criminal Acts of Sexual Violence (TPKS Law) and Law No. 23 of 2004 concerning the Elimination of Domestic Violence (PKDRT Law).

Basic Law on Victim Protection, Law No. 12 of 2022 (TPKS Law), progressively regulates nine types of sexual violence crimes not previously regulated in detail in the Criminal Code. uLaw No. 23 of 2004 (PKDRT Law), Provides legal protection for victims of domestic violence, the majority of whom are women. This law strictly prohibits physical, psychological, and sexual violence, as well as domestic neglect.

Law No. 7 1984, Ratification of the International Convention on the Elimination of All Forms of Discrimination against Women (CEDAW), which became the basic foundation for eliminating gender-based violence in Indonesia.

Minister of Manpower Decree No. 88 of 2023, Guidelines for the prevention and handling of sexual harassment in the workplace to ensure an equal and safe work space for female workers. Forms of Sexual Violence Regulated by These Guidelines cover various forms of sexual violence in the workplace, both in person and digitally, including,

- Verbal violence (sexually suggestive words, jokes, or comments).
- Physical violence (touching, groping, or physical coercion without consent).
- Non-physical/visual violence (inappropriate looks, viewing pornographic content).
- Online violence (harassment via text messages, social media, or email). 3.
- Company Obligations in Prevention Companies are required to take preventive measures to reduce the potential for sexual violence, including,
- Drafting company policies stipulated in the Collective Labor Agreement (PKB) or Company Regulations (PP).
- Conducting regular outreach and education regarding anti-sexual violence awareness for all employees.
- Providing work facilities that support safety, such as adequate lighting and CCTV in vulnerable areas.

3.2.7 Asbestos

The latest regulations regarding asbestos in Indonesia focus on limiting its use in buildings and strict controls in the work environment, although there is no total national ban on all types of asbestos. The Latest Regulations in the Building SectorGovernment Regulation (PP) No. 16 of 2021, the

implementing regulation of the Building Law, specifically prohibits the use of building materials containing asbestos in order to protect the right to a habitable home and the health of its occupants.

- Asbestos Type Ban Status Blue Asbestos (Crocidolite), Totally prohibited from being imported, produced, or used in Indonesia based on PP No. 74 of 2001 concerning the Management of Hazardous and Toxic Materials (B3).
- White Asbestos (Chrysotile), Still permitted with strict supervision, although health organizations such as the Ministry of Health's Health Policy Agency continue to push for a total ban due to its nature of triggering lung cancer.
-

3.2.8 Spatial Planning, Land Status and Building Approval

The redevelopment is planned within the existing RSGP site, confirmed by PKKPR No. 14072210213201073 for approximately 6.70 ha under KBLI 86101. No new land acquisition is currently indicated. However, the final DED must be checked against RDTR/RTRW, KDB, KLB, KDH, GSB, building height, PBG and SLF requirements. The ESIA should keep a live permit matrix because final design changes may affect building approval, wastewater technical approval, drainage design, traffic impact and hospital operating licence requirements.

3.2.9 Biodiversity

The relevant national regulation on the biodiversity conservation and protection, including but not limited to the following,

- Law No. 32 of 2024, which revises Law No. 5 of 1990 regarding The Conservation of Living Natural Resources and Their Ecosystems,
- Law No. 5 of 1994 regarding The Ratification of The United Nations Convention on Biological Diversity (CBD),
- Law No. 21 of 2004 regarding The Ratification of the Cartagena Protocol on Biosafety to the Convention on Biological Diversity,
- Law No. 19 of 2004 regarding Forestry,
- Government Regulation No. 7 of 1999 regarding The Conservation of Plant and Animal Species, recognizing the irreplaceable value of flora and fauna as part of natural resources,
- Minister of Environment and Forestry Regulation No. 106 of 2018 regarding The List of Protected Plant and Animal Species,
- Minister of Environment and Forestry Regulation No. 94 of 2016 regarding The Invasive Species,

- Minister of Environment and Forestry Regulation No. 48 of 2008 regarding The Guidelines for Managing Human-Wildlife Conflict,
- The Indonesian Biodiversity Strategy and Action Plan (IBSAP) 2025-2045.

3.2.10 Health Services and Hospitals

A. Hospital Service Provisions, Hospital Licensing, Patient Safety, and Public Health Requirements.

1. Hospital Services

   Health service standards that hospitals must meet include,

   - Provision of outpatient, inpatient, emergency and medical support services
   - Availability of health workers according to competency
   - Health service referral system
   - Hospital service quality standards
   - Hospital accreditation obligations.

   Goenawan Partowidigdo Hospital, this hospital provides outpatient services, inpatient services, emergency room services, medical support services, laboratory services, radiology services, pharmacy services and referral services in accordance with applicable laws and regulations.

2. Hospital Licensing

   During the construction and operational stages of the hospital, permits are required, such as Environmental Approval, Building Approval, Certificate of Functional Worthiness, OSS-RBA Permit, Hospital Operational Permit, Technical Approval for Wastewater and Emissions, and B3 waste management. The hospital is required to comply with central and regional government regulations before operations begin.

   In carrying out RSGP operations, the permits that have been obtained include Environmental Approval, NIB through OSS-RBA, and Class A Special Hospital Operational Permit.

3. Patient Safety

   Implementation of a patient safety system to minimize the risks of health services as regulated in the Minister of Health Regulation on Hospital Patient Safety and accreditation standards.

   Goenawan Lung Hospital Partowidigdo carries out reporting and evaluation of patient safety incidents, occupational health and safety, and air quality control.

4. Public Health Requirements

Potential impacts of activities on surrounding health and management efforts. Goenawan Lung Hospital Partowidigdo paru also conducts periodic environmental quality monitoring, efforts to prevent environmental pollution and protect public health around the activity area.

Table 14 Hospital Health Services Law Summary

No	Regulation	Information	Summary
1.	Law No. 17 of 2023 concerning Health	Regulation of health services and protection of public health	In the arrangement of health services and public health protection, RSGPP has 177 beds for inpatient care and 2 beds for outpatient care.
2.	Government Regulation No. 28 of 2024 concerning the Implementation of the Health Law	Standards of health services and health facilities	In carrying out RSGP operations, the permits that have been obtained include Environmental Approval, NIB through OSS-RBA, and Class A Special Hospital Operational Permit. The availability of a workforce of 461 employees who are in accordance with the competencies.
3.	Minister of Health Regulation on Patient Safety	Patient System Hospital Safety	In implementing the patient health and safety system, RSGPP has guidelines for organizing environmental health installations and K3RS in accordance with applicable provisions.
4.	Minister of Health Regulation on Medical Waste Management	Infectious and B3 Waste	infectious and hazardous waste management, an LB3 cooperation contract has been established in accordance with applicable provisions.
5.	Government Regulation No. 22 of 2021	Environmental protection and management	In the implementation of hospital operations, periodic environmental monitoring has been carried out in accordance with the documents that have been owned and carried out. reporting to the relevant agency.

3.2.11 Cultural Heritage

The protection of cultural sites and heritage in Indonesia is primarily regulated by Law No. 11 of 2010 concerning Cultural Heritage, which replaced the previous regulation (Law No. 5 of 1992). This regulation was later strengthened by Government Regulation No. 1 of 2022, which serves as the basis for its implementation. Through Government Regulation No. 1 of 2022, the government established strict regulations that newly discovered objects suspected of being cultural heritage (ODCB) must be protected and treated the same as official cultural heritage. This aims to prevent premature damage before a team of experts can verify and register them in the National Register. The government divides the management of cultural sites into three main actions

- Protection, Efforts to prevent damage, destruction, or extinction through rescue, security, maintenance, and restoration.

- Development, Increasing the potential value, information, and promotion of cultural heritage through research, revitalization, and adaptation without losing its authenticity.
- Utilization, Utilizing it for the greatest benefit of the public welfare while maintaining its sustainability (e.g., for religious, social, tourism, and educational purposes).

3.2.12 Labour, Working Conditions, OHS and K3RS

OHS (Occupational Health and Safety) or K3 (Occupational Safety and Health) regulations in Indonesia require every company to protect the safety of workers' lives, prevent accidents, and maintain a sustainable work environment.

Regulations regarding labour protection and the work environment in Indonesia are broadly regulated in Law No. 13 of 2003 concerning Manpower, which has been updated through Law No. 6 of 2023 concerning Job Creation, and supported by specific regulations regarding Occupational Safety and Health (K3).

Some important points in this regulation include,

Protection of Basic Worker Rights

- Living Wage, employers are prohibited from paying wages lower than the minimum wage set by the regional government as stipulated in Government Regulation No. 36 of 2021 concerning Wages.
- Working Hours, the standard working hour is 7 hours per day (for a 6-day workweek) or 8 hours per day (for a 5-day workweek). Overtime work must be approved by the employee and paid at overtime pay.
- Non-Discrimination, every employee has the right to equal treatment without discrimination based on gender, ethnicity, race, religion, or political affiliation.

Occupational Safety and Health Protection (K3) Employer Obligations

- Every company is required to implement the K3 Management System (SMK3) to prevent work accidents and occupational diseases based on PP No. 50 of 2012.
- Worker Rights, Workers have the right to protection of safety, health, morals, morality, and treatment in accordance with human dignity.

Work Environment Standards

- Based on the Minister of Manpower Regulation No. 5 of 2018 concerning Occupational Health and Safety (K3) in the Work Environment, employers are required to control work environment factors to be below the Threshold Limit Value,
- Physical Factors, Control of the work climate (temperature/humidity), noise, lighting, vibration, microwaves, and UV radiation.
- Chemical Factors, Control of air contaminants such as dust, smoke, steam, gas, and other hazardous chemicals.
- Biological Factors, Prevention of the transmission of viruses, bacteria, fungi, and venomous animals in the work area.

- Ergonomic Factors, Aligning the design of work stations, work tools, and worker posture to avoid physical injury.
- Psychological Factors, creating a healthy work atmosphere and minimizing work stress due to workloads or non-conducive work relationships.
- Hygiene Facilities, Providing good air circulation, sufficient clean toilets, trash cans, rest rooms, and first aid facilities (P3K).

3.2.13 Public Information, Consultation and Grievance Handling

For government agencies, health services, and public facilities, this mechanism must refer to,

- Law No. 25 of 2009 concerning Public Services Mandates every service provider to provide a public complaints unit.
- Government Regulation No. 96 of 2012, Regulates the details of the implementation of handling and follow-up of public reports.
- Presidential Regulation No. 76 of 2013, Integrated national public service complaint management policy.

The mechanism for handling labor complaints in Indonesia is regulated in stages, starting from internal (non-litigation) resolution to legal channels (litigation) at the Industrial Relations Court (PHI). The main reference for this procedure is based on Law No. 13 of 2003 concerning Manpower, as amended by the Job Creation Law, and the settlement procedures are specifically regulated in Law No. 2 of 2004 concerning the Settlement of Industrial Relations Disputes (PPHI). The following is a summary of the regulations and stages of the complaint handling mechanism.

- Internal Company Stage (Complaints & Bipartite) Before complaints become formal disputes, workers and employers are required to seek resolution within the company through deliberation. Submission of Complaints, based on the Minister of Manpower Decree No. Kep-234/Men/2003, workers can submit complaints (work facilities, wages, superior treatment) verbally/in writing directly to their superiors or through the Workers Union.
- Bipartite Negotiations, if complaints develop into disputes (rights, interests, layoffs, or between unions), the parties conduct bipartite negotiations. The maximum time for completion of this stage is 30 working days. If agreed, a Collective Agreement (PB) is made.

3.2.14 Administrative Permits and Project-Specific Permit Register

The table below summarises the project-specific permit and administrative evidence currently known from the RSGP document. The table should be maintained as a live permit register and updated after DED, AMDAL, Pertek, Rintek B3, ANDALALIN, PBG and SLF milestones.

Table 15 Project-Specific Permit and Administrative Baseline For RSGP

Permit / Evidence	Current Status from Project Documents	ESIA Relevance	Action Before Operation
NIB	NIB 9120304812536, originally issued 23 August 2019, eighteenth amendment 27 June 2022, KBLI 86101, status PMDN.	Confirms business registration basis for Government Hospital Activities.	Check OSS data after final service and capacity changes.
PKKPR / KKPR	PKKPR No. 14072210213201073 issued 14 July 2022 for approximately 6.70 ha and 17-vertex boundary polygon.	Confirms spatial conformity baseline and land boundary for screening of land acquisition and spatial compliance.	Overlay final DED footprint with PKKPR boundary, RDTR/RTRW and KRK.
IPPT and IMB	IPPT 2013 and IMB 2014 cover historical land use and existing built fabric.	Relevant for existing asset baseline and transition to PBG/SLF regime.	Confirm PBG requirements for Buildings A, B, C and J-M and retain IMB evidence for existing buildings.
SIO / hospital operating licence	The 2025 Surat Izin Perpanjangan Operasional was issued through OSS and is valid until 2030. RSGP is currently licensed as a Class A pulmonary specialty hospital under the Ministry of Health.	Ensures that operations continue legally during construction and after redevelopment.	Check whether transition to general hospital with pulmonary excellence and 270 beds requires licence update.
UKL-UPL (2005 & 2016) and SK Persetujuan Kesanggupan Kelola Lingkungan (2005 & 2016)	Existing UKL-UPL and environmental management commitment approval are available for current operations. (UKL-UPL doc 2005 and Approval of UKL-UPL Documents by the Bogor Regency Spatial Planning and Environmental Agency 14 June 2005, Semesterly environmental monitoring reports are available from 2021-2025 Semester II)	Provides historical environmental performance baseline and existing commitments.	Extract text and review commitments, align with new AMDAL and ESMP.
AMDAL package	Parallel KA-ANDAL, ANDAL and RKL-RPL preparation planned under the same safeguards programme.	Required for the redevelopment environmental approval and RKL-RPL monitoring commitments.	Ensure ESIA/ESMP and AMDAL use consistent project description, impacts, mitigation and monitoring.
Pertek BMAL / IPAL evidence	Existing wastewater technical approval and IPAL layout are listed as available, detailed compliance trend remains to be compiled.	Needed for wastewater baseline and future capacity assessment.	Confirm effluent standards, IPAL capacity, monitoring results and whether revised approval is required.

Permit / Evidence	Current Status from Project Documents	ESIA Relevance	Action Before Operation
Pertek BMUE / emissions evidence	Existing air emission technical approval and stack monitoring data are a documented gap.	Needed for stationary source baseline and operational emissions management.	Collect from hospital K3/facilities unit and DLH, update ESIA baseline and ESMP.
Rintek TPS B3 and third-party contracts	Rintek TPS B3 and MoU with B3 waste, domestic waste and septic desludging contractors are listed in the data checklist.	Needed for B3 and healthcare waste compliance.	Verify validity, scope, manifest records, transporter/processor permits and capacity for increased waste generation.
ANDALALIN/ Traffic Impact Analysis	Traffic study is planned in parallel.	Needed because of Jl. Raya Puncak access, construction trucks and operational patient/visitor traffic.	Complete traffic counts, LOS analysis, construction traffic plan and agency approval.
Cultural heritage status confirmation	Formal SK or confirmation from BPCB/Disbudpar is not yet available.	Needed because 1914 and 1928 era buildings may be cultural heritage candidates.	Request confirmation and prepare CHMP before works near old buildings.

3.3 AIIB Environmental and Social Framework

The project is financed by AIIB and is therefore subject to the AIIB Environmental and Social Framework (ESF), as amended through June 2024. The ESF comprises the Environmental and Social Policy (ESP), three Environmental and Social Standards (ESS1, ESS2 and ESS3), and the Environmental and Social Exclusion List (ESEL). For the RSGP redevelopment, ESS1 is the principal applicable standard. ESS2 and ESS3 are screened out at this stage because the project is planned within the existing RSGP land parcel and no Indigenous Peoples within the meaning of ESS3 are identified in the immediate area of influence. These conclusions must be rechecked when the final DED and contractor work areas are confirmed.

Table 16 AIIB ESF Applicability Screening for RSGP

AIIB Requirement	Applicability to RSGP	Reasoning	Required Action
Environmental and Social Policy (ESP)	Applicable	AIIB financing requires environmental and social assessment, management, consultation, disclosure, grievance handling and monitoring across the project lifecycle.	Maintain ESIA-ESMP as a living document and update it after DED, consultations and AMDAL milestones.
ESS1, Environmental and Social Assessment and Management	Applicable / principal standard	The project has construction and operational risks related to dust, noise, vibration, traffic, wastewater, B3 waste, infection control, labour, patient safety,	Prepare ESIA, ESMP, SEP, GRM, monitoring plan, capacity-building plan and C-ESMP requirements. Apply mitigation hierarchy.

AIIB Requirement	Applicability to RSGP	Reasoning	Required Action
		climate resilience, biodiversity proximity and cultural heritage.	
ESS2, Land Acquisition and Involuntary Resettlement	Not triggered at this stage	The four new buildings are planned within the existing RSGP / Ministry of Health land parcel confirmed under PKKPR. No land acquisition or physical relocation is currently identified. Construction may temporarily change internal routes, parking, and hospital access, but this is a construction management and service-continuity issue, not land expropriation or involuntary restriction of community land use.	Reconfirm after final DED, temporary laydown areas, access arrangements and utility connections. If land, access or livelihood impacts arise, prepare a corrective instrument proportionate to impact.
ESS3, Indigenous Peoples	Not triggered at this stage	The immediate project setting in Desa Cibeureum, Cisarua is not identified as an Indigenous Peoples area under AIIB ESS3. No distinct IP group requiring ESS3 measures is identified from available project data.	Maintain screening record. If new information emerges through consultation, update screening and engagement approach.
Environmental and Social Exclusion List (ESEL)	Screened compliant	The project consists of public hospital redevelopment and does not involve excluded activities such as forced labour, illegal trade, banned materials or destructive activities.	Include ESEL compliance in procurement and contractor requirements.

3.4 Other International Frameworks and Good International Industry Practice

The following international frameworks are not a substitute for Indonesian law or AIIB ESF requirements, but they help define good practice for hospital construction and operation. They should be used where Indonesian requirements are less specific, particularly for infection prevention, healthcare waste, climate resilience, worker protection, stakeholder engagement and emergency preparedness.

Table 17 International Frameworks and GIIP Relevant to RSGP

Framework / Guidance	Relevant Theme	Use in the ESIA-ESMP
World Bank Group General EHS Guidelines	Cross-sector environmental, health and safety practice.	Reference for construction dust, noise, wastewater, waste, OHS, community health and safety, emergency preparedness and monitoring.

Framework / Guidance	Relevant Theme	Use in the ESIA-ESMP
World Bank Group EHS Guidelines for Health Care Facilities	Healthcare waste, infectious materials, wastewater, air emissions, occupational and community health risks.	Reference for hospital waste segregation, infectious waste handling, wastewater treatment, incinerator controls, worker protection and emergency response.
WHO guidance on tuberculosis infection prevention and control	TB/MDR-TB infection control in healthcare settings.	Reference for negative pressure isolation, ventilation, patient flow, PPE, administrative controls and airborne infection control in the new Clinical Core. Used as a reference for the health hazards of asbestos, because all forms of asbestos, including chrysotile, are classified as carcinogenic to humans.
WHO Safe Management of Wastes from Health-Care Activities	Healthcare waste management.	Reference for segregation, packaging, storage, internal transport, treatment and final disposal of infectious and hazardous healthcare waste.
IFC/EBRD worker accommodation and labour practice guidance, where relevant	Labour and working conditions.	Reference if contractors provide worker accommodation, and for worker welfare, grievance management and non-discrimination.
ISO 45001 / SMK3 alignment	Occupational health and safety management systems.	Reference for contractor OHS management, incident investigation, audits and continuous improvement.
ISO 22262-1	Bulk Material – Sampling and qualitative determination of asbestos	Used as a technical reference for sampling solid materials and identifying asbestos in building materials using laboratory methods such as polarized light microscopy and dispersion staining.
ISO 16000-7	Indoor Air – Sampling strategy for determination of Airbone asbestos fibre concentrations	Used as a reference for indoor air sampling strategies to determine the concentration of asbestos fibers in the air, especially in building areas that have the potential to experience fiber release.
NIOSH Method 7400 & 7402	Technology for identification of ACMPeta Peta	NIOSH 7400 is used for airborne fiber analysis using phase contrast microscopy, while NIOSH 7402 is used as a method for confirming asbestos using transmission electron microscopy.
IFC/World Bank Good Practice Note on SEA/SH risk management, where relevant	SEA/SH prevention and response.	Reference for worker code of conduct, training, confidential grievance referral and survivor-centred handling.

3.5 Gap Analysis between AIIB ESF and Indonesian Legislation

The gap analysis identifies areas where AIIB ESF requirements are broader or more explicit than Indonesian regulatory requirements. In these cases, the project should apply the more stringent or more protective requirement. The analysis below focuses on ESS1 because ESS2 and ESS3 are not triggered at this stage, while still maintaining re-screening commitments for final design changes.

Table 18 Gap Analysis Between AIIB ESF and Indonesian Requirements for RSGP

Topic	AIIB ESF Expectation	Indonesian Legal / Amdal Baseline	RSGP Action to Close Gap
Scope of assessment	Assessment covers full project lifecycle, direct, indirect, cumulative and associated risks, and project alternatives.	AMDAL focuses on significant impacts and RKL-RPL commitments under the environmental approval process.	Keep ESIA broader than AMDAL where necessary. Include construction, operation, service continuity, labour, patient safety, climate, heritage, biodiversity proximity and associated facility screening.
Living document and adaptive management	Environmental and social documents must be updated as project information changes.	AMDAL revisions may be required for material project changes, but routine adaptive updating is less explicit.	Maintain ESIA-ESMP version control. Update after DED, ANDALALIN, Pertek, Rintek B3 and consultations.
Mitigation hierarchy	Avoid, minimize, restore/rehabilitate and compensate/offset where residual impacts remain.	AMDAL requires management and monitoring, but mitigation hierarchy language may not be consistently explicit.	State hierarchy in ESMP and require contractors to prioritize avoidance of patient, heritage, tree, drainage and traffic impacts.
Associated facilities	Screen facilities that are directly and materially related, contemporaneous and necessary for project viability.	Indonesian AMDAL generally focuses on the activity proposed by the proponent and related impacts.	Maintain AF screening for power, water, wastewater, B3 treatment, access road and third-party waste processors. Describe client control or influence.
Stakeholder engagement and disclosure	Meaningful, inclusive, culturally appropriate and ongoing engagement with accessible disclosure.	AMDAL requires public announcement and consultation for affected communities.	Prepare SEP with hospital-specific stakeholders, patients, carers, staff, students, local community, local government, DLH, BPCB/Disbudpar, TNGGP and traffic authorities.
GRM	Accessible project-level GRM for affected people and workers, with non-retaliation and tracking.	Public complaint handling exists under AMDAL and public service systems, but project-specific tracking may vary.	Establish construction and operation GRM with logs, categories, response times, responsible PICs, escalation and reporting. Separate worker grievance channel.

Topic	AIIB ESF Expectation	Indonesian Legal / Amdal Baseline	RSGP Action to Close Gap
Labour and working conditions	Protect direct, contracted and subcontracted workers, prohibit child/forced labour, manage worker OHS and accommodation where relevant.	Manpower and OHS laws apply, enforcement depends on contracts and supervision.	Include labour management provisions in bid documents and contracts. Require worker induction, code of conduct, worker GRM, incident reporting and contractor labour records.
SEA/SH and gender-responsive controls	Identify and manage SEA/SH risks and support safe, confidential reporting.	General legal protections exist, project-specific SEA/SH management is not always required in AMDAL.	Apply code of conduct, training, safe reporting pathways, privacy-sensitive investigation, and female-friendly facilities for workers, staff and patients.
Hospital service continuity and patient safety	ESS1 covers community health and safety and risks to vulnerable groups, for hospitals this includes patient safety during works.	Hospital regulations cover patient safety, infection control and K3RS but may not be integrated with construction ESMP.	Prepare service continuity plan, internal transfer plan, construction isolation plan, emergency access plan, and patient communication procedures.
Climate risk and GHG	Assess physical climate risk and climate mitigation opportunities.	Climate considerations may be partially covered through building, drainage and environmental requirements.	Prepare climate risk assessment and GHG inventory. Integrate drainage capacity, slope stability, heat, water security, energy efficiency and green hospital measures.
Biodiversity and ecosystem services	Assess direct and indirect impacts on biodiversity and ecosystem services, apply mitigation hierarchy.	AMDAL includes flora/fauna and environmental impacts, but proximity to protected areas may need stronger analysis.	Confirm site relationship with TNGGP buffer zone, conduct walkover biodiversity survey, manage mature trees and landscape connectivity.
Cultural heritage	Identify and manage tangible and intangible cultural heritage, apply chance-find procedures.	Law No. 11/2010 protects designated and candidate cultural heritage.	Request BPCB/Disbudpar confirmation, prepare CHMP, document old buildings, and restrict demolition or alteration until status is clarified.
Monitoring and reporting	ESMP must define parameters, frequency, responsibilities, costs and reporting to AIIB.	RKL-RPL reporting is required under Environmental Approval.	Integrate RKL-RPL and ESMP monitoring. Add AIIB-specific indicators for labour, GRM, service continuity, traffic, patient safety and stakeholder engagement.

4 ENVIRONMENTAL BASELINE

This Chapter establishes the environmental baseline conditions of the RSGP site and its area of influence, geographic and administrative context, topography and geology, climate and meteorology, hydrology and hydrogeology, air quality and noise, biodiversity and ecology, land use and spatial compliance, cultural heritage setting, and the operational environmental trend captured in the existing UKL-UPL document (the Environmental Monitoring Report Period: 2021 - 2026). The baseline anchors the impact assessment in Chapter 6 and the monitoring design in Chapter 12.

4.1 Geographic and Administrative Context

RSGP occupies a 6.70-hectare site (PKKPR-confirmed) at Jl. Raya Puncak-Gadog KM 83, Cibeureum village, Cisarua sub-district, Bogor distrcit, West Java Province. The administrative chain places the site under the regulatory authority of Bogor District Government for spatial, environmental, and most municipal services, while remaining functionally connected to the Provincial-level offices for cultural heritage and to the National-level offices (Kemenkes) as the Hospital's owner-operator. The site coordinates (-6.6879° S, 106.9° E) place it in the highland Puncak corridor, approximately 30 minutes overland from the Bogor city centre and 90-120 minutes from Jakarta.

- Province, Jawa Barat (West Java)
- Kabupaten, Bogor
- Kecamatan, Cisarua
- Desa, Cibeureum
- Adjacent landscape units, Taman Nasional Gunung Gede Pangrango (TNGGP), Gunung Mas Tea Estate (Agrowisata), Telaga Warna Puncak, Taman Safari Indonesia.

Geographically and administratively, RSGP is located in a tourist area that is highly active Monday through Friday and extremely busy on Saturdays, Sundays, and other holidays. This situation necessitates the ESIA process to identify sensitive receptors potentially impacted during the construction phase, particularly during the mobilization and demobilization of heavy equipment and materials.

4.2 Topography and Geology

The site sits at approximately 800 metres above sea level on the southern flanks of the Gunung Gede-Pangrango complex. The regional geology is dominated by Quaternary volcanic deposits, andesitic tuffs, lahar deposits, and weathered volcanic soils, typical of the Gede-Pangrango volcanic system. Local terrain at the site is moderately sloped, requiring careful site grading, retaining wall design where required, and explicit drainage management given the high rainfall regime.

- Elevation, 800 m above sea level
- Regional geomorphology, highland flank of Gunung Gede-Pangrango stratovolcano complex
- Surface lithology, weathered Quaternary volcanic deposits, andesitic tuff and lahar
- Seismic hazard, low-moderate, designated within the West Java seismic zoning under SNI 1726,2019, specific design seismic acceleration to be established by DEDC

The general location of Cibereum Village is in the mountains with hilly contours. The topography of the RSGP site differs by approximately 1-2 meters from the area outside the perimeter fence. This topographical information can explain how the RSGP area presents a minimal risk of flooding, which is related to water runoff during the land preparation process during the construction phase.

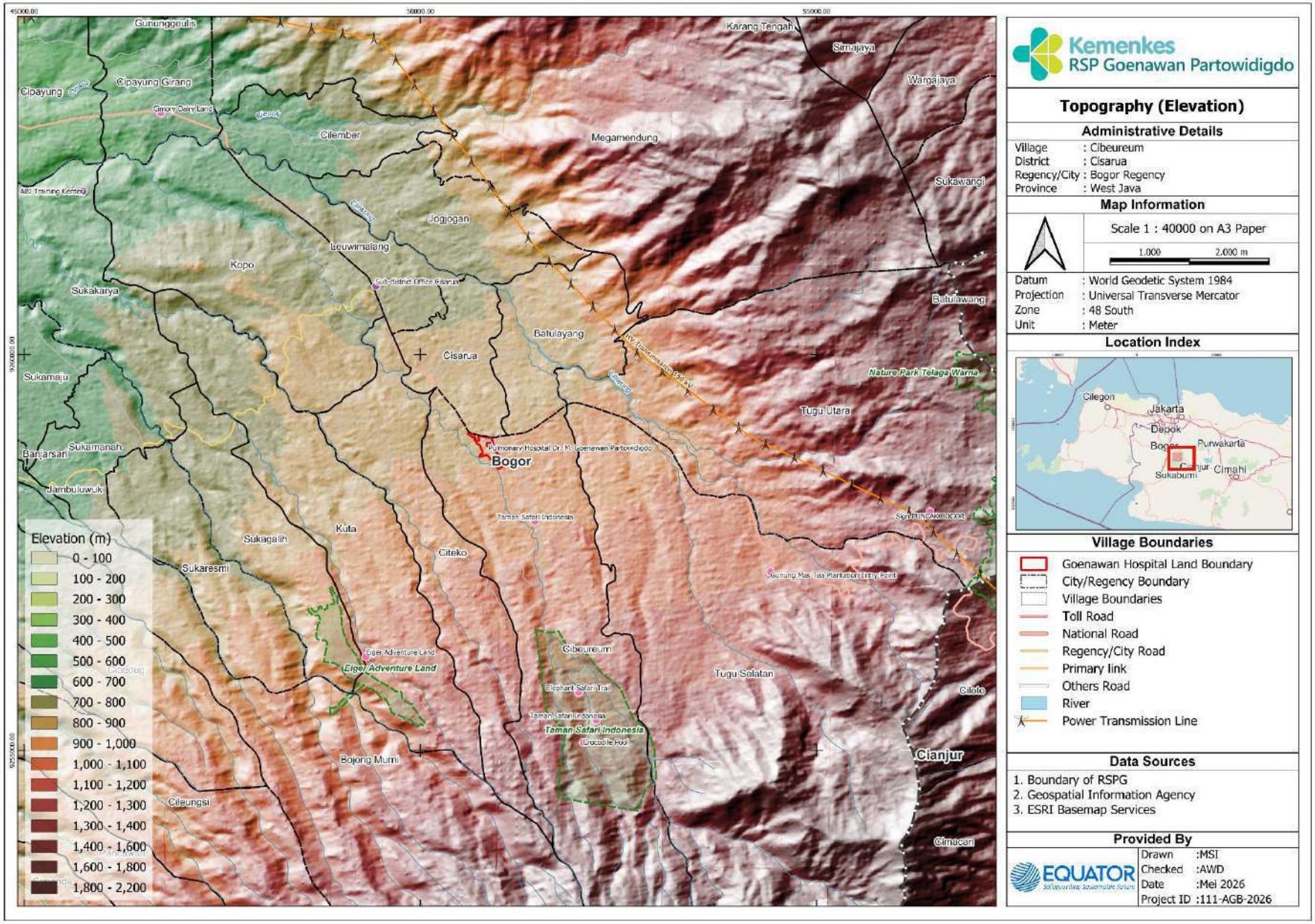


Figure 13 Project Site Topography

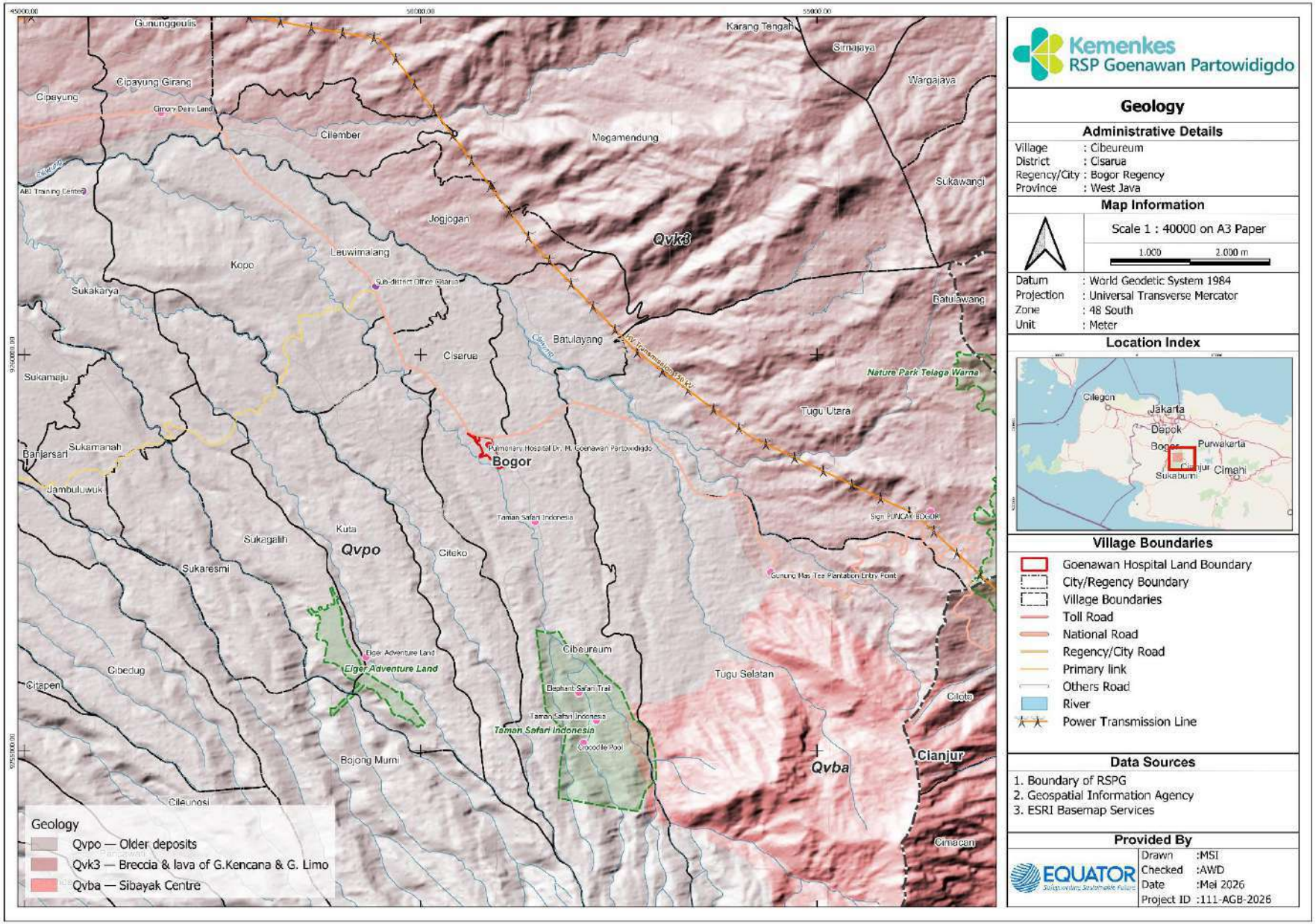


Figure 14 Project Site Geology

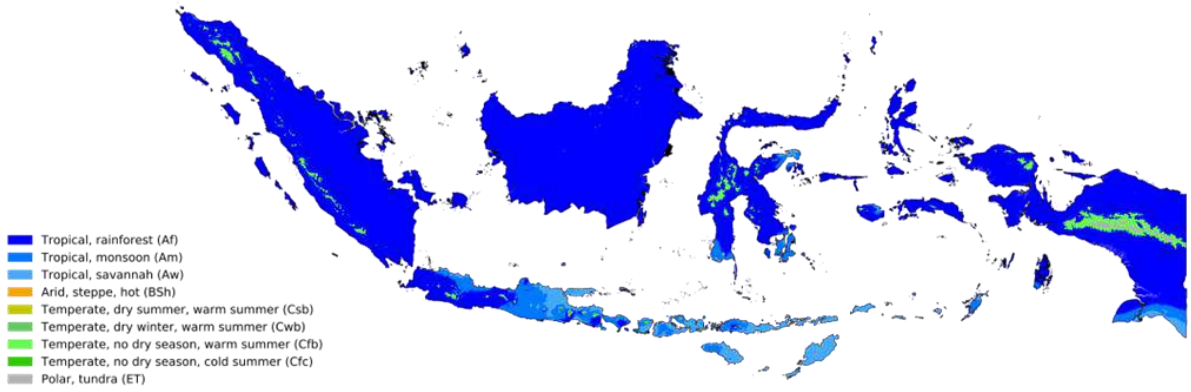
4.3 Climate and Meteorology

4.3.1 Climate Type

Climate conditions within the Project area were characterized using a 10-year rainfall dataset covering the period 2015-2024. Climate classification was assessed using the Schmidt and Ferguson (1956) method through calculation of the Q Index, which represents the ratio between the number of dry months (monthly rainfall <60 mm) and wet months (monthly rainfall >100 mm). The analysis resulted in a Q Index value of approximately 12%, indicating that the Project area falls within the very wet climate category (Type A), characterized by an average of one dry month and ten wet months annually.

Based on the Oldeman climate classification system, the Project area is categorized as Climate Type A1, indicating high rainfall conditions throughout the year with only a very short dry season. According to the Köppen climate classification, the area is classified as tropical rainforest climate (Af), characterized by monthly rainfall consistently exceeding 60 mm and minimum monthly temperatures remaining above approximately 18°C.

In general, tropical rainforest climates occur within the equatorial belt and are strongly influenced by monsoonal circulation patterns. During the period from October to March, when the Asian continent experiences winter conditions and the Australian continent experiences summer conditions, monsoonal air movement transports moist air masses from the Pacific Ocean across the equatorial region, contributing to the wet season conditions in western Indonesia. Conversely, during April to September, the regional circulation pattern shifts, resulting in relatively drier conditions, although rainfall remains relatively high within the Project area throughout the year.



Sumber, *Updated world map of Köppen-Geiger climate classification, 2016.*

Figure 15 Map of Köppen-Geiger Climate Classification

The RSGP site is located at an altitude with an average ambient temperature of 18%, which can be cooler during the rainy season. This information can serve as a baseline for identifying the impact of heat stress and/or heat stroke on workers during the construction phase.

4.3.2 Rainfall

Rainfall characteristics within the Project area were assessed using 10 years of Global Precipitation Measurement (GPM) data covering the period 2016-2025 with a spatial resolution of 0.1° × 0.1°. The dataset was bias-corrected using available local rainfall observation data to improve representativeness under local climatic conditions.

The composite monthly rainfall pattern indicates a typical equatorial rainfall regime characterized by two rainfall peaks and relatively short drier periods. The primary rainfall peak occurs in March, with monthly rainfall reaching more than 700 mm, while a secondary peak occurs in December with monthly rainfall of approximately 500 mm. Lower rainfall conditions generally occur during the June-July-August (JJA) period, particularly in August, which represents the driest month with average rainfall close to 100 mm. Nevertheless, rainfall remains present throughout the year, indicating persistently humid climatic conditions within the Project area.

The high rainfall intensity observed in the area is likely influenced by regional monsoonal circulation combined with local topographic effects associated with surrounding mountainous terrain, which may enhance orographic rainfall formation. Seasonal rainfall variation generally follows regional monsoon dynamics, with wetter conditions occurring during the northwest monsoon period and relatively lower rainfall during the southeast monsoon period.

The average number of rainfall days further indicates that rainfall occurs frequently throughout the year. The highest rainfall frequency generally occurs between January and May as well as during November-December, with average rainfall occurrence exceeding 20 rainy days per month. Meanwhile, relatively lower rainfall frequency occurs during June-October, although rainfall events still occur regularly during this period. These conditions indicate the absence of a pronounced dry season and are consistent with the tropical humid climate classification of the region.

Figure 2 presents the average monthly rainfall pattern and number of rainy days, while Table 1 and Table 2 summarize the monthly rainfall totals and rainfall day frequency, respectively.

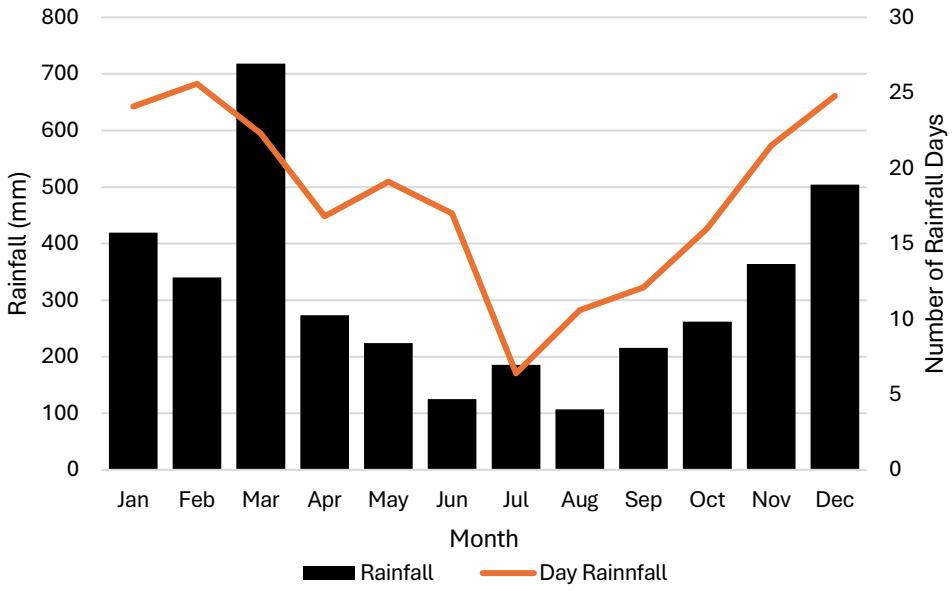


Figure 16 Rainfall Pattern in Project Area

Table 19 Monthly Average Rainfall (mm), 2016–2025

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2016	530	472	1024	346	341	129	451	210	472	611	681	394
2017	283	418	756	415	222	100	144	28	194	346	340	340
2018	413	299	714	168	90	74	23	17	135	125	476	419
2019	299	410	638	307	146	37	11	21	39	61	113	713
2020	590	417	1017	313	318	72	75	111	188	481	183	646
2021	605	212	507	172	228	166	105	189	315	130	496	514
2022	180	233	528	307	150	217	306	126	287	443	303	601
2023	213	250	672	65	208	87	263	16	22	60	283	405
2024	471	383	787	294	177	134	257	32	221	28	464	596
2025	611	309	542	345	359	235	219	320	285	337	299	413
Average	**419**	**340**	**718**	**273**	**224**	**125**	**186**	**107**	**216**	**262**	**364**	**504**

Table 20 Number rainfall days

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2016	26	29	25	22	26	23	14	16	25	27	29	26
2017	28	27	22	22	15	16	7	9	12	23	20	20
2018	28	26	22	16	11	12	2	6	10	11	26	20
2019	23	23	24	16	18	5	1	5	3	5	16	28
2020	29	27	27	20	23	16	4	11	12	22	21	30
2021	25	24	23	10	16	24	4	16	12	12	23	26

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2022	19	26	19	17	22	25	9	16	18	25	18	27
2023	17	26	21	6	21	18	6	5	2	10	19	19
2024	22	25	23	20	18	14	9	3	13	6	24	27
2025	24	23	17	19	21	17	8	19	14	19	19	25

Rainfall patterns are key information for environmental risk and impact assessment teams to determine the relationship between construction activity schedules and monthly rainfall intensity. Rainfall patterns can provide information on which months have the highest rainfall intensity, allowing for mitigation plans for construction activities that could potentially cause runoff.

4.3.3 Wind

Based on ERA5 reanalysis data for the period 2016-2025 (Figure 3), the wind pattern within the Project area shows seasonal variability generally associated with the regional Asia-Australia monsoon system, while also being influenced by local topographic conditions due to the mountainous setting of the area. The Project area is located at elevations exceeding approximately 700 meters above sea level and is situated near mountainous terrain, resulting in local mountain-valley wind circulation that likely contributes to diurnal wind variability and relatively low near-surface wind speeds.

The monthly windrose analysis indicates that wind speeds are generally dominated by the 0-2 m/s category throughout the year, with occasional occurrences of wind speeds between 2-4 m/s. Higher wind speed classes occur less frequently and are generally limited to certain seasonal periods. The seasonal wind pattern can generally be grouped into four monsoonal periods as follows,

- **Northeast Monsoon (DJF - December, January, February),** During this period, the prevailing winds are generally dominated by westerly to northwesterly directions, particularly during December and January, before gradually transitioning during February. This period corresponds to the regional northwest monsoon circulation affecting western Indonesia, associated with moist air transport and increased rainfall conditions.
- **First Transitional Season (MAM - March, April, May)**, Wind directions become more variable during the transition period, with a gradual shift from westerly dominance toward southeasterly and southerly components. Wind speeds remain generally low to moderate, mostly within the 0-2 m/s range. Increased directional variability during this period reflects weakening monsoonal control and stronger influence from localized atmospheric circulation.
- **Southeast Monsoon (JJA - June, July, August)**, During the southeast monsoon period, winds are predominantly distributed from the southeast to northeast sectors, with southerly components remaining relatively dominant in several months. Wind speeds remain relatively weak overall, although slightly stronger winds occasionally occur during August. The relatively weak regional wind conditions suggest that local terrain-induced circulation may exert stronger control on near-surface wind behavior within the Project area.

- **Second Transitional Season (SON - September, October, November)**, Wind directions gradually shift back toward westerly and northwesterly sectors, particularly during November, marking the transition toward the northwest monsoon period. Directional variability remains evident during September and October before becoming more organized during late transition months.

Overall, the wind characteristics in the Project area reflect the combined influence of regional monsoonal circulation and localized topographic effects. Given the mountainous terrain and elevated setting of the area, local mountain-valley wind systems are expected to develop under diurnal heating and cooling cycles. Daytime conditions may promote upslope and valley winds, while nighttime conditions may generate downslope drainage flows. These local circulations likely contribute to the relatively low wind speeds and directional variability observed in the ERA5 dataset. The resulting wind pattern is considered representative for regional-scale ESIA baseline characterization and may provide an initial reference for air dispersion assessment within the Project area.

Wind direction patterns are key information for environmental risk and impact assessment teams in assessing the relationship between construction activity timing and monthly wind direction and intensity. These patterns can provide information on which months have the highest wind direction and intensity, allowing mitigation plans for construction activities that could potentially cause dust exposure.

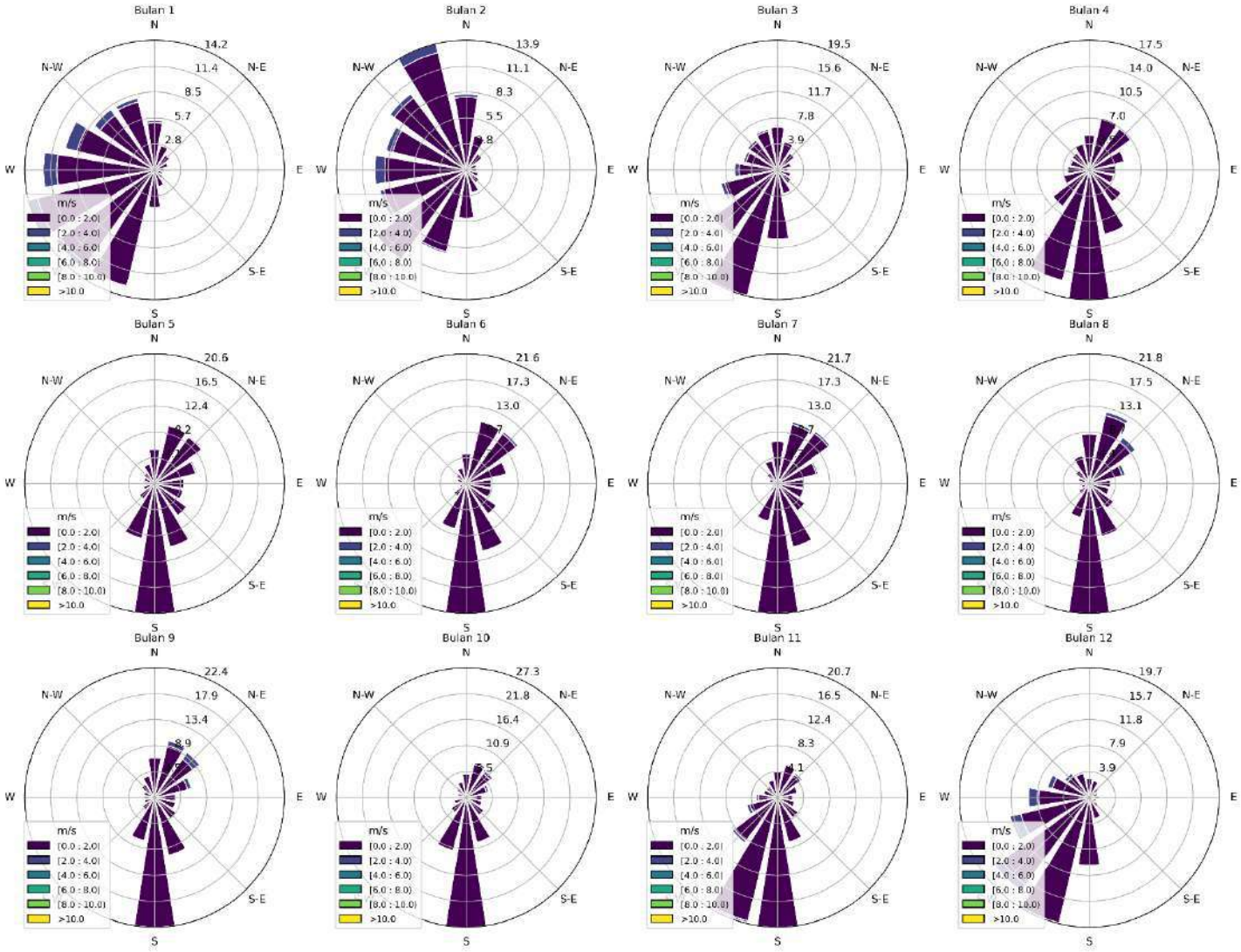


Figure 17 Monthly Windrose at Project Area

4.3.4 Temperature and Relative Humidity

Based on the ERA5 reanalysis data for the period 2016-2025 (**Error! Reference source not found.**), the P roject area is characterized by relatively stable air temperature conditions throughout the year, with only minor seasonal variation. Average monthly air temperatures generally range between approximately 20.7°C and 21.5°C, indicating a consistently cool and humid tropical highland climate. The relatively lower temperature conditions compared to typical tropical lowland environments are primarily influenced by the Project area's elevation, which exceeds approximately 700 meters above sea level.

The highest average temperatures generally occur during the April-May period, reaching approximately 21.5°C, while relatively lower temperatures occur during July-August, coinciding with the southeast monsoon period. Seasonal temperature variation remains limited, with an annual fluctuation of less than 1°C, reflecting the moderating influence of humid tropical climatic conditions, persistent cloud cover, and frequent rainfall throughout the year.

Relative humidity within the Project area remains consistently high during all months, generally ranging between approximately 93% and 97%. The highest humidity levels occur during January-March and November-December, corresponding to wetter monsoonal conditions and increased rainfall frequency during the peak rainy season. Meanwhile, relatively lower humidity conditions occur during July-September, coinciding with the relatively drier southeast monsoon period and lower monthly rainfall totals. However, relative humidity values remain consistently above 93%, indicating persistently moist atmospheric conditions throughout the year and the absence of a pronounced dry season.

The combination of high rainfall frequency, low seasonal temperature variability, and persistently elevated humidity indicates that the Project area is strongly influenced by humid tropical climatic conditions. In addition, the mountainous terrain and surrounding vegetation cover likely contribute to maintaining high atmospheric moisture through enhanced evapotranspiration, frequent cloud formation, and orographic effects. These climatic characteristics are consistent with the rainfall and wind patterns observed within the study area and are typical of tropical upland environments with strong topographic influence.

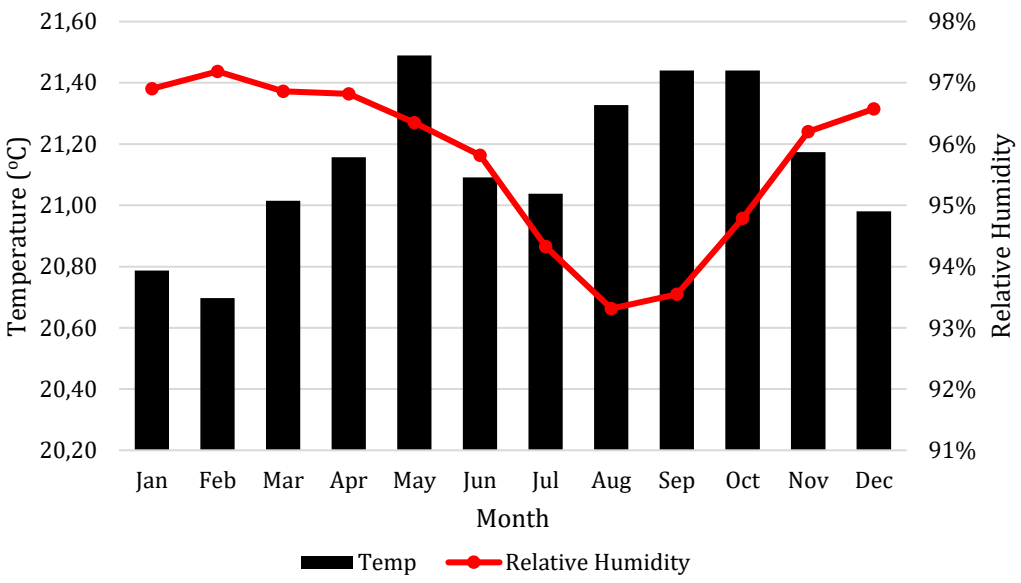


Figure 18 Monthly Temperature and Relative Humidity

Ambient temperature patterns are key information for environmental risk and impact assessment teams to determine the relationship between construction activity schedules and monthly ambient air temperatures. Temperature patterns can provide information on which months have high ambient air temperatures, allowing for mitigation plans for construction activities that could potentially cause heat stress or heat stroke to workers.

4.3.5 Extreme Weather

Extreme rainfall characteristics within the Project area were assessed using daily rainfall data derived from Global Precipitation Measurement (GPM) datasets for the period 2016-2025. The analysis included percentile-based rainfall thresholds, Annual Maximum Series (AMS), and indicative return period estimation using the Gumbel distribution.

Key extreme rainfall indicators derived from the analysis are summarized as follows,

- P95 Daily Rainfall, approximately 25.5 mm/day, indicating that 95% of daily rainfall events are below threshold, while rainfall exceeding this value represents relatively heavy rainfall events.
- P99 Daily Rainfall, approximately 45 mm/day, representing more extreme rainfall events with relatively low frequency of occurrence.

Furthermore, the potential occurrence of extreme rainfall events was evaluated using annual maximum daily rainfall data, as presented in Table 21. Annual maximum daily rainfall values during the 2016-2025 period ranged from approximately 46 mm/day to 110 mm/day. The highest recorded annual maximum rainfall occurred in 2021, reaching approximately 110 mm/day, followed by significant events during 2020 and 2016 with daily rainfall exceeding 95 mm/day. These results indicate the occurrence of episodic high-intensity rainfall events within the Project area, which may

contribute to elevated surface runoff, localized flooding potential, erosion, and sediment transport, particularly in areas with steep topography.

Table 21 Annual Rainfall Maximum

Year	Maximum Daily Rainfall (MM/Day)
2016	99.09
2017	95.05
2018	56.44
2019	55.07
2020	101.08
2021	109.68
2022	76.41
2023	46.13
2024	64.45
2025	80.81

Subsequently, the probability of extreme rainfall occurrence was evaluated using return period analysis, which represents the estimated likelihood of a rainfall event occurring within a given period. Return period analysis using the Gumbel distribution indicates estimated extreme rainfall magnitudes of approximately 74.8 mm/day for the 2-year return period, increasing to approximately 141.8 mm/day for the 50-year return period.

In probabilistic terms (Table 22), a 2-year return period corresponds to an approximate 50% probability of occurring in any given year, while a 50-year return period corresponds to an approximate annual probability of 2%. Similarly, 5-year, 10-year, and 25-year return period events represent annual occurrence probabilities of approximately 20%, 10%, and 4%, respectively. These estimates indicate that higher rainfall magnitudes are associated with lower probabilities of occurrence but may still occur under extreme meteorological conditions.

It should be noted that the analysis is based on a relatively limited 10-year dataset and therefore should be considered as an indicative characterization of extreme rainfall conditions rather than a detailed engineering-level hydrological design assessment. Nevertheless, the analysis provides a reasonable representation of rainfall variability and extreme precipitation potential within the Project area.

Table 22 Extreme Rainfall Analysis (Return Period).

Return Period (Year)	Rainfall (MM/Day)
2	74.81
5	96.28
10	110.49
25	128.45

Return Period (Year)	Rainfall (MM/Day)
50	141.77

Overall, the extreme rainfall analysis confirms that the Project area is characterized by persistently humid climatic conditions with the potential for high-intensity rainfall events throughout the year. Combined with the mountainous terrain and high annual rainfall conditions, these characteristics may increase susceptibility to runoff generation, erosion, sedimentation, and slope instability during periods of intense precipitation.

Extreme weather data provides information on potential natural hazards during the construction and/or operational phases. This baseline data serves as a reference for the assessment team to develop a measurable mitigation plan for RSGP construction and operational activities if this potential exists.

4.4 Hydrology and Hydrogeology

The site is located in the upstream catchment area of the Ciliwung River system, which feeds downstream to metropolitan Jakarta, making upstream conservation and water-quality stewardship at Puncak a matter of inter-jurisdictional concern coordinated by the Bodetabekpunjur authority under Perpres 60/2020. Local hydrology is characterised by steep micro-catchment drainage, high baseflow discharge from saturated volcanic aquifers, and seasonal flash-flow risk during peak rainfall events. RSGP operates groundwater wells and the existing IPAL discharges to the local drainage system after treatment meet the BMAL standards documented in the existing Pertek BMAL on file.

- Watershed, Sub-DAS Ciliwung Hulu (upstream Ciliwung), feeds metropolitan Jakarta.
- The raw/clean water used by Cibereum villagers comes from the Cibereum Village Water Company (PAM Desa) facility. The water source comes from the Pariuk waterfall, which is collected in a tank and then distributed to residents. The location of PAM Desa presented in
- Inter-jurisdictional governance, Perpres 60/2020 Bodetabekpunjur (Bogor-Depok-Tangerang-Bekasi-Puncak-Cianjur).
- Site water sources, groundwater under SIPA permit, PDAM Tirta Kahuripan / Tirta Pakuan supplementary supply where available. Based on the results of environmental monitoring in the second semester of the year, The Project has two (2) deep groundwater wells with a capacity of 45 m3 and 65 m3.
- Existing wastewater treatment: RSGP operates one (1) existing IPAL unit designed to serve a hospital capacity of approximately 250 beds (126 m3). The existing IPAL treats domestic wastewater generated by hospital operations, including blackwater from toilets and greywater from sinks and other non-industrial domestic sources. Kitchen wastewater passes through a grease trap to remove oil and grease before entering the existing IPAL. The treatment system uses conventional anaerobic-aerobic biofilter technology.

- Wastewater permits: The hospital holds a wastewater-discharge approval issued by the relevant licensing authority under Decree No. 658.31/228/00020/DPMPTSP/2021. The existing IPAL was also previously authorised through Bogor Regent Decree No. 658.31/021/B/0035/BPT/2009 concerning the granting of a wastewater-discharge permit to RSGP.
- The IPAL used by RSGP has received permission from the Regent of Bogor No: 658.31/021/B/0035/BPT/2009 concerning the Granting of Wastewater Discharge Permit to RSGP.

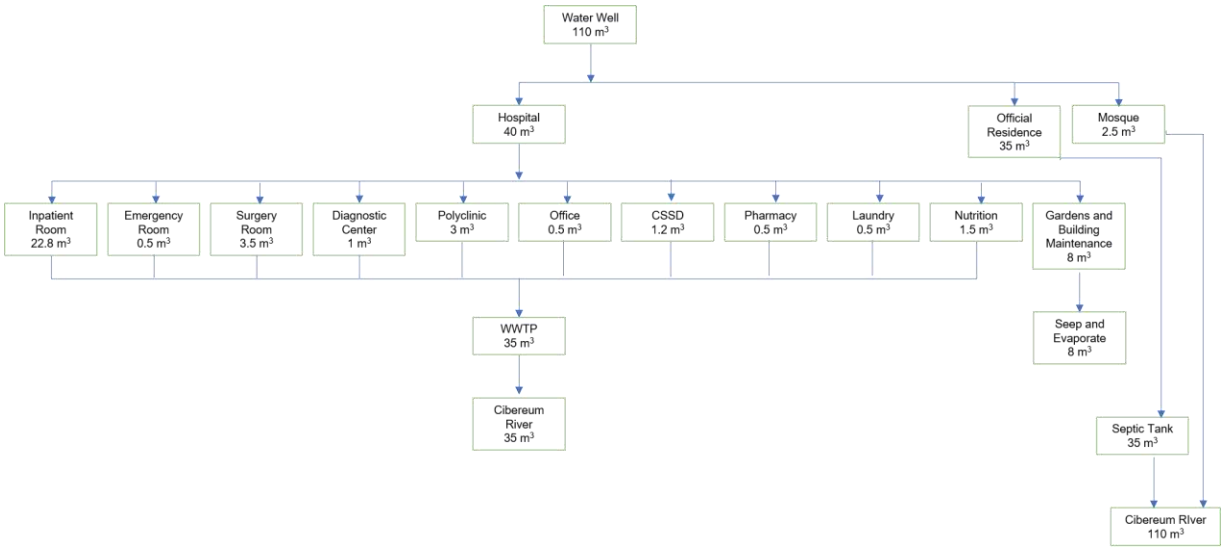


Figure 19 Existing Water Balance of RSGP

- The well available at GP Hospital has received permission from Bogor Regent No: 546.2/018/00145/BPT/2013 concerning Granting of Groundwater Business Permits to RSGP.
- Wastewater discharge, existing IPAL H→ local drainage after treatment to BMAL standards (existing Pertek Pengolahan Air Limbah on file as recorded in the data checklist) Stormwater: The site may experience high-volume and rapid runoff during intense rainfall. Existing drainage capacity will therefore need to be reviewed and upgraded where necessary to accommodate the proposed building footprints and associated paved areas.

RSGP's operational water demand is reported at approximately 77.5 m³/day, compared with an available groundwater-supply capacity of approximately 110 m³/day. Based on these figures, the remaining nominal capacity is approximately 32.5 m³/day. Groundwater abstraction is authorised under Bogor Regent Decree No. 546.2/018/00145/BPT/2013.

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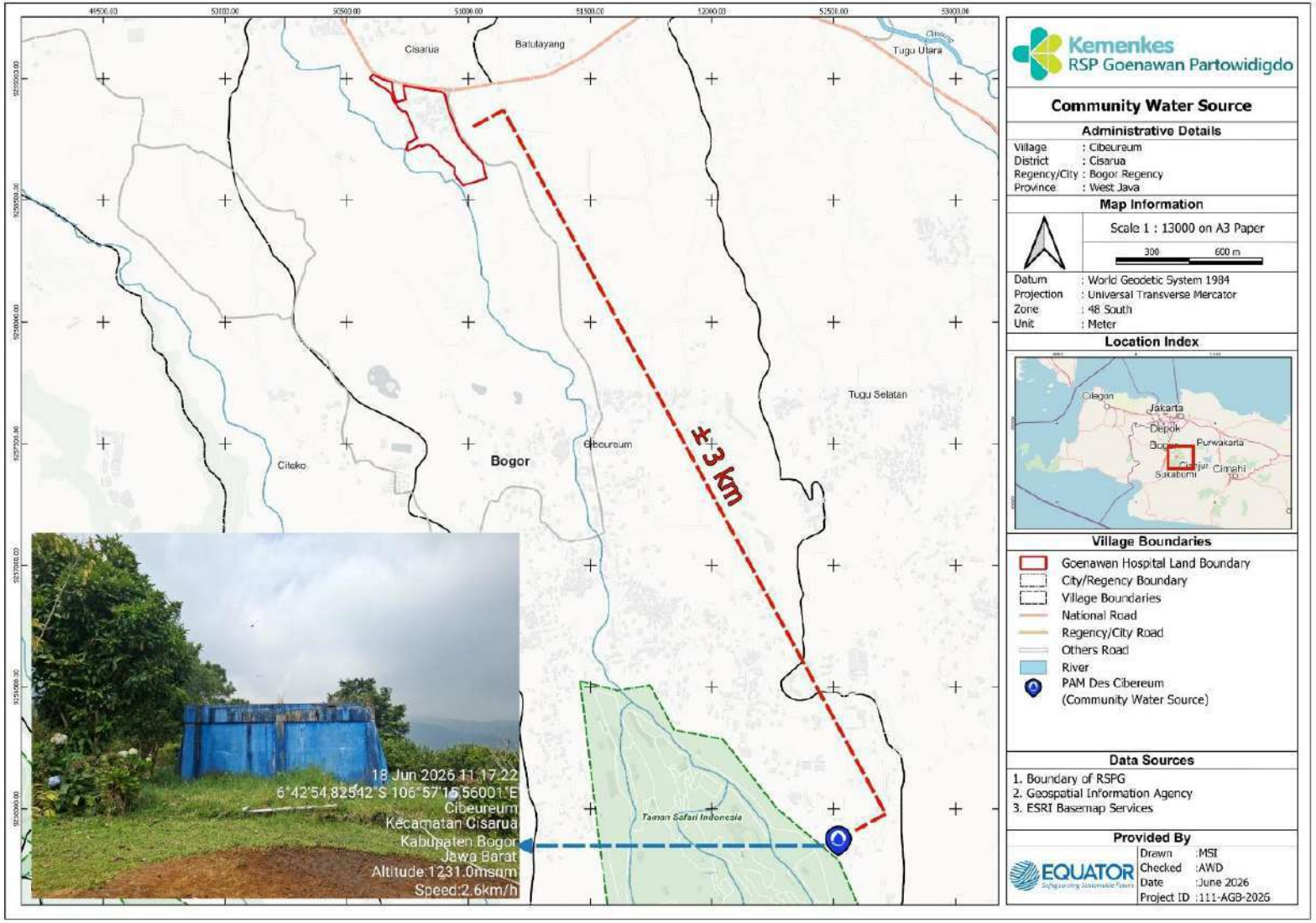


Figure 20 Raw Water Source of Cibeureum Village

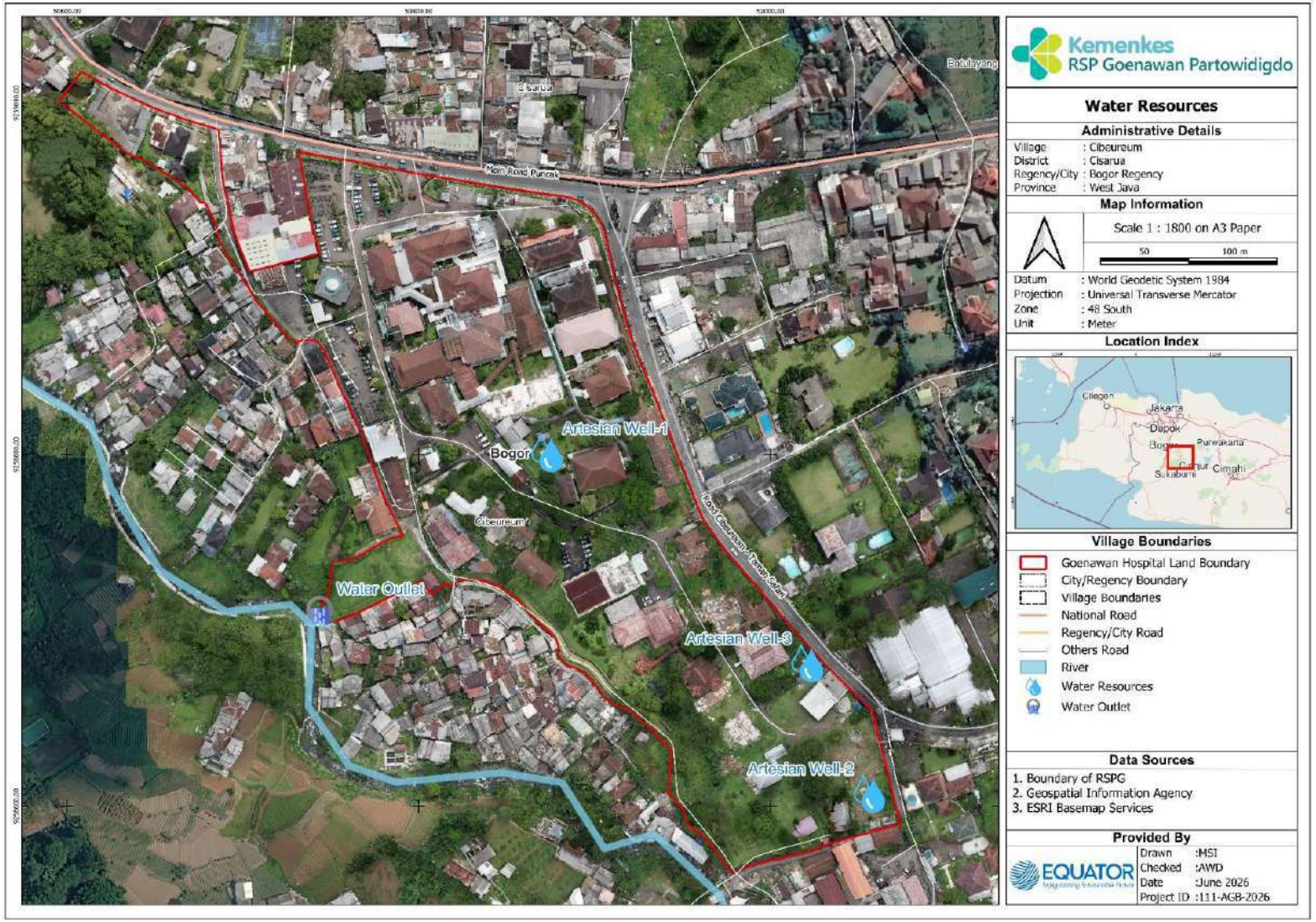


Figure 21 Water Well and WWTP Outlet Location

The Project conducted several wastewater quality measurements at several locations, including the facility's inlet and outlet. The results are presented in the tables below.

Table 23 Waste Water - Inlet (S 06°41.329" - E 106°56.339")

Parameter	Standards	II-2025	I-2025	II-2024	I-2024	II-2023	I-2023	II-2022	I-2022	II-2021
BOD	**30**	36.6	37.7	126	78.3	40.3	57.6	39.7	39.1	19.8
COD	**100**	148	227	424	266	206	293	121	116	66.1
TSS	**30**	41.4	87.3	91	93.7	49	68.3	34	38.8	47.6
pH	**6-9**	7.42	7.34	7.34	7.66	7	7.4	6.72	7.13	7.27
NH3-N	**10**	1.89	0.85	0.2	0.04	0.13	0.19	2.3	3.61	2.94
Total coliform	**3000**	3200	6300	7900	6300	4000	4721	1100	1100	4600

Table 24 Waste Water - Outlet (S 06°41.329" - E 106°56.341")

Parameter	Standards	II-2025	I-2025	II-2024	I-2024	II-2023	I-2023	II-2022	I-2022	II-2021
BOD	**30**	4.8	8.88	7.33	11.1	5.44	11.7	12.3	26	4.31
COD	**100**	16.8	32.8	28.4	40.2	32.1	63.6	35.8	81.8	13.8
TSS	**30**	0.75	3.6	5	10	3.33	18	22	4	5.4
pH	**6-9**	7.64	7.24	7.33	7.44	7	7.26	6.28	7.81	7.27
NH3-N	**10**	0.003	0.11	0.00003	0.00003	0.02	0.03	0.43	0.339	0.09
Total coliform	**3000**	610	1200	910	1800	1500	1553	23	23	3

Regulatory references:

1. MoE Regulation No. 5 of 2014 Attachment XLIV.B concerning wastewater for businesses and/or health service facility activities (Processing of Hazardous and Toxic Waste).
2. MoE No 68 of 2016 Attachment I concerning Domestic Wastewater Quality Standards

Biological Oxygen Demand (BOD)

The BOD value is a primary indicator of the level of biodegradable organic pollution. A high BOD value indicates a high rate of organic decomposition, which consumes oxygen in the water. A high BOD value will result in a lack of oxygen for aquatic organisms. The results of wastewater quality monitoring of BOD parameters from 2021 to 2025 are presented in the Figure 22.

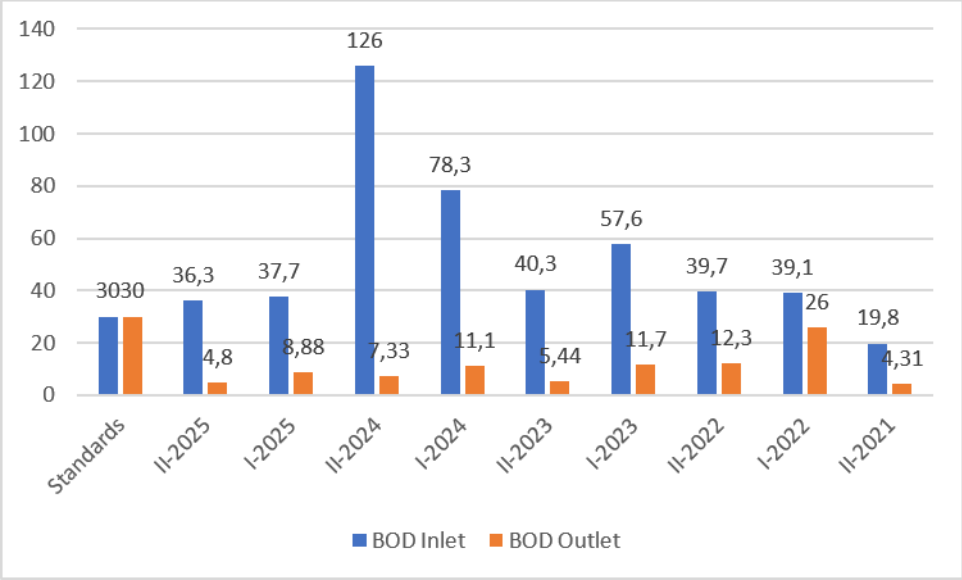


Figure 22 BOD Quality Inlet and Outlet Location (UKL-UPL Monitoring report 2021-2025)

BOD quality at outlets each semester meets environmental quality standards (is below environmental quality standards).

Chemical Oxygen Demand (COD)

The COD value indicates the amount of dissolved oxygen required to oxidize all organic and inorganic materials contained in the water through chemical reactions. The results of wastewater quality monitoring of COD parameters from 2021 to 2025 are presented in the Figure 23.

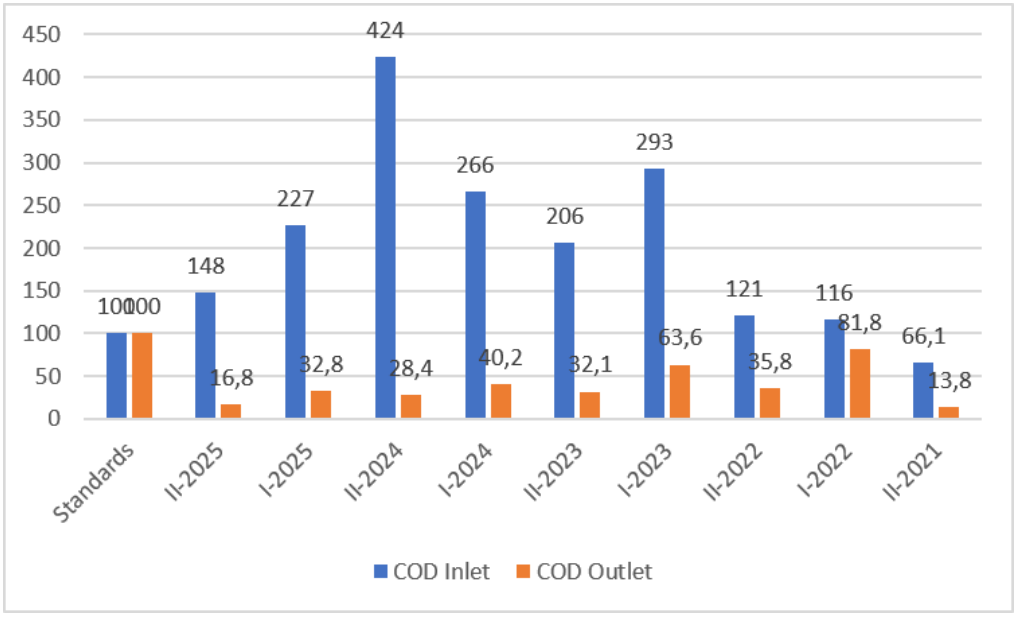


Figure 23 COD Quality Inlet and Outlet Location (UKL-UPL Monitoring report 2021-2025)

COD quality at outlets each semester meets environmental quality standards (is below environmental quality standards).

Total Suspended Solid (TSS)

TSS is a parameter that measures water turbidity and potential environmental pollution. High TSS levels block sunlight from reaching the water, disrupting photosynthesis by aquatic plants and reducing oxygen levels. The results of wastewater quality monitoring of TSS parameters from 2021 to 2025 are presented in the Figure 24.

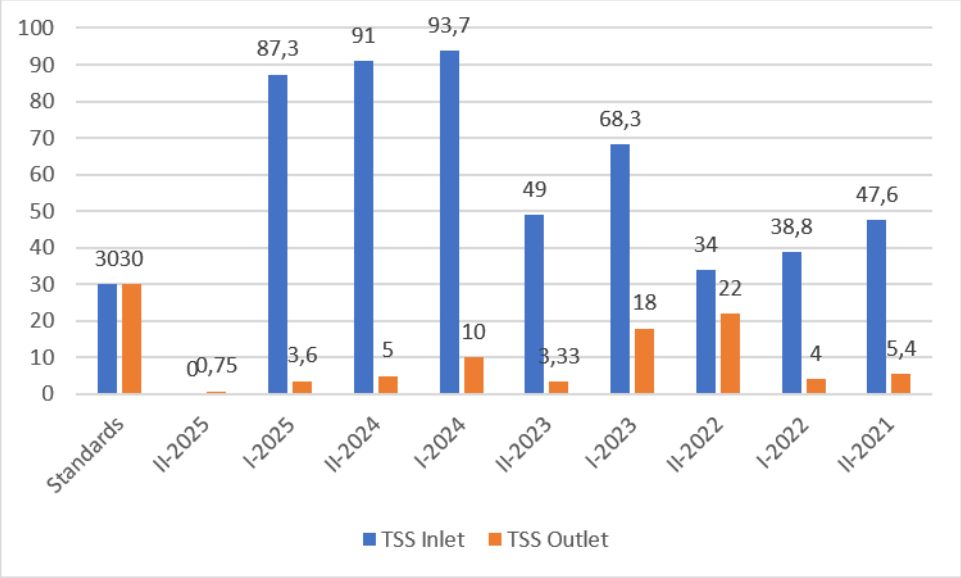


Figure 24 TSS Quality Inlet and Outlet Location (UKL-UPL Monitoring report 2021-2025)

TSS quality at outlets each semester meets environmental quality standards (is below environmental quality standards).

Nitrogen in Ammonia (NH3-N)

NH3-N is a measure of the amount of nitrogen contained in water or wastewater derived from ammonia (NH3). This unit measures the molecular weight of nitrogen (N) alone in the ammonia compound. In water, NH3-N is part of Total Ammonia Nitrogen (TAN) which consists of toxic non-ionized ammonia (NH3). The results of wastewater quality monitoring of NH3-N parameters from 2021 to 2025 are presented in the Figure 25.

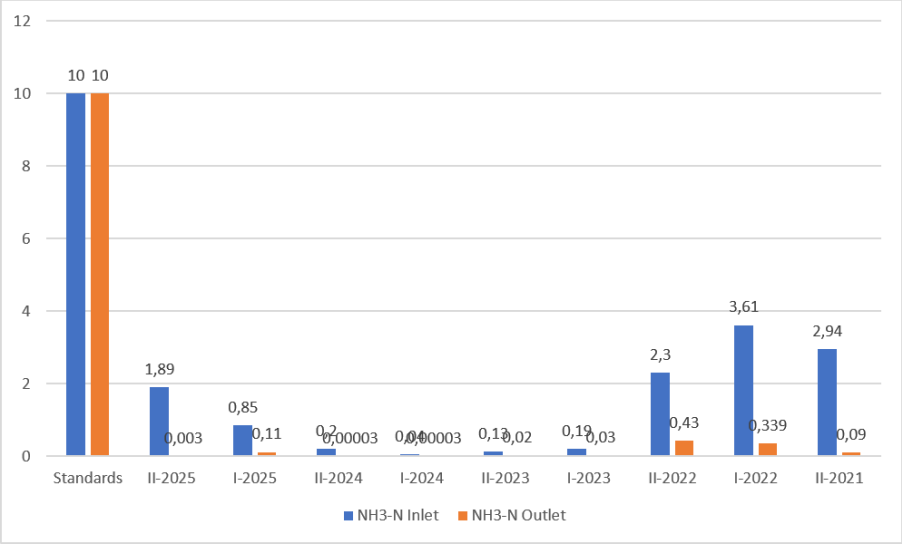


Figure 25 NH3-N Quality Inlet and Outlet Location (UKL-UPL Monitoring report 2021-2025)

NH3-N quality at outlets each semester meets environmental quality standards (is below environmental quality standards).

Total Coliform

Total coliform is a key microbiological indicator for assessing sanitation and water quality. It measures the total number of coliform bacteria (including bacteria from soil, vegetation, and animal/human waste) to detect potential contamination by harmful pathogens in water. The total number of coliforms indicates the potential for contamination by pathogenic microorganisms (such as bacteria, viruses, or parasites that cause diarrhea) originating from poor sanitation. The results of wastewater quality monitoring of Total Coliform parameters from 2021 to 2025 are presented in the Figure 26.

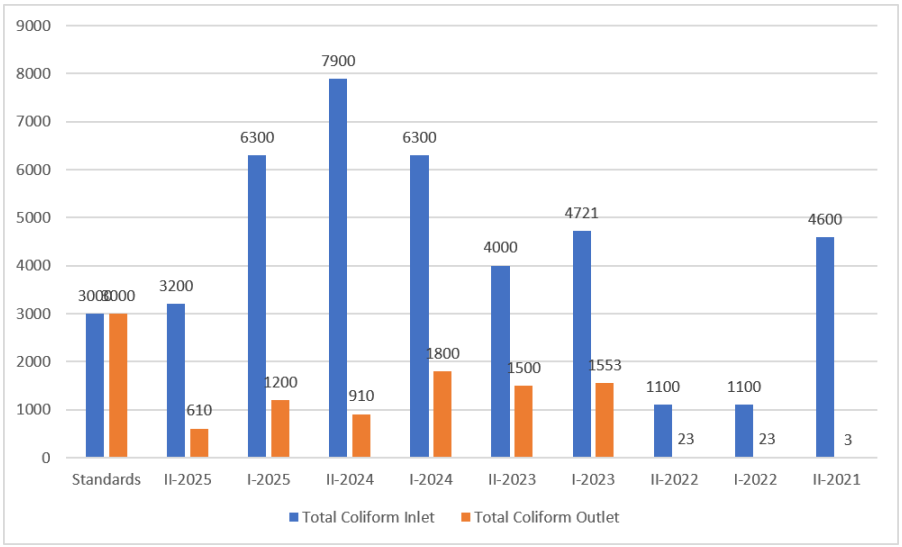


Figure 26 Total Coliform Quality Inlet and Outlet Location (UKL-UPL Monitoring report)

Total coliform quality at outlets each semester meets environmental quality standards (is below environmental quality standards).

Comparing the inlet and outlet of wastewater treatment plants, the quality of treated wastewater meets the GoI standards. by an average of 80-90% better than the quality at inlet. This indicates a successful wastewater treatment process, reducing wastewater levels below environmental quality standards.

Hospital development plan including increasing capacity and supporting facilities will cause an increase in the amount of domestic liquid waste and hazardous and toxic liquid waste. The potential increase in liquid waste after the new facility developed will be included in the environmental impact assessment, including how hospitals will increase the capacity of management facilities.

The existing wastewater treatment plant (WWTP) has a capacity of 126 m3/day, which is used to treat wastewater from approximately 179 beds/patients. The expanded WWTP will have a capacity of 300 m3/day, intended to treat wastewater from approximately 300 beds/patients.

Considering the existing WWTP capacity, one bed/patient/person produces 0.7 m3 of wastewater per day. It can be assumed that 300 beds require a WWTP with a minimum capacity of 210 m3, so the planned capacity of the new WWTP (300 m3/day) is sufficient to accommodate the hospital's wastewater.

However, based on data from the Goenawan Hospital Master Plan document, which will have 150 dormitory rooms and a 150-room hotel, the WWTP capacity is insufficient to accommodate wastewater when the dormitory and hotel facilities are fully occupied simultaneously. The WWTP capacity of 300 m3 can only accommodate 64% of the planned number of rooms built (this calculation applies if the dormitory and hotel are occupied by 1 person).

4.5 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 particularly material for a pulmonary specialty hospital. Each sub-dimension is treated separately below, with parameter standards and the data-closure plan for the baseline campaigns.

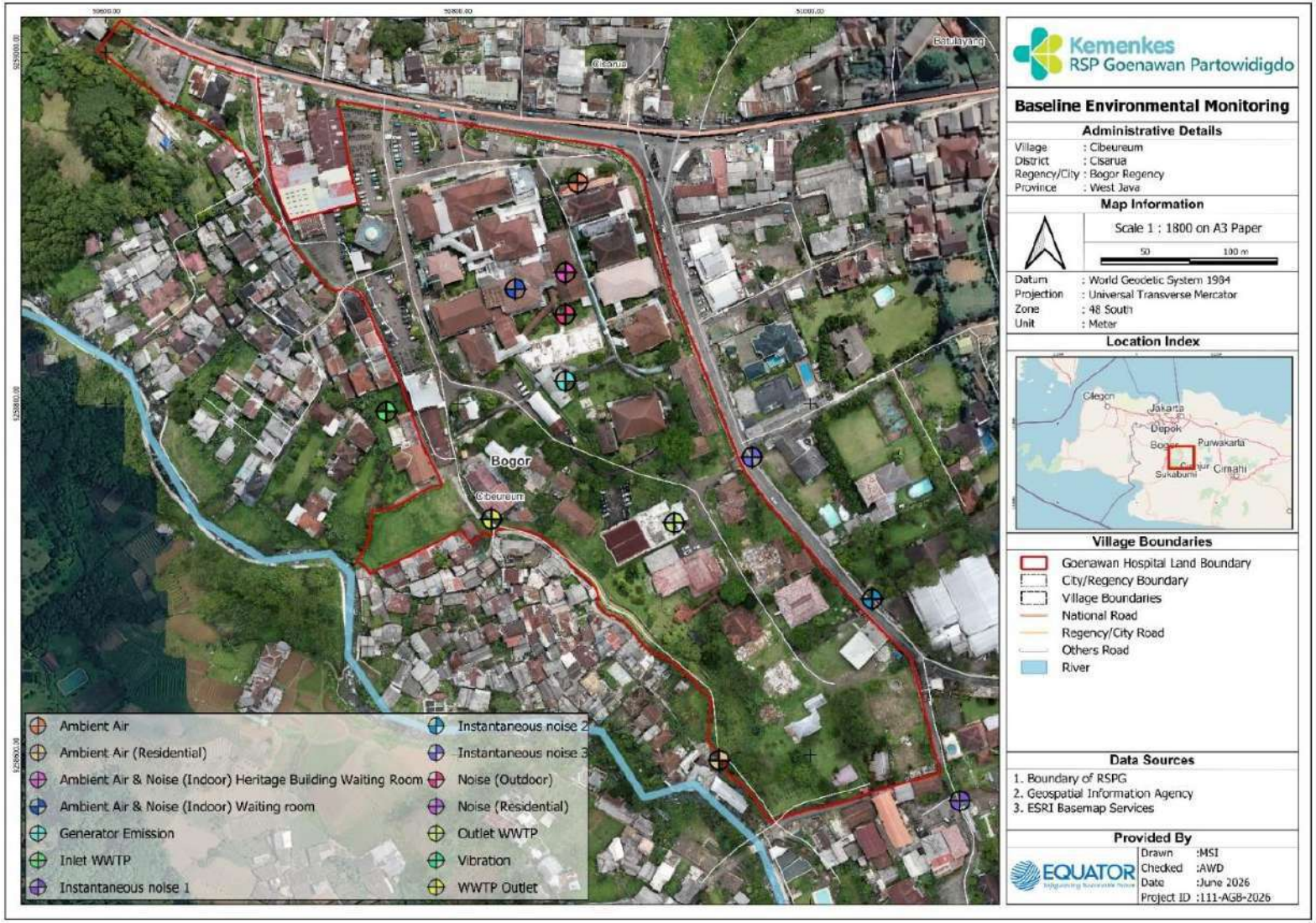


Figure 27 Baseline Environmental Monitoring

4.5.1 Ambient Air Quality and Noise

Cisarua sits in a low-density highland setting with markedly lower vehicular and industrial emission burden than metropolitan urban environments. Background ambient PM2.5, PM10, NO2, SO2, CO, and O3 concentrations are expected to be substantially below the Indonesian National Ambient Air Quality Standards under PP 22/2021 appendix VII, except potentially during the regional traffic congestion peaks on Jl. Raya Puncak corridor on weekends and holiday periods, which may elevate roadside readings transiently. Indoor air quality within the Hospital's clinical spaces, particularly the TB / MDR-TB isolation rooms, is the more material baseline given the Hospital's specialty.

a. Sulphur Dioxide (SO_2)

Sulphur dioxide (SO_2) gas in the air originates from anthropogenic activities, such as the combustion of fossil fuels containing sulfur compounds. Activities that increase sulphur dioxide levels include the use of gasoline and diesel-fuelled motor vehicles.

Sulfur dioxide (SO_2) monitoring results from the first semester of 2021 to the second semester of 2025 ranged from 26.7 µg/m³ to 54.7 µg/m³. This is in line with the quality standards stipulated in Government Regulation of the Republic of Indonesia Number 22 of 2021 (Appendix VII), which states that SO2 concentrations at all measurement locations still meet Environmental Quality Standards.

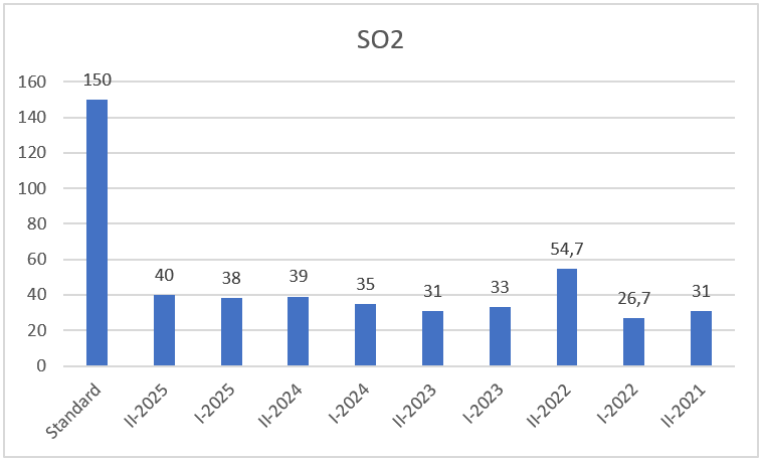


Figure 28 Air Quality Analysis Results of SO_2 (UKL-UPL Monitoring report 2021-2025)

b. Carbon Monoxide (CO)

Carbon monoxide (CO) is a colourless, odourless, tasteless, and non-irritating gas, making its presence very difficult for humans to detect without the aid of specialized equipment. This toxic gas is formed by the incomplete combustion of carbon-based fuels—such as gasoline, wood, coal, or natural gas. Carbon monoxide monitoring results from the first semester of 2021 to the second semester of 2025 ranged from 1,139 µg/m³ to 4,181 µg/m³. This is still in accordance with the quality standard set by Government Regulation of the Republic of Indonesia Number 22 of 2021 (Appendix VII), which sets CO at 10,000 µg/m³. Therefore, CO concentrations at all measurement locations are still well below the Environmental Quality Standard.

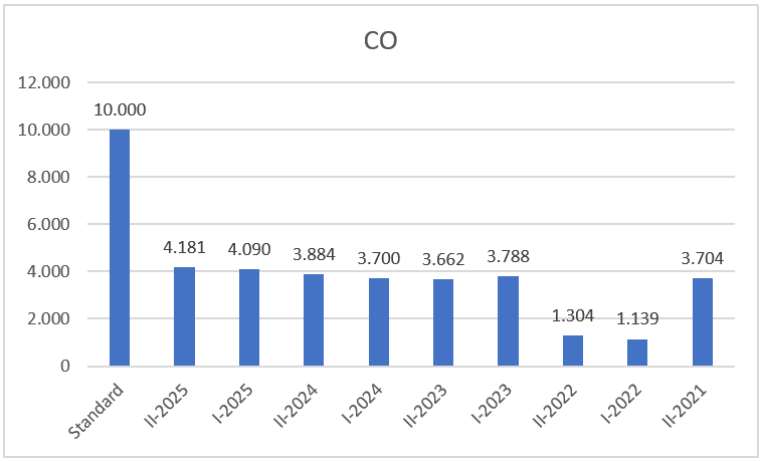


Figure 29 Air Quality Analysis Results of CO (UKL-UPL Monitoring report 2021-2025)

c. Nitrogen Dioxide (NO_2)

Nitrogen dioxide (NO2) is a toxic, reddish-brown gas with a pungent, pungent odor. It belongs to the nitrogen oxide group (NO_x). This gas is largely formed from high-temperature combustion processes, such as those in motor vehicle engines, power plants, and industrial activities. Nitrogen dioxide monitoring results from the first semester of 2021 to the second semester of 2025 ranged from 17.1 µg/m³ to 33 µg/m³. This is still in accordance with the quality standard stipulated in Government Regulation of the Republic of Indonesia Number 22 of 2021 (Appendix VII), which sets NO at 200 µg/m³. Therefore, NO2 concentrations at all measurement locations are still far from meeting Environmental Quality Standards.

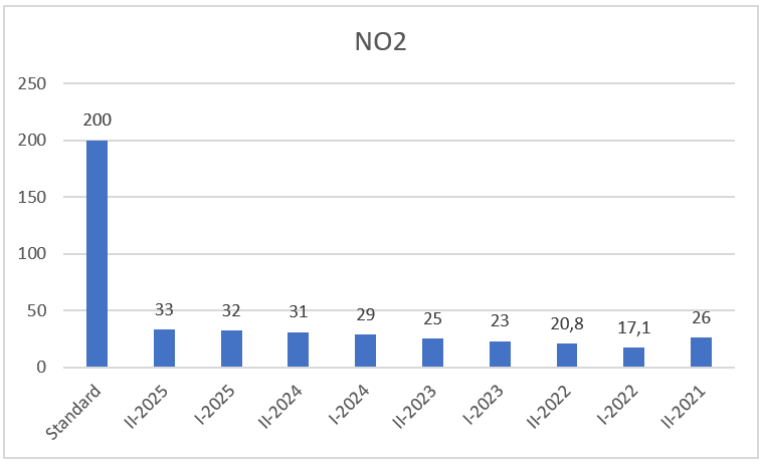


Figure 30 Air Quality Analysis Results of NO_2 (UKL-UPL Monitoring report 2021-2025)

d. Ozon (O_3)

Ozone is a dangerous secondary air pollutant formed from a chemical reaction between nitrogen oxide (NO2) and volatile organic compounds in the presence of sunlight. Surface ozone is a major component of smog, which can irritate the eyes, trigger acute respiratory distress, and damage plant tissue.

O3 monitoring results from the first semester of 2021 to the second semester of 2025 ranged from 32 µg/m³ to 52 µg/m³. This is consistent with the quality standard stipulated in Government Regulation of the Republic of Indonesia Number 22 of 2021, Appendix VII, which sets an Ox of 150 µg/m³. Therefore, the Ox concentration at all measurement locations still meets the Environmental Quality Standard.

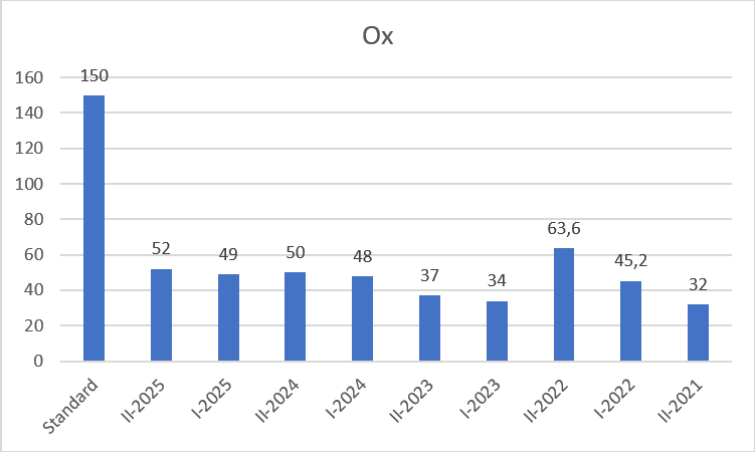


Figure 31 Air Quality Analysis Results of Ox (UKL-UPL Monitoring report 2021-2025)

e. Hydrocarbon (HC)

Hydrocarbons in ambient air generally originate from the evaporation of fuel oil and incomplete combustion in vehicle engines. Under sunlight exposure, these gases react with nitrogen oxides (NO2) to form surface ozone (O3) and photochemical smog.

Monitoring results from the first semester of 2021 to the second semester of 2025 ranged from 9 µg/m³ to 41.1 µg/m³. This is still in accordance with the quality standards stipulated in Government Regulation of the Republic of Indonesia Number 22 of 2021 (Appendix VII), which sets HC at 160 µg/m³. Therefore, HC concentrations at all measurement locations still meet Environmental Quality Standards.

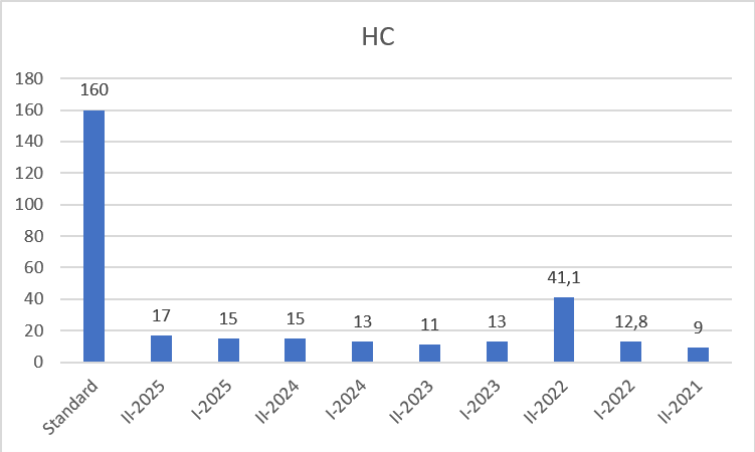


Figure 32 Air Quality Analysis Results of HC (UKL-UPL Monitoring report 2021-2025)

f. Total Suspended Particulates (TSP)

TSP, or suspended dust, originates from various sources, including construction and industrial activities, forest fires, and exhaust emissions and road dust from motor vehicles.

Monitoring results from the first semester of 2021 to the second semester of 2025 ranged from 10 µg/m³ to 60.2 µg/m³. This is consistent with the quality standard stipulated in Government Regulation of the Republic of Indonesia Number 22 of 2021, Appendix VII, which states that TSP concentrations at all measurement locations still meet Environmental Quality Standards.

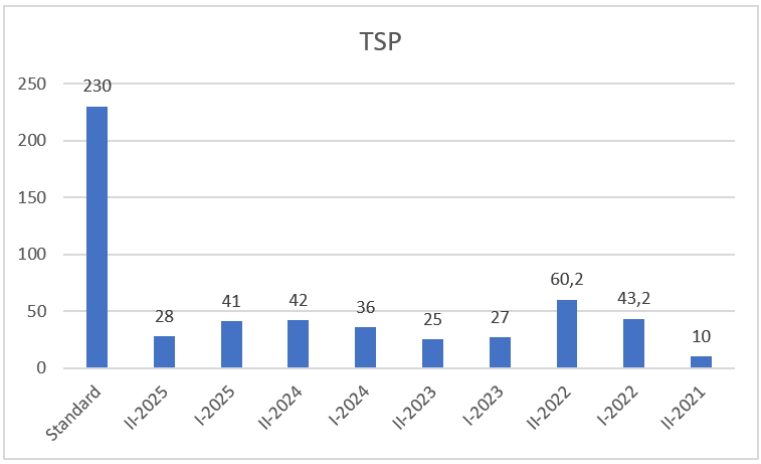


Figure 33 Air Quality Analysis Results of TSP (UKL-UPL Monitoring report 2021-2025)

g. Lead (Pb)

Lead is a toxic heavy metal naturally found in the Earth's crust, but its levels in ambient air are increasing due to human activities such as the combustion of fuel in vehicles. Lead (Pb) monitoring results from the first semester of 2021 to the second semester of 2025 ranged from 0.02 µg/m³ to 0.06 µg/m³. This is consistent with the quality standard stipulated in Government Regulation of the Republic of Indonesia Number 22 of 2021, Appendix VII, which states that Pb concentrations at all measurement locations still meet Environmental Quality Standards.

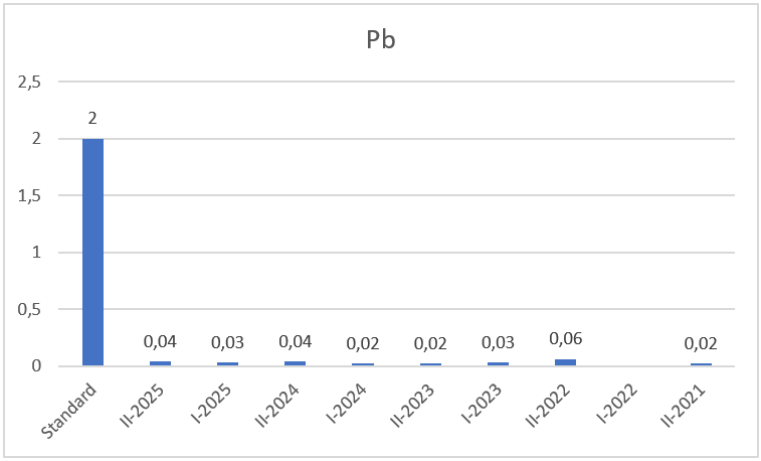


Figure 34 Air Quality Analysis Results of Pb (UKL-UPL Monitoring report 2021-2025)

h. Noise

Noise is a disturbing or disturbing sound from a business or activity at a certain level and duration that can cause harm to human health and environmental comfort. Noise intensity is regulated by Indonesian regulations, namely Minister of Environment Decree No. 48 of 1996.

Noise monitoring results from the first semester of 2021 to the second semester of 2025 ranged from 49 dB to 63 dB. This is still in accordance with the quality standards stipulated in Minister of Environment Decree No. 48 of 1995. For hospital noise levels of 55 dB, noise at the study site still meets Environmental Quality Standards. The exception was monitoring in the second semester of 2021, when Goenawan Hospital was undergoing renovations, resulting in numerous activities that increased noise levels. Overall, noise intensity at the study site still meets Environmental Quality Standards.

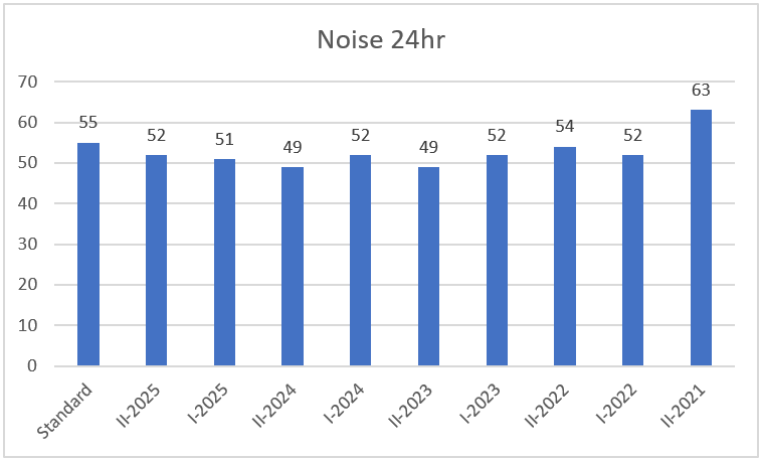


Figure 35 Noise Measurement (UKL-UPL Monitoring report 2021-2025)

Noise measurement data was added to a residential area (in front of the An-Nur Mosque, Cibereum Village). Noise measurements were conducted over a 48-hour period to determine noise level patterns in the surrounding community. The results of noise measurements are presented in Table 25

Table 25 Noise Baseline at Residential Area

Parameter	Location	Date	Indicative Background	Noise Level dB (A)
Noise (24-hour)	6°41'26.063" S – 106°56'25.006" E	19 Jun 2026	Day - Ls	50.6
			Night - Lm	44.1
			Lsm	50.1
	6°41'26.063" S – 106°56'25.006" E	20 Jun 2026	Day - Ls	54
			Night - Lm	41.8
			Lsm	52.6
Noise (one-shot measurement-10 min)			**Minimum**	**Average**
	6°41'26.063" S – 106°56'25.006" E	18 Jun 2026	53	62.3
	6°41'26.897" S – 106°56'29.52" E		52	64.8

Parameter	Location	Date	Indicative Background	Noise Level dB (A)
	6°41'23.237" S – 106°56'28.037" E		77	88.3
	6°41'20.598" S – 106°56'25.839" E		59	86.5

Source: primary sampling 18-20 June 2026

The noise threshold for residential areas, based on Decree No. 48 of 1996 by the Minister of Environment, is 55 dB. Measurements over a 48-hour period in the area were below this threshold. Daytime measurements were around 50 dB, indicating that if noise levels increase, this baseline is susceptible to exceeding this threshold.

As supporting data for this ESIA study, ambient air quality and noise measurements were conducted in residential areas. The analysis results are presented in Table 26.

Table 26 Outdoor Ambient Air Quality Baseline at Residential Area

Parameter	PP 22/2021 Limit (annual)	Indicative Background	Time Measurement (hour)
PM2.5	55 µg/m³	1.307	24
PM10	75 µg/m³	7.721	24
NO2	200 µg/m³	21.01	1
SO2	150 µg/m³	30.72	1
CO	10000 mg/m³	<1146	1
TSP	230 µg/m³	28.63	24

Additional air quality measurements were carried out in the settlement (south) of RSGP in front of Masjin An-Nur, Cibereum Village (6°41'26" S – 106°56'25" E). Referring to the environmental monitoring data taken at residential area showed in the table above, no parameter exceeds environmental quality standards.

4.5.2 Stationary Source Emissions

RSGP operates stationary combustion sources including emergency generators (back-up power) and boilers (steam for sterilisation, laundry, and hot water), each with stack emission obligations under the Pertek BMUE regime.

Emission measurements were carried out on the generator chimney located in the hospital. The results of this measurement were obtained from UKL-UPL monitoring data in the second semester of 2025. The measurement results are presented in the table below.

Table 27 Emission Air Quality (UKL-UPL, Semester II 2025)

No	Parameter	Unit	Limit	Results	
				Measured	Corrected
1	NOx	mg/Nm³	1850	107	167

No	Parameter	Unit	Limit	Results	
				Measured	Corrected
2	CO	mg/Nm^3	77	47	74
3	Total Particulates	mg/Nm^3	95	12	18
4	SO2	mg/Nm^3	160	11	17
5	Velocity	m/second	-	9.35	-
6	Oxygen	%	-	17.2	-

The results of emission tests from the generator chimney used by the hospital show that all parameters meet environmental quality standards.

Increasing RSGP capacity and services has the potential to increase generator capacity which will be used as backup electricity. Changes in the quality of emissions from the chimney need to be managed and monitored during the operational phase because they have the potential to contribute to emissions that are different from the baseline results.

4.5.3 Noise

The ambient noise environment at Cisarua is dominated by intermittent traffic noise from Jl. Raya Puncak (with weekend congestion peaks), occasional aircraft overflight, and the natural soundscape (avifauna, wind, water). Hospital-internal noise sources include genset operation, mechanical equipment (HVAC, chillers), and routine clinical and ambulance activity. Indonesian noise limits for hospitals are governed by KepMen LH 48/1996, 55 dBA daytime and 45 dBA night-time for hospital zones. The baseline results of noise level based on the semesterly environmental monitoring II-2025 at The Project presented in Table below.

Table 28 Noise level (UKL-UPL, Semester II 2025)

No	Location	Result Lsm dB (A)										
		II-2025			I-2025	II-2024	I-2024	II-2023	I-2023	II-2022	I-2022	
1	Teratai and Kacapiring Garden Area S 06°41'17.927" E 106°56'22.413"	52	-	49			49			-	58	-
2	Heritage Waiting Room	52	51	48	53		55			-	50	56.6
3	OK Waiting Room	52	49	46	52		49			-	59	70.7
4	Front Area of MDR Building	59	52	48	51		56			-	63.4	63

Noise measurements during environmental monitoring in the second semester of 2025 were conducted at four (4) locations, two (2) indoor and two (2) outdoor. Two (2) indoor locations were the Heritage waiting room (52 dB), and OK waiting room (52 dB). All indoor measurements met the environmental quality standards for hospitals, which are <55 dB (A).

Outdoor measurement was the Teratai and Kacapiring garden area (52 dB) and in front of the MDR Building was 59 dB. The result at MDR Building outdoor area is influenced by activity around the hospital, particularly motorized vehicle traffic.

Construction activities will involve several heavy equipment. While the heavy equipment is working, some parts of RSGP operations will continue. The baseline results for noise exposure are 52 dB (A) in the indoor area, which is 3 dB (A) from the standard limit for noise quality in the indoor area.

This noise parameter has the potential to exceed quality standards during construction activities, so it needs to be included in risk and environmental impact assessments as well as mitigation planning

4.5.4 Indoor Air and Ventilation

Indoor air quality and ventilation specifications are governed by Permenkes 7/2019 on Hospital Environmental Health and Permenkes 40/2022 on Technical Requirements for Hospital Buildings, Infrastructure, and Medical Equipment. For TB / MDR-TB isolation rooms, the WHO Guidelines on TB Infection Prevention and Control (2019 update) and the CDC Guidelines for Preventing the Transmission of Mycobacterium tuberculosis in Health-Care Settings (2005) specify negative-pressure differential of at least -2.5 Pa, minimum 12 air changes per hour (ACH) for new construction, and HEPA filtration of exhaust air. Building A (Clinical Core) HVAC design must explicitly accommodate these requirements for the isolation suite. In the hospital's existing operational activities, measurements of the work environment air were carried out in two (2) locations, namely the OK waiting room and the Heritage waiting room. The results of the analysis are presented in the table below.

Table 29 Indoor Ambient Air Quality at OK Waiting Room (UKL-UPL, Semester II 2025)

Parameter	PP 22/2021 Limit (Annual)	Indicative Background	Time Measurement (Hour)
CO	10,000 µg/m³	1858	8
CO2	1000 ppm	431	8
Pb	- mg/m³	<2	24
NO2	200 µg/m³	16	1
SO2	125 µg/m³	25	24
HCHO	100 µg/m³	<9	30 minutes
TVOCs	3 ppm	<0.05	8
PM 2.5	25 µg/m³	13	24
PM10	<70 µg/m³	21	24
NH3	2 ppm	0.03	-

Parameter	PP 22/2021 Limit (Annual)	Indicative Background	Time Measurement (Hour)
H2S	0.02 ppm	<0.0009	

The results of the environmental monitoring laboratory analysis for semester II-2025 for OK waiting room ambient air quality meet all environmental quality standards (GR 22/2021, Annex VII). The results of the air quality measurement test in the Heritage waiting room are presented in the table below.

Table 30 Indoor Ambient Air Quality at Heritage Waiting Room (UKL-UPL, Semester II 2025)

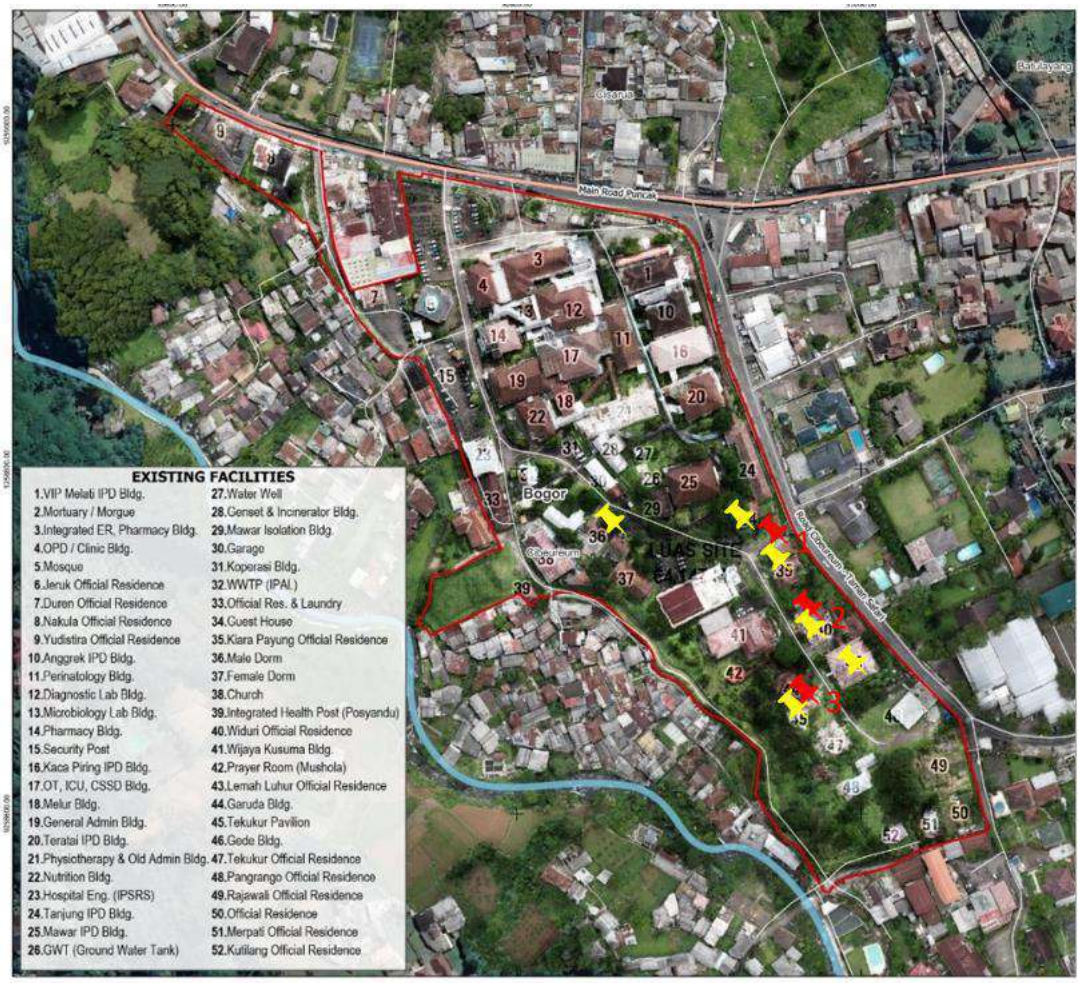
Parameter	PP 22/2021 Limit (Annual)	Indicative Background	Time Measurement (Hour)
CO	10,000 µg/m³	2357	8
CO2	1000 ppm	541	8
Pb	- mg/m³	<2	24
NO2	200 µg/m³	18	1
SO2	125 µg/m³	26	24
HCHO	100 µg/m³	<9	30 minutes
TVOCs	3 ppm	<0.05	8
PM 2.5	25 µg/m³	16	24
PM10	<70 µg/m³	24	24
NH3	2 ppm	0.03	-
H2S	0.02 ppm	<0.0009	

The results of the environmental monitoring laboratory analysis for semester II-2025 for Heritage waiting room ambient air quality meet all environmental quality standards (GR 22/2021, Annex VII).

Ambient air quality in indoor areas is below environmental quality standards. Even though there is no potential for improving indoor environmental air quality, mitigation so that this condition is maintained needs to be explained in the construction phase section matrix.

4.6 Asbestos Containing Materials

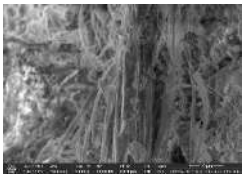
The asbestos audit activity at RSGP was carried out as a step to identify and evaluate the potential presence of building materials containing asbestos or Asbestos Containing Material (ACM) in the hospital facility area.

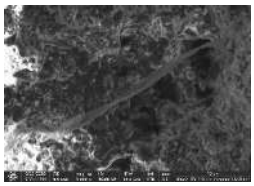
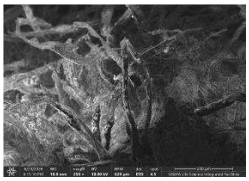


: Suspected ACM	: Sampling Locations

Figure 36 ACM Suspected Map and Sampling Location

Table 31 Documentation of Asbestos Sampling

Date	Location	Sampling Photo	Sample Photo
19 June 2026	Around Guest House and Kiara Payung		  SEM Visual 1

Date	Location	Sampling Photo	Sample Photo
	Widuri Guest House		 SEM Visual 2
	Demolition Area		 SEM Visual 3

Source: primary sampling 19 June 2026

Determination of suspected ACM begins with visual observation of several materials that potentially contain asbestos. After the sample is taken, it is tested to be seen by observation using a Scanning Electron Microscope. The next stage is that the sample will go through X-Ray Diffraction (XRD) screening to see the shape (sharpness) of the material being analysed. Results of visual analysis and laboratory tests on suspected asbestos samples from three locations and three samples:

Table 32 Asbestos Containing Material Status

Sample	Visual	SEM Visual	Result	RXD Analysis	Interpretation
1	Visually potential as suspected ACM material	The elongated fiber structure is tightly packed, forming bundles, layers, and has an inhomogeneous surface. Fine particles are visible adhering to the fiber surface and the surrounding matrix. The fibrous morphology is quite evident.	The elements **C**, **O**, **Mg**, **Al**, **Si**, and **Ca** were detected. The elements **Si** and **Mg** are of interest because they can be associated with silicate minerals, while **Ca**, **C**, and **O** can indicate a cement matrix, carbonate, oxide, or binding material.	The XRD pattern shows a crystalline character with a dominant peak in the range of 2θ ±29°–30° as well as several other minor peaks. This indicates the presence of major mineral phases and additional mineral phases in the sample.	Sample 1 strongly indicates ACM as a suspect, exhibiting clear fiber morphology, complex mineral composition, and a crystalline XRD pattern. However, a positive asbestos status still requires confirmation through XRD mineral phase matching and/or PLM/TEM methods.
2	The material appears as building fragments with a rough, non-	Shows a coarse, porous, fragmented material matrix, with elongated structures	The elements **C**, **O**, **Mg**, **Al**, **Si**, and **Ca** were detected. The presence of **Si**	The XRD pattern shows many sharp peaks of varying	Sample 2 is categorized as a suspected ACM due to its fibrous structure, inorganic

Sample	Visual	SEM Visual	Result	RXD Analysis	Interpretation
	homogeneous surface and is potentially subject to weathering.	resembling fibers or fibrous fragments. The fibers do not always form large bundles but appear attached to the material matrix.	and **Mg** supports the evaluation of the potential for silicate minerals, while **Ca** may be associated with cement-based materials, carbonates, or mineral fillers.	intensity, including one dominant main peak. The sample has a crystalline structure and is composed of several mineral phases.	mineral composition, and crystalline XRD pattern. Final determination still requires mineral phase matching and/or PLM/TEM confirmation.
3	Visually, it resembles sheets or fragments of old building materials which have the potential to release fine particles if disturbed.	The fiber morphology is not as clear as Sample 1, but there are indications of an elongated structure and a rough surface.	The elements **C**, **O**, **Mg**, **Al**, **Si**, and **Ca** were detected. **Si** and **Mg** remain important parameters in the evaluation of silicate minerals, while **Ca**, **C**, and **O** indicate the possibility of a cement matrix, carbonate, oxide, or binding material.	The XRD pattern shows many sharp peaks with varying intensities, indicating a complex crystalline mineral content. The sample is likely composed of several inorganic mineral phases.	Sample 3 remains recommended as a suspect ACM due to its brittle, layered, fragmented material characteristics and complex mineral composition. The fiber indications are weaker than those of Sample 1, but it still needs to be controlled until definitive laboratory confirmation.

4.7 Vibration

Vibration analysis is performed to assess the natural conditions under which ground vibrations propagate. Construction activities involve heavy equipment that triggers vibrations on the ground surface. Propagating ground vibrations can trigger cracks, foundation shifts, and building or slope collapses around the project site. The results of the vibration measurement analysis carried out in residential areas and heritage buildings are presented in the table below.

Table 33 Analysis Results of Vibration

Frequency (Hz)	Result (mm/s)		Standards (mm/s)			
	Loc 1	Loc 2	Category A	Category B	Category C	Category D
4	0.127	<0.001	<2	2-27	>27 – 40	>140
5	0.111	<0.001	<7.5	<7.5 – 25	>24 – 130	>130
6.3	<0.001	<0.001	<7	<7 – 21	>21 – 110	>110
8	<0.001	<0.001	<6	<6 – 19	>19 – 100	>100
10	<0.001	<0.001	<5.2	<5.2 – 16	>16 – 90	>90

Frequency (Hz)	Result (mm/s)		Standards (mm/s)			
	Loc 1	Loc 2	Category A	Category B	Category C	Category D
12.5	<0.001	<0.001	<4.8	<4.8 – 15	>15 – 80	>80
16	<0.001	<0.001	<4	<4 – 14	>14 – 70	>70
20	<0.001	<0.001	<3.8	<3.8 – 12	>12 – 67	>67
25	<0.001	<0.001	<3.2	<3.2 – 10	>10 – 60	>60
31.5	0.071	<0.001	<3	<3 – 9	>9 – 53	>53
40	<0.001	<0.001	<2	<2 – 8	>8 – 50	>50
50	0.04	<0.001	<1	<1 – 7	>7 – 42	>42

Source: primary sampling 19 June 2026

The vibration analysis results were compared with Ministerial Decree No. 49 of 1996 concerning Vibration Level Standards. The vibration level standard used is Appendix II of the regulation, which defines mechanical vibration levels based on damage impact. Vibration measurements were conducted at two locations:

1. Location 1: In front of the Heritage RSGP building

2. Location 2: Residential area (An-Nur Mosque area) in Cibereum Village

Category A refers to vibrations that do not cause damage. Category B refers to the possibility of cracks in the wall plaster (cracking/detachment of plaster on load-bearing walls). Category C refers to the possibility of damage to structural components of load-bearing walls. Category D refers to damage to load-bearing walls.

Analysis results at both measurement points showed values below the quality standard. These analysis results serve as a vibration baseline before construction begins.

4.8 Biodiversity

4.8.1 General Biodiversity Setting

Generally, the project area is situated within the Western Java Montane Rainforest Ecoregion (Figure 37) within the Javan-Bali Tropical Rainforests Bioregion. The Western Java Montane Rainforest ecoregion is a tropical montane ecosystem distributed across the volcanic highlands of western Java, including the landscapes surrounding Taman Nasional Gunung Gede Pangrango (TNGGP). The ecoregion comprises a mosaic of natural forest, secondary vegetation, agroforestry, agricultural land, and human settlements, and supports significant biodiversity value as one of the remaining strongholds for numerous endemic and globally threatened species in Java. Owing to its high levels of endemism, ecological integrity, and importance in maintaining critical habitats and ecosystem functions, the ecoregion is recognized as a priority landscape for biodiversity conservation and ecosystem management in Indonesia.



Figure 37 Ecoregion within the Javan-Bali Tropical Rainforests Bioregion

However, the foothills and lower-elevation areas of the Gede Pangrango landscape surrounding the project have been substantially modified by agriculture, plantations, tourism, settlements, and supporting infrastructure. Consequently, much of the surrounding landscape is now dominated by mixed gardens, agroforestry systems, tea plantations, horticultural land, and secondary vegetation, supporting mainly non-forest and disturbance-tolerant species. Nevertheless, these modified habitats may still serve as ecological buffers, movement corridors, and supplementary habitats for several native wildlife species, especially bird species.

4.8.2 National Legally Protected and Conservation Area

The project site is located entirely within an Area for Other Uses (APL - *Area Peruntukan Lain*). Nevertheless, several conservation areas are situated in the surrounding region (Figure 38), including Gede Pangrango National Park (*Taman Nasional Gunung Gede Pangrango*-TNGGP) located approximately 2.2 km from the project site and Telaga Warna Tourism Park (*Taman Wisata Alam Telaga Warna*-TWATW) located approximately 6.5 km away. These protected areas are recognized for their high biodiversity value and function as important habitats for various endemic and protected flora and fauna species, as well as important ecosystem services such as watershed protection and ecological connectivity within the montane landscape of West Java.

TNGGP harbours numerous threatened and endemic species of high conservation importance (national protected species), including the Javan Hawk-Eagle (Endangered), Javan Gibbon (Endangered), and Javan Leopard (Critically Endangered), as well as a high diversity of montane endemic flora characteristic of the remaining tropical mountain forests of Java. However, the biodiversity walkover survey conducted on 25–26 June 2026, the results of which have been incorporated into the biodiversity baseline information (Chapter 2.8.4 until Chapter 4.8.6), found no evidence of the potential presence of key TNGGP habitat species within the project area or the surrounding modified habitats.



Figure 38 Project Location and Surrounding Conservation Areas

Based on high-level consultation with the TNGGP Technical Conservation Division (Bidang Teknis Konservasi Taman Nasional), no direct impacts on the National Park are anticipated, as the Project is effectively isolated from the protected area by distance and existing land uses. Nevertheless, the Technical Conservation Division welcomed opportunities for voluntary collaboration to support biodiversity conservation. This may include technical advice on enhancement planting using native species within the RSGP green spaces and potential participation in future National Park conservation programmes, such as revegetation of degraded areas, contributing to landscape-level conservation beyond the Project footprint.

4.8.3 International Recognised Area

The Project Site is located within the broader landscape surrounding Gunung Gede Pangrango National Park (TNGGP), which forms part of the Gunung Gede Pangrango Key Biodiversity Area (KBA). Together with Telaga Warna Nature Tourism Park, TNGGP is also designated as the UNESCO Cibodas Biosphere Reserve, reflecting the area's outstanding biodiversity values and international conservation significance.

Despite this landscape context, the Project Site has no direct natural habitat connectivity with TNGGP. The intervening area between the Project Site and the national park boundary, particularly the enclave areas, is dominated by intensive agricultural land, secondary vegetation, and built-up land uses, including settlements, hotels, and associated infrastructure. These modified land uses interrupt ecological connectivity and prevent the formation of a continuous natural habitat corridor between the Project Site and the national park. Consequently, direct impacts of the proposed Project activity on habitats within the TNGGP boundary are considered **negligible**.

Nevertheless, biodiversity management and monitoring within the Project Site remain necessary to minimise potential impacts on species using the surrounding modified landscape, maintain local ecological functions, and verify that Project activities do not result in unforeseen biodiversity impacts during construction and operation.

Ecological interactions at the species level remain possible, particularly for mobile and adaptable wildlife such as birds that utilise fragmented green spaces, edge habitats, and other modified habitats. These interactions are not confined to the Project Site but occur across the broader human-modified landscape, of which the Project Site constitutes only a small component. Species recorded within the Project Site may move through a mosaic of agricultural land, secondary vegetation, urban green spaces, and other modified habitats, maintaining indirect ecological associations with populations occurring near the outer boundary of TNGGP. While these movements may involve both conservation-significant species and common urban-adapted wildlife, they occur within the wider modified landscape rather than through continuous natural habitat connectivity with the national park.

4.8.4 Terrestrial Habitat and Flora Diversity

The hospital area and its surrounding landscape represent a highly modified environment, where most of the vegetation within and around the project site consists of intentionally planted ornamental, landscaping, and cultivated plant species, with only limited occurrence of naturally regenerated or wild vegetation, especially grass and shrub species. Based on the Critical Habitat Screening, no Critical Habitat is triggered within the project boundary or the surrounding modified habitats. Further Critical Habitat Screening is provided in Chapter 4.8.8.

Existing land cover is generally characterized by buildings, paved areas, managed gardens, roadside vegetation, and fragmented secondary green spaces associated with human activities and urban development (Figure 39).



Figure 39 Overview of Modified Habitats within RSGP

The Project Site supports relatively high plant diversity as a result of long-term landscape management, with more than a hundred plant species recorded. The vegetation comprises a mixture of mature trees used primarily for shade, together with shrubs, herbs, and grasses that are predominantly planted for ornamental purposes. Vegetation is managed mainly to enhance the aesthetic quality and functionality of the hospital environment, particularly around buildings, roads,

and public spaces. Nevertheless, the diverse vegetation structure still provides habitat and foraging resources for common wildlife.

Based on the survey conducted on 25-26 June 2026, a total of 34 tree species were recorded within the RSGP area (Table 34). The dominant species include Merkus's Pine (*Pinus merkusii*), Amboina Pitch Tree (*Agathis dammara*), Norfolk Island Pine (*Araucaria heterophylla*), Avocado (*Persea americana*), Fern-leaf Tree (*Filicium decipiens*), Mango (*Mangifera indica*), and Jambu air (*Syzygium sp*). These species are widely planted as shade and landscape trees, contributing to the site's vegetation cover and structural complexity.

Table 34 Tree Species Recorded Within RSGP

Species Name	Common Name	Local Name	IUCN	IP	END
Pterocarpus indicus	Amboyna Wood	Angsana	EN	NP	-
Swietenia macrophylla	Big-leaf Mahogany	Mahoni daun besar	EN	NP	-
Pinus merkusii	Merkus's Pine	Pinus	VU	NP	-
Araucaria heterophylla	Norfolk Island Pine	Cemara Norfolk	VU	NP	ENI
Agathis dammara	Amboina Pitch Tree	Damar	VU	NP	-
Swietenia mahagoni	West Indian Mahogany	Mahoni daun kecil	NT	NP	-
Ficus benjamina	Weeping Fig	Beringin	LC	NP	-
Casuarina equisetifolia	Coast she-oak	Cemara Kipas	LC	NP	-
Casuarina junghuhniana	Mountain ru	Cemara gunung	LC	NP	-
Acalypha siamensis	Thai Acalypha	Teh-tehan	-	NP	-
Mimusops elengi	Indian Medlar	Tanjung	LC	NP	-
Mangifera indica	Mango	Mangga	DD	NP	-
Mangifera Foetida	Horse Mango	Bacang	LC	NP	-
Nephelium lappaceum	Rambutan	Rambutan	LC	NP	-
Psidium guajava	Guava	Jambu Batu	LC	NP	-
Annona muricata	Soursop	Sirsak	LC	NP	-
Annona squamosa	Sweetsop	Srikaya	LC	NP	-
Leucaena leucocephala	White Leadtree	Lamtoro	-	NP	-
Artocarpus communis	Breadfruit	Sukun	-	NP	-
Cinnamomum burmannii	Indonesian Cinnamon	Kayu Manis	-	NP	-
Persea americana	Avocado	Alpukat	LC	NP	-
Garcinia mangostana	Mangosteen	Manggis	DD	NP	-
Filicium decipiens	Fern-leaf Tree	Krey Payung	LC	NP	-
Pometia pinnata	Dawan	Matoa	LC	NP	-
Durio zibethinus	Durian	Durian	DD	NP	-
Artocarpus heterophyllus	Jack Fruit	Nangka	-	NP	-
Syzygium sp	Bell fruit	Jambu Air	-	NP	-
Maesopsis eminii	African umbrella tree	Kayu Afrika	LC	NP	-
Samanea saman	Rain tree	Trembesi	LC	NP	-
Terminalia mantaly	Madagascar almond	Ketapang Kencana	LC	NP	-
Syzygium polyanthum	Indonesian bay leaf	Salam	-	NP	-
Spathodea campanulata	African Tulip Tree	Kecrutan	LC	NP	-
Bauhinia purpurea	Purple Bauhinia	Pohon Kupu-Kupu	LC	NP	-

Note: EN=Endangered, VU=Vulnerable, LC=Least Concern, DD=Data Deficient, IP=Indonesia Protected Species, NP=Not Protected, End=Endemic, and ENI= Endemic Norfolk Island

4.8.5 Terrestrial Fauna

Fauna inhabiting the area are predominantly common and disturbance-tolerant species typically associated with residential, urban, and built-up environments and have high adaptability to modified habitats and human presence. Overall, the ecological condition of the project site reflects a low-naturalness habitat with biodiversity primarily composed of common and widespread species characteristic of anthropogenically modified landscapes. Based on a field survey on 25-26 June 2026 and exploring the IUCN Red List and Global Biodiversity Information Facility (GBIF), the types of fauna identified in the project area and vicinity are presented in Table 35.

Table 35 Fauna Diversity at RSGP

Species Name	Common Name	Local Name	IUCN	IP	MIGR	END
Mammals						
Callosciurus notatus	Plaintain Squirrel	Bajing Kelapa	LC	NP	-	-
Tupaia javanica	Horsfield's treeshrew	Tupai kekes	LC	NP	-	-
Herpestes javanicus	Javan Mongoose	Garangan	LC	NP	-	-
Rattus rattus	House rat	Tikus	-	NP	-	-
Felis domesticus	House Cat	Kucing Rumah	-	NP	-	-
Birds						
Alcippe pyrrhoptera	Javan Fulvetta	Wergan jawa	LC	NP	-	EJ
Attacus atlas	Atlas Moth	Kupu-kupu Gajah	NE	NP		
Cacomantis merulinus	Plaintive Cuckoo	Wiwik Kelabu	LC	NP		
Cacomantis sepulcralis	Sunda Brush Cuckoo	Wiwik uncuing	LC	NP	-	-
Cinnyris ornatus	Ornate Sunbird	Burung-madu sriganti	LC	NP	-	-
Collocalia linchi	Cave Swiftlet	Walet linchi	LC	NP		
Columba livia	Rock Dove	Merpati Batu	LC	NP	-	-
Dendrocopos analis	Freckle-breasted Woodpecker	Caladi Ulam	LC	NP	-	-
Dicaeum sanguinolentum	Javan Flowerpecker	Cabai gunung	LC	NP	-	EJ
Dicaeum trochileum	Scarlet-headed Flowerpecker	Cabai Jawa	LC	NP	-	-
Geopelia striata	Zebra Dove	Perkutut jawa	LC	NP	-	-
Halcyon cyanoventris	Javan Kingfisher	Cekakak Jawa	LC	NP	-	-
Hemiprocne longipennis	Grey-rumped Treeswift	Tepekong jambul	LC	NP	-	-
Hirundo javanica	Pasific Swallow	Layang-layang Batu	LC	NP	-	-
Ictinaetus malaiensis	Black Eagle	Elang Hitam	LC	P	-	-
Lonchura leucogastroides	Javan Munia	Bondol Jawa	LC	NP	-	-
Lonchura maja	White-headed Munia	Bondol Haji	LC	NP	-	-
Lonchura punctulata	Scaly-breasted Munia	Bondol Peking	LC	NP	-	-
Megalurus palustris	Striated Grassbird	Cica-koreng jawa	LC	NP	-	-
Orthotomus sepium	Olive-backed Tailorbird	Cinenen Jawa	LC	NP	-	-
Orthotomus sutorius	Common Tailorbird	Cinenen pisang	LC	NP	-	-
Parus cinereus	Asian Tit	Gelatik Batu	LC	NP	-	-
Passer montanus	Eurasian tree sparrow	Gereja Erasia	LC	NP	-	-
Phyllergates cucullatus	Mountain Tailorbird	Cinenen Gunung	LC	NP	-	-
Pnoepyga pusilla	Pygmy cupwing	Berencet Kerdil	LC	NP	-	-
Psilopogon haemacephalus	Coppersmith Barbet	Takur ungkut-ungkut	LC	NP	-	-
Pycnonotus aurigaster	Sooty-headed Bulbul	Cucak Kutilang	LC	NP	-	-
Pycnonotus bimaculatus	Orange-spotted Bulbul	Cucak Gunung	NT	NP	-	-
Pycnonotus goiavier	Yellow-vented Bulbul	Cucak cerucuk	LC	NP	-	-
Spilopelia chinensis	Spotted Dove	Tekukur Biasa	LC	NP	-	-
Reptiles						

Species Name	Common Name	Local Name	IUCN	IP	MIGR	END
Bronchocela jubata	Maned forest lizard	Bunglon Surai	LC	NP	-	-
Calotes versicolor	Oriental Garden Lizard	Bunglon taman	LC	NP	-	-
Draco volans	Javan Flying Dragon	Cekibar	LC	NP	-	-
Hemidactylus frenatus	Asian House Gecko	Cecak kayu	LC	NP	-	-
Gekko gecko	Tokay Gecko	Tokek rumah	LC	NP	-	-
Eutropis multifasciata	Common Sun Skink	Kadal kebun	LC	NP	-	-
Amphibians						
Duttaphrynus melanostictus	Asian Common Toad	Kodok buduk	LC	NP	-	-
Phrynoidis asper	River Toad	Kodok Puru Besar	LC	NP	-	-
Limnonectes kuhlii	Kuhl's Creek Frog	Bangkong tuli	LC	NP	-	-
Hylarana chalconota	Schlegel's Frog	Kongkang kolam	LC	NP	-	-
Polypedates leucomystax	Common Southeast Asian Tree Frog	Katak pohon bergaris	LC	NP	-	-

Note: EN=Endangered, VU=Vulnerable, LC=Least Concern, DD=Data Deficient, IP=Indonesia Protected Species, NP=Not Protected, Migr=Migratory, End=Endemic, and EJ=Endemic to Java

4.8.6 Aquatic Habitat and Fish Diversity

In addition to terrestrial habitats, the West RSGP area is traversed by the Cibeureum River, which serves as the receiving water body for the Project's WWTP effluent and surface water drainage pathways. The river originates within TNGGP, flows through Taman Safari Indonesia and upstream residential areas, passes along the western boundary of the Project Site and Cibeureum village, and ultimately flows to the Ciliwung River.

The Cibeureum River is a fast-flowing stream with a predominantly rocky substrate (Figure 40). During the site observation, the water appeared clear with moderate flow. However, anthropogenic waste transported from upstream areas was observed along the river, indicating existing upstream influences on river condition.



Figure 40 Overview of Cibereum River Habitats within WWTP effluent of RSGP

The fish biodiversity survey conducted on 25–26 June 2026 demonstrated that the Cibeureum River supports a relatively diverse fish community. Survey findings confirmed that the river serves as habitat

for a range of fish species, with at least nine species recorded during the survey (Table 36). These findings suggest that, despite receiving inputs of solid waste and wastewater from surrounding anthropogenic activities, the river segment adjacent to the Project area continues to provide suitable habitat for these fish species. The presence and diversity of these species indicate that the aquatic habitat remains capable of supporting freshwater fish communities and may serve as a useful biological indicator of the ecological condition of this river.

Table 36 Fish Diversity at the CIbereum River within RSGP

Species Name	Common Name	Local Name	IUCN	IP	MIGR	END
Ancistrus sp.	Bristlenose Catfishes	Sapu sapu	LC	NP	-	-
Barbodes binotatus	Spotted Barb	Beunteur	LC	NP	-	-
Channa limbata	Red-tailed Snakehead	Bogo	-	NP	-	-
Glyptothorax platypogon	Brown Hillstream Catfish	Kekel	LC	NP	-	EJ
Macrognathus maculatus	Frecklefin Spiny Eel	Sili	LC	NP	Migr	-
Nemacheilus fasciatus	Barred Loach	Uceng	LC	NP	-	-
Oreochromis niloticus	Nile tilapia	Nila	LC	NP	-	-
Poecilia reticulata	Guppy	Guppy	LC	NP	-	-
Xiphophorus hellerii	Green Swordtail	Ekor pedang	LC	NP	-	-

Note: LC=Least Concern, IP=Indonesia Protected Species, NP=Not Protected, Migr=Migratory, End=Endemic, and EJ=Endemic to Java

4.8.7 Species of Conservation Significance

Species of conservation significance are identified as those listed on the IUCN Red List of Threatened Species as well as those species provided with equivalent conservation protection by laws in Indonesia. Based on IUCN Red List threatened species criteria, three categories of threatened species are to be evaluated as species of conservation significance, including,

- Critically Endangered (CR), Endangered (EN), and Vulnerable (VU) species based on the IUCN Red List.
- Protected Species based on National Regulations
- Migratory and congregatory species
- Endemic and restricted range species

Based on the potential species identified within the project location and surrounding vicinity, a total of ten (10) species are considered species of conservation significance, consisting of five flora species, three bird species, and two fish species (Table 37).

Table 37 Species of Conservation Significance List within the Project Site and Vicinity

Species Name	Common Name	Local Name	IUCN	IP	MIGR	END
Flora						
Pterocarpus indicus	Amboyna Wood	Angsana	EN	NP	-	-
Swietenia macrophylla	Big-leaf Mahogany	Mahoni Daun Besar	EN	NP	-	-
Pinus merkusii	Merkus's Pine	Pinus	VU	NP	-	-
Araucaria heterophylla	Norfolk Island Pine	Cemara Norfolk	VU	NP	-	ENI
Agathis dammara	Amboina Pitch Tree	Damar	VU	NP	-	-
Birds						
Acridotheres javanicus	Javan Myna	Kerak kerbau	VU	NP	-	EJ

Species Name	Common Name	Local Name	IUCN		IP	MIGR	END
Alcippe pyrrhoptera	Javan Fulvetta	Wergan jawa	LC	NP	-	EJ	
Dicaeum sanguinolentum	Javan Flowerpecker	Cabai gunung	LC	NP	-	EJ	
Fish							
Glyptothorax platypogon	Brown Hillstream Catfish	Kekel	LC	NP	-	EJ	
Macrognathus maculatus	Frecklefin Spiny Eel	Sili	LC	NP	Migr	-	
Note: EN=Endangered, VU=Vulnerable, LC=Least Concern, DD=Data Deficient, IP=Indonesia Protected Species, NP=Not Protected, End=Endemic, and ENI= Endemic Norfolk Island							

Amboyna Wood, Big-leaf Mahogany, Merkus's Pine, Norfolk Island Pine, and Amboina Pitch Tree are widely planted across the RSGP green spaces and surrounding landscape. Although listed as Endangered (EN) or Vulnerable (VU) on the IUCN Red List, this status mainly reflects declines in their natural populations within native ranges due to habitat loss and overexploitation.

At the Project site, these species are not natural populations but have been intentionally planted for landscaping, shade provision, and urban greening. They are widely distributed across RSGP green areas (

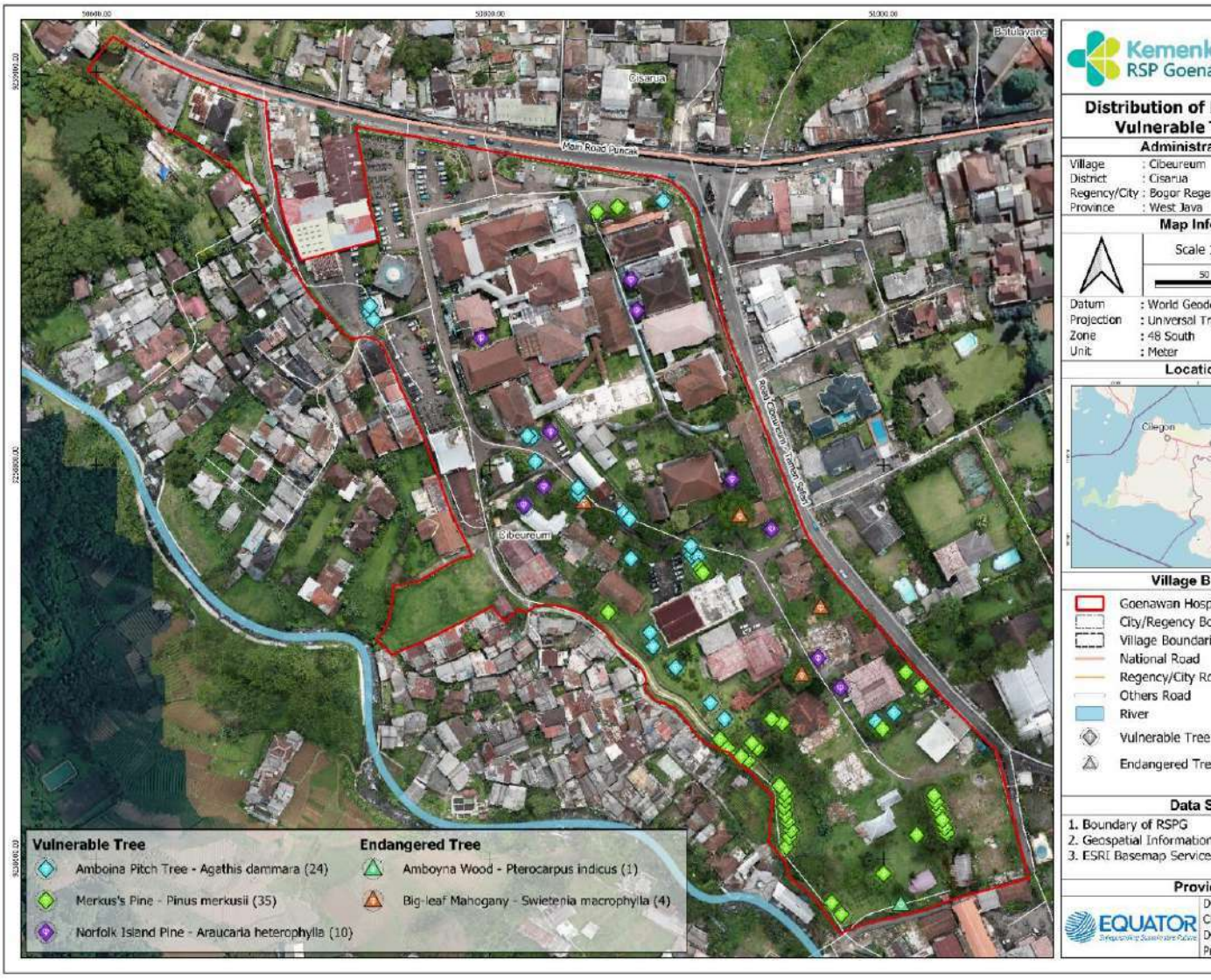


Figure 41) and commonly occur in the surrounding landscape. The planted trees and surrounding green spaces still provide ecological functions, including habitat, shelter, and foraging resources for local wildlife such as endemic and migratory birds associated with habitat edges, secondary vegetation, gardens, and fragmented landscapes.

Similarly, the recorded bird and fish assemblages are typical of modified habitats such as settlements, agriculture, shrubland, and other human-dominated areas, indicating that these environments retain sufficient ecological functionality to support common and disturbance-tolerant species.

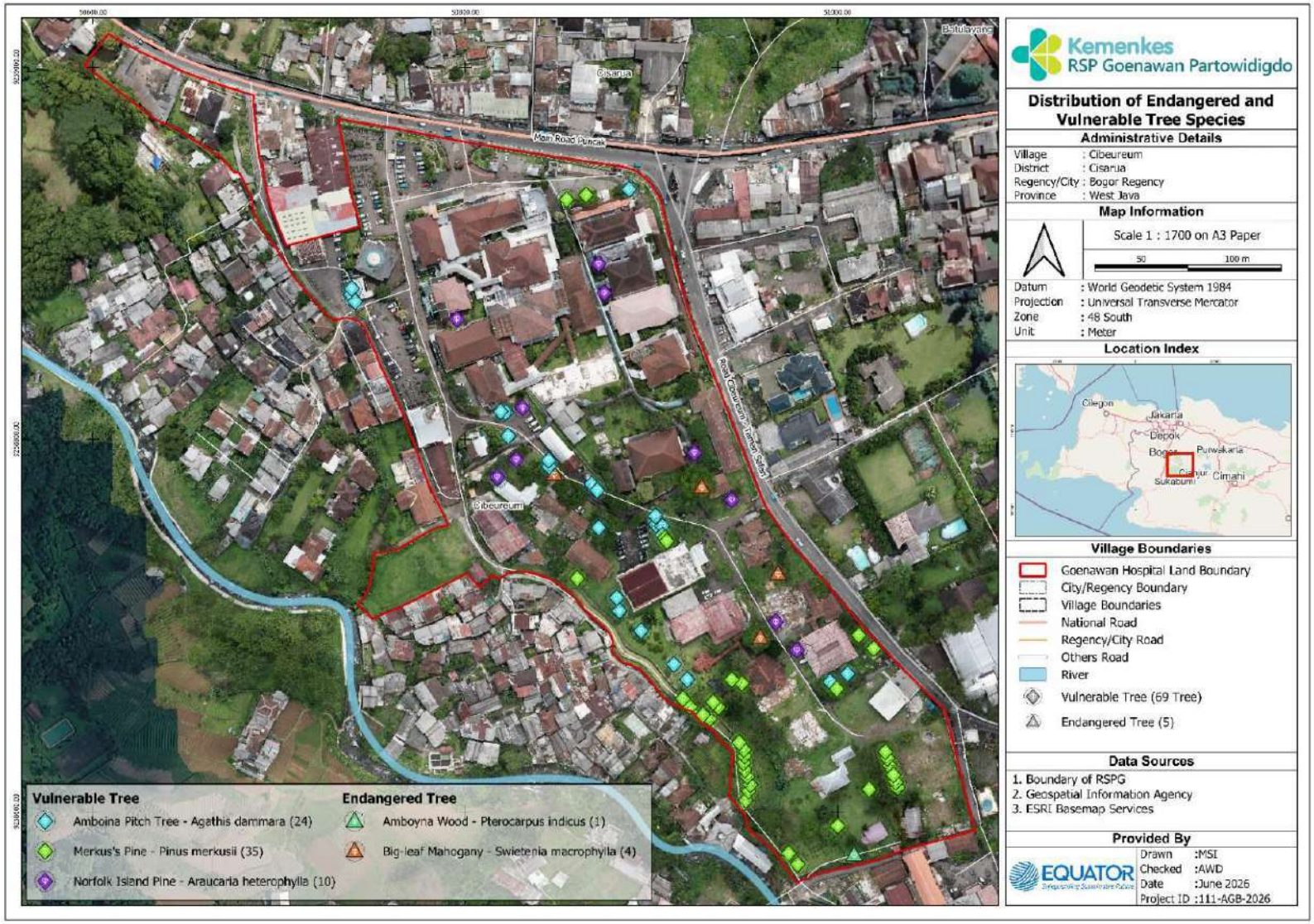


Figure 41 Distribution of Endangered and Vulnerable Tree Species within RSGP Boundary

4.8.8 Crititical Habitat Screening

The presence of Species of Conservation Significance indicates that the modified habitats continue to provide suitable ecological functions despite long-term human influence. However, none of the recorded species trigger Critical Habitat based on the Critical Habitat thresholds under IFC PS6.

The flora species of conservation significance are intentionally planted for landscaping, shade, and land protection purposes rather than representing natural populations of conservation importance. Similarly, the endemic bird and fish species recorded are widespread and commonly occur in modified habitats across Java, reflecting their adaptability to anthropogenic environments. The Critical Habitat screening results are presented in Table 38 below

Table 38 Critical habitat Screening

Criteria and Thresholds	Screening
Criterion 1: Critically Endangered (CR) / Endangered (EN) species: a) Areas that support globally important concentrations of an IUCN Red-listed EN or CR species (0.5% of the global population AND 5 reproductive units 15 of a CR or EN species) b) Areas that support globally important concentrations of an IUCN Red-listed VU species, the loss of which would result in the change of the IUCN Red List status to EN or CR and meet the thresholds in (a). c) As appropriate, areas containing nationally/regionally important concentrations of an IUCN Red-listed EN or CR species.	• Amboyna Wood (EN), Big-leaf Mahogany (EN), Merkus's Pine (VU), Norfolk Island Pine (VU), and Amboina Pitch Tree (VU) species are intentionally planted as part of the RSGP landscaping and land management. Although globally listed as Endangered (EN) or Vulnerable (VU), they do not represent natural populations or critical habitat features at the Project site and therefore do not trigger IFC PS6 Criterion 1. • Javan Myna (VU) is endemic to Java, this species is widespread and commonly occurs in modified habitats. It is not globally threatened, is not expected to qualify for a higher threat category in the near future, and therefore does not trigger IFC PS6 Criterion 1(b)
Criterion 2: Habitat of significant importance to endemic and/or restricted-range species, Areas that regularly hold ≥10% of the global population size AND ≥10 reproductive units of a species.	Javan Myna, Javan Fulvetta, Javan Flowerpecker, and Brown Hill-stream Catfish are endemic to Java but are widely distributed across the island and commonly occur in both natural and modified habitats. The Project AOI and overall Ciberum River habitat do not support a significant proportion of their global population or a restricted-range population, therefore, these species do not trigger IFC PS6 Criterion 2 (Restricted-range and Endemic Species)
Criterion 3: Habitat supporting globally significant concentrations of migratory species and/or congregatory species, a) Areas are known to sustain, on a cyclical or otherwise regular basis, ≥ 1% of the global population of a migratory or congregatory species at any point of the species' lifecycle.	Frecklefin Spiny Eel (*Macrognathus maculatus*) is a potamodromous freshwater species that undertakes local movements within river systems. Although migratory, it does not meet IFC PS6 Criterion 3 (Migratory Species) because its movements are limited to freshwater habitats and the Project site is not known to support a significant proportion of the species' population or a critical migration corridor

Criteria and Thresholds	Screening
b) Areas that predictably support ≥10% of the global population of a species during periods of environmental stress.	
Criterion 4: Highly threatened and/or unique ecosystems, a) Areas representing ≥ 5% of the global extent of an ecosystem type meeting the criteria for IUCN status of CR or EN. b) Other areas, not yet assessed by IUCN, but determined to be of high priority for conservation by regional or national systematic conservation planning.	The Project site comprises modified habitat that has been extensively influenced by anthropogenic activities, including buildings, landscaped areas, roads, and other developed land uses. It does not represent a highly threatened or unique ecosystem and therefore does not trigger IFC PS6 Criterion 4.
Criterion 5: Areas associated with key evolutionary processes No specific criteria. Primarily based on scientific reasons.	The Project site consists of modified habitat with a long history of anthropogenic disturbance. Therefore, the site does not trigger IFC PS6 Criterion 5

4.8.9 Alien Invasive Species

A desktop review of the Global Invasive Species Database (GISD) identified invasive flora and fauna species in Indonesia. 174 species have been identified as invasive in Indonesia, where 11 flora species are introduced plant species that are related to the terrestrial habitat within the project location (Table 39).

Table 39 List of Potential Invasive Species within the Project Site and Vicinity

Group	Species	English Name	Status
Plantae	*Acacia confusa*	Small Philippine Acacia	Terrestrial
Plantae	*Acacia decurrens*	Sydney green wattl	Terrestrial
Plantae	*Alternanthera philoxeroides*	Alligator weed	Terrestrial
Plantae	*Angiopteris evecta*	King fern	Terrestrial
Plantae	*Austroeupatorium inulifolium*	Whiteweed	Terrestrial
Plantae	*Chromolaena odorata*	Siam weed	Terrestrial
Plantae	*Epipremnum pinnatum*	Dragon-tail Plant	Terrestrial
Plantae	*Lespedeza cuneata*	Chinese bushclover	Terrestrial
Plantae	*Leucaena leucocephala*	White leadtree	Terrestrial
Plantae	*Macfadyena unguis-cati*	Cat's claw creeper	Terrestrial
Plantae	*Mikania micrantha*	Bitter vine	Terrestrial

Source: Global Invasive Species Database

The GISD list may not fully reflect the current invasive species conditions in Java, including the Project area in West Java Province. Therefore, invasive species assessments should also refer to MoEF Regulation No. 94 of 2016, which lists 187 invasive species recorded in Indonesia and an additional 132 invasive species of global concern. Both references should be periodically reviewed and updated throughout the Project lifecycle using the latest information from reputable sources.

4.9 Land Use and Spatial Compliance

The site is owned by the Ministry of Health under HPL Kemenkes status, with no land acquisition required for the project. Spatial compliance is anchored by the OSS-issued PKKPR Nomor 14072210213201073 of 14 July 2022, which confirms KBLI 86101 (Aktivitas Rumah Sakit Pemerintah, status PMDN) at the site and specifies the seventeen-vertex boundary polygon enclosing 6.70 hectares. The PKKPR will need to be cross-checked against the RDTR Kecamatan Cisarua (where finalised) and the RTRW Kabupaten Bogor for any specific zoning constraints (e.g., maximum KDB / KLB / KDH / GSB) applicable to the redevelopment footprint. Additionally, the broader Puncak corridor falls under the Kawasan Strategis Pariwisata Nasional (KSPN) designation and the Bodetabekpunjur coordinative framework (Perpres 60/2020), each of which carries policy-level stewardship implications even where they do not impose direct construction restrictions.

Table 40 Land Spatial Status of The Project

Permit / Reference	Detail
PKKPR	Nomor 14072210213201073, terbit 14 Juli 2022, luas 6.70 Ha, KBLI 86101, 17-vertex boundary polygon (Lampiran)
NIB	9120304812536, terbit 23 Agustus 2019, perubahan ke-18 27 Juni 2022, status PMDN
KBLI	86101, Aktivitas Rumah Sakit Pemerintah
IMB RSGP	2014, covering existing built fabric
IPPT RSGP	2013, historical land use permit (predecessor to KKPR regime)
NPWP	00.144.706.9-434.000
SIO 2025	Surat Izin Perpanjangan Operasional via OSS, valid through 2030

4.10 Land Based Transportation

RSGP situated at Puncak area as a tourist destination with numerous attractions, including Taman Safari, Taman Wisata Matahari, Gunung Mas, and more. The high level of interest and attraction in the Puncak area makes it a busy area, causing traffic jams. Congestion hotspots generally occur at the Jagorawi Toll exit leading to Puncak, the Megamendung intersection, the Gadog Bridge, Taman Wisata Matahari, Cisarua Market, and the Taman Safari intersection. Congestion in these areas is caused by the high volume of vehicles heading to Puncak and the numerous trade and service activities on the road leading to Puncak (high side barriers).

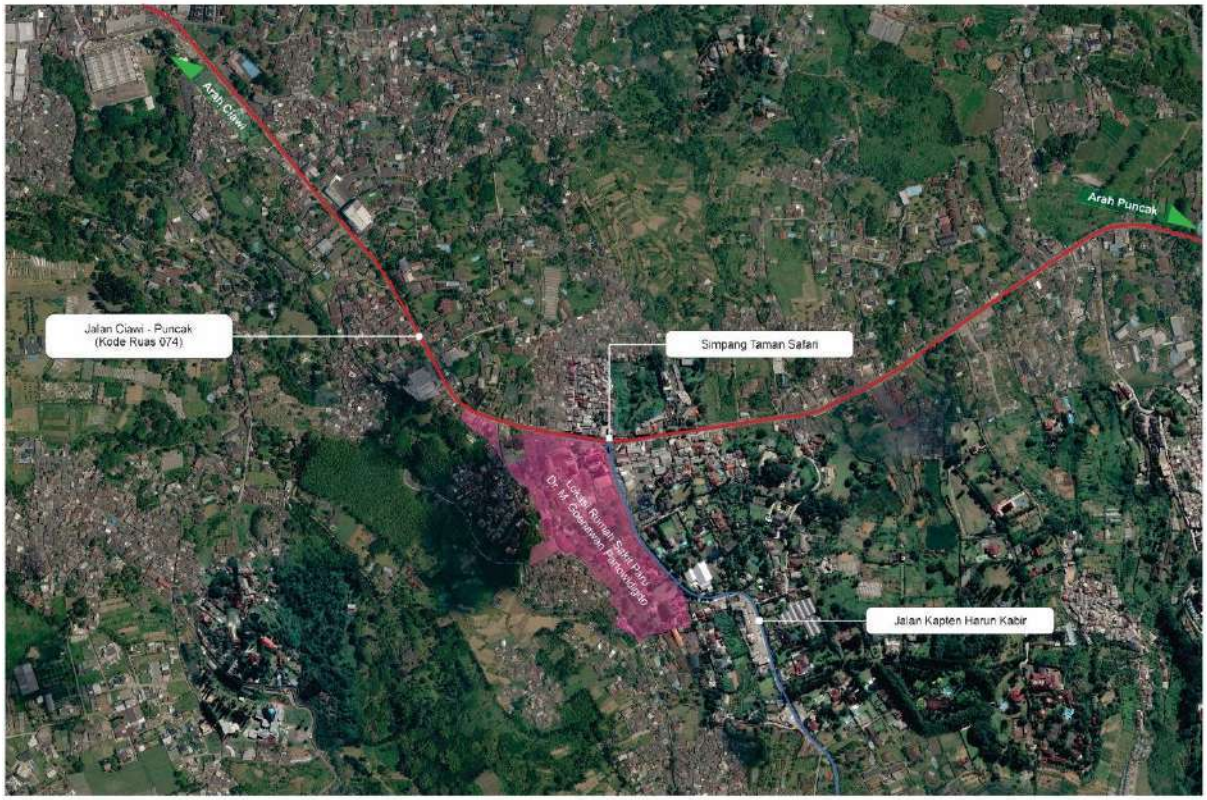


Figure 42 Affected Road Section

Traffic studies are conducted to take into account the existing condition of road loads so that they can be the main reference in construction activities, especially for material and equipment mobilization activities. Road facilities and traffic signs around the Project area are presented in

Table 41 Traffic and Road Signs around the Project area

No	Facility	Note and Location
1		-6.687016,106.938309

No	Facility	Note and Location
2		-6.687046,106.938261
3		-6.686863,106.937668
4		-6.686670,106.937310
5		-6.686874,106.937764

No	Facility	Note and Location
6		Caution Slippery Road Sign
7		-6.687064,106.938273
8		-6.687177,106.938792
9		-6.687302,106.938812 Wide 8 m

No	Facility	Note and Location
10		-6.687378,106.939352 Pesedtrian wider 1.5 m, road 10 m
11		-6.687453,106.940029
12		-6.687563,106.940043
13		-6.687709,106.939978

No	Facility	Note and Location
14		-6.687618,106.939934
15		Public Transportation Sukasari – Bogor
16		-6.687539,106.939899
17		-6.687512,106.939908

No	Facility	Note and Location
18		Public Transportation Sukasari – Cibeureum
19		Public Transportation Cibeureum – Taman Safari
20		-6.688337,106.940161
21		-6.687016,106.938309

No	Facility	Note and Location
22		-6.689060,106.940514, -6.689016,106.940412
23		-6.688478,106.940320
24		-6.679951,106.932335. Jl. Cisarua – Batulayang – Ciburial No 22.01.122. Wide 4 m, Roadside < 0.5 m, right and left drainage 0.6 m
25		-6.679974,106.931993

No	Facility	Note and Location
26		Cisarua Market no. 22.01.158 Wide 6 m, right and left drainage 1m
27		Jl. Ciawi – Puncak segment 1
28		Segment 2
29		Jl. Gandamanah Wide 4 m

No	Facility	Note and Location
30		Jl. Ciawi - Bogor segment 4
31		Segment 5

A. Traffic Conditions on Existing Roads on Weekdays

Ciawi – Puncak Road

The highest traffic volume on the Ciawi - Peak weekday road occurs in the afternoon, namely from 5:00 PM to 6:00 PM WIB with a traffic volume of 2,279.2 Passenger Car Unit (Pcu)/hour. Meanwhile, the morning rush hour occurs from 8:15 AM to 9:15 AM WIB with a traffic volume of 2,083.1 Pcu/hour. During the day, the highest traffic volume occurs from 12:00 PM to 1:00 PM WIB with a traffic volume of 1,519.5 Pcu/hour. The dominant vehicles crossing the Ciawi - Puncak road (weekdays) are motorbikes with a percentage of 53%, followed by private cars with a percentage of 23%, then public transportation with a percentage of 4%, and other vehicles with a percentage of under 3%.

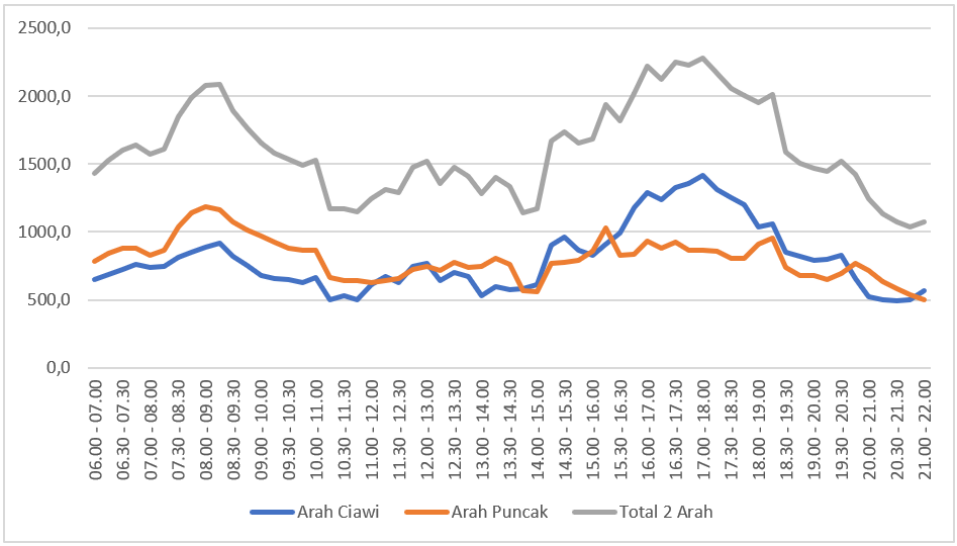


Figure 43 Ciawi Road Traffic Fluctuations on Weekdays

Kapten Harun Kabir Road

The highest traffic volume on Jalan Kapten Harun Kabir on weekdays occurs in the afternoon, between 5:15 and 6:15 PM WIB, with a traffic volume of 1,148.0 Pcu/hour. Meanwhile, the morning rush hour occurs from 8:00 to 9:00 AM WIB, with a traffic volume of 1,041.2 Pcu/hour. During the day, the highest traffic volume occurs between 11:15 and 12:15 PM WIB, with a traffic volume of 807.7 Pcu/hour.

The dominant vehicles crossing Jalan Kapten Harun Kabir (Weekdays) are motorbikes with a percentage of 67%, followed by private cars with a percentage of 30%, then Pick Ups with a percentage of 2%, and other vehicles with a percentage of under 1%.

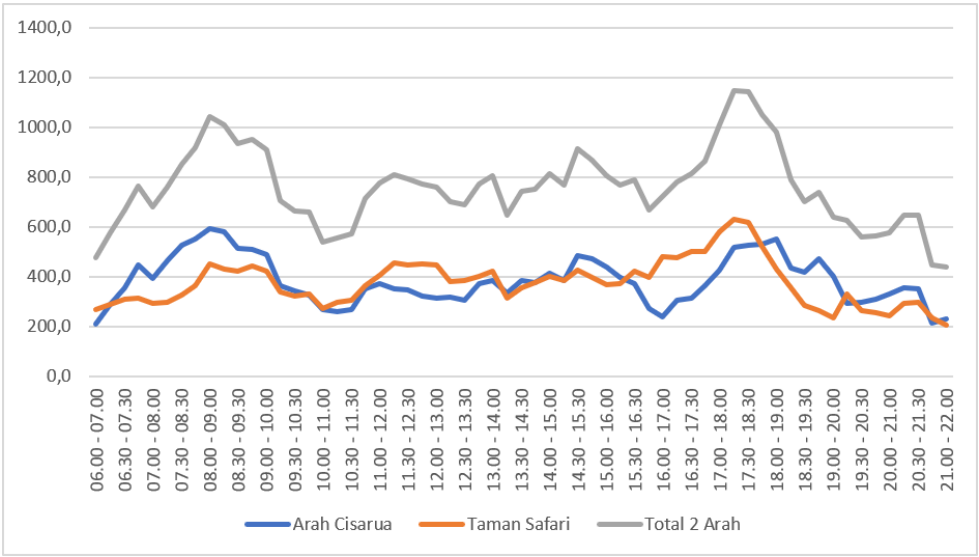


Figure 44 Kapten Harun Kabir Road Traffic Fluctuations on Weekdays

B. Traffic Condition on Existing Roads on Weekend

Ciawi – Puncak Road

The highest traffic volume on the Ciawi – Puncak (Holiday) road section occurs in the morning, between 9:30 and 10:30 a.m. WIB (Western Indonesian Time), with a traffic volume of 2,159.0 pcu/hour. Meanwhile, the peak afternoon rush hour occurs from 9:30 to 10:30 a.m. WIB with a traffic volume of 2,159.9 pcu/hour. In the afternoon, it occurs from 1:45 to 2:45 pcu/hour, with a traffic volume of 2,592.1 pcu/hour.

The dominant vehicles crossing the Ciawi - Puncak road (Holidays) are motorbikes with a percentage of 56%, followed by private cars with a percentage of 27%, then pick-ups with a percentage of 8%, while for large trucks 2% and medium buses 1%.

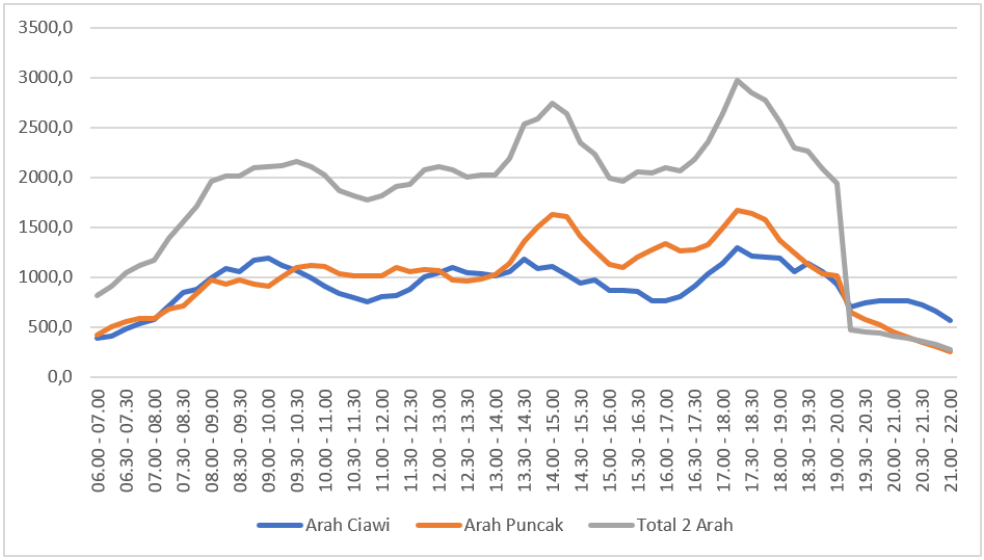


Figure 45 Ciawi Road Traffic Fluctuations on Weekdays

Kapten Harun Kabir Road

The highest traffic volume on Jalan Kapten Harun Kabir on holidays occurs during the day, between 12:00 and 1:00 PM WIB, with a traffic volume of 1,849.8 smp/hour. Meanwhile, the morning rush hour occurs from 10:00 to 11:00 AM WIB, with a traffic volume of 1,345.3 smp/hour. In the afternoon, the highest traffic volume occurs between 2:00 and 3:00 PM WIB, with a traffic volume of 1,334.3 smp/hour.

The dominant vehicles crossing the Harun Kabir Road section (Holidays) are motorbikes with a percentage of 63%, followed by private cars with a percentage of 34%, and other vehicles with a percentage below 3%.

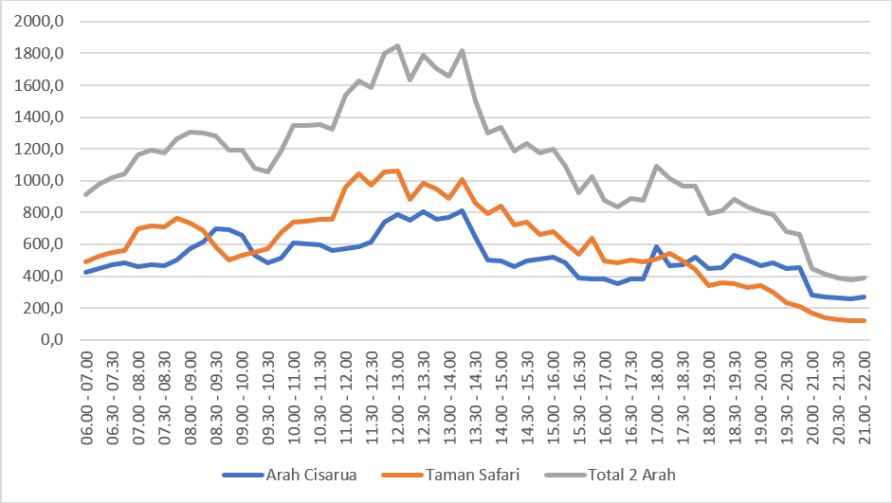


Figure 46 Kapten Harun Kabir Road Traffic Fluctuations on Weekdays

From the results of the discussion of the characteristics of traffic volume on the road sections around the RS Goenawan Partowidigdo Development location, the peak hours can be seen in the following table.

Table 42 Weekday Traffic Performance

No	Road	Traffic Direction	Peak Hour Period	Capacity C (PCU/ Hr)	Q (PCU/ Hr)	V/C Ratio	LOS
1	Ciawi - Puncak	Two Direction	Peak Hour (Morning)	3080,0	2083,1	0,68	C
2	Kapten Harun Kabir	Two Direction		2802,8	1041,2	0,37	B
1	Ciawi - Puncak	Two Direction	Peak Hour (Midday)	3080,0	1519,5	0,49	C
2	Kapten Harun Kabir	Two Direction		2802,8	807,7	0,29	B
1	Ciawi - Puncak	Two Direction	Peak Hour (Afternoon)	3080,0	2279,2	0,74	C
2	Kapten Harun Kabir	Two Direction		2802,8	1148,0	0,41	B

Source: Analysis 2026

Table 43 Weekend Traffic Performance

No	Road	Traffic Direction	Peak Hour Period	Capacity C (PCU/ Hr)	Q (PCU/ Hr)	V/C Ratio	LOS
1	Ciawi - Puncak	Two Direction	Peak Hour (Morning)	3080,0	2159,9	0,70	C
2	Kapten Harun Kabir	Two Direction		2802,8	1345,3	0,48	C

No	Road	Traffic Direction	Peak Hour Period	Capacity C (PCU/ Hr)	Q (PCU/ Hr)	V/C Ratio	LOS
1	Ciawi - Puncak	Two Direction	Peak Hour (Midday)	3080,0	2592,1	0,84	E
2	Kapten Harun Kabir	Two Direction		2802,8	1849,8	0,66	C
1	Ciawi - Puncak	Two Direction	Peak Hour (Afternoon)	3080,0	2969,1	0,96	E
2	Kapten Harun Kabir	Two Direction		2802,8	1334,3	0,48	C

Source: Analysis 2026

Traffic saturation classification is measured using the Degree of Saturation (DJ or DS), which is the ratio between traffic flow in Passenger Car Units per hour (smp/hour) to road capacity (smp/hour). Based on the Indonesian Road Capacity Manual (MKJI) and the Indonesian Road Capacity Guidelines (PKJI), the degree of saturation value is classified into 6 levels of road service (Level of Service or LOS).

Classification of Degree of Saturation and Level of Service (LOS):

- **Level A** (**DJ < 0.20**): Very smooth flow. High speed. Drivers are free to move,
- **Level B** (**DJ 0.21 - 0.44**): Stable and smooth flow. The driver has quite good freedom in choosing the speed,
- **Level C** (**DJ 0.45 - 0.74**): Stable flow. Speed begins to be controlled by surrounding traffic conditions.
- **Level D** (**DJ 0.75 - 0.84**): The current is approaching stable. Speed decreases drastically. Vehicle movement obstacles begin to be felt.
- **Level E** (**DJ 0.85 - 1.00**): Unstable current / volume approaching maximum capacity. Low speed and frequent stops.
- **Level F** (**DJ > 1.00**): Forced flow / total congestion. Very long queue of vehicles. Very low speed or completely stopped.

From the results of the analysis above, information on the performance of the road section can be obtained. It can be seen that the main access road to the RS Goenawan Partowidigdo area is in a condition with very high traffic volume, especially in the afternoon during holidays.

5 SOCIAL BASELINE

5.1 Baseline Scope and Data Sources

This subchapter establishes the social baseline for the RSGP redevelopment area of influence. It covers the demographic profile of Desa Cibeureum, Kecamatan Cisarua and Kabupaten Bogor, healthcare service context, education and social infrastructure, local economy and livelihoods, workforce and patient population characteristics, stakeholder groups, vulnerable groups, and community health, safety and security conditions.

The baseline has been updated using the latest uploaded statistical references, particularly Kabupaten Bogor Dalam Angka 2026 and Kecamatan Cisarua Dalam Angka 2025. The regency-level source provides 2025 data for Kabupaten Bogor and kecamatan-level comparisons, while the Cisarua publication provides more detailed village-level 2024 information, including Desa Cibeureum, where RSGP is located. Some figures differ slightly because the sources use different reference years and data bases, therefore, this chapter presents them transparently by year and source.

RSGP is an existing pulmonary hospital located at Jalan Raya Puncak KM 83, Desa Cibeureum, Kecamatan Cisarua, Kabupaten Bogor. The project is not a greenfield development, it will be implemented within the existing hospital campus while hospital services continue to operate. Therefore, the social baseline is especially relevant for assessing service continuity, traffic and access, patient safety, infection prevention, labour influx, community disturbance, and grievance management.

5.2 Social Area of Influence

This subchapter identifies the people and groups that may be affected by the Project, including patients, caregivers, staff, contractors, nearby residents, road users, vendors, and referral communities. It sets the boundary for social impact assessment, consultation, GRM, and monitoring.

The direct social area of influence includes the RSGP hospital campus, patients, caregivers, visitors, hospital staff, contractors, nearby residents of Desa Cibeureum, road users along Jalan Raya Puncak, ambulance users, suppliers, vendors, and local businesses that may be affected by construction activities, access changes, dust, noise, traffic movement, or temporary changes in hospital service flow.

The wider social area of influence includes Kecamatan Cisarua, neighbouring highland kecamatan such as Megamendung and Ciawi, and the broader RSGP referral catchment, including communities from Bogor, Sukabumi, Cianjur, Greater Jakarta and other areas that rely on RSGP for pulmonary, TB/MDR-TB, inpatient, emergency and referral services.

5.3 Demographic Profile of Kabupaten Bogor, Kecamatan Cisarua and Desa Cibeureum

This subchapter presents population, gender, density, and settlement data for Kabupaten Bogor, Kecamatan Cisarua, and Desa Cibeureum. It helps assess community exposure, vulnerable groups, labour opportunities, and the scale of potential social impacts.

Kabupaten Bogor is one of the most populated regencies in West Java. In 2025, it had a total population of 5,721,618 people, consisting of 2,930,563 males and 2,791,055 females. Kecamatan Cisarua, where RSGP is located, had a 2025 population of 133,174 people, consisting of 68,998 males and 64,176 females. This indicates a slightly male-dominant population structure.

For village-level assessment, Kecamatan Cisarua Dalam Angka 2025 reports that Kecamatan Cisarua had 136,841 people in 2024, consisting of 70,760 males and 66,081 females. The district had a population density of 1,919 people/km² and a sex ratio of 107 males per 100 females. Desa Cibeureum, the host village of RSGP, had 17,873 people, consisting of 9,312 males and 8,561 females. Desa Cibeureum accounted for 13.06% of Kecamatan Cisarua's population and had a density of 1,583 people/km².

Desa Cibeureum is not the most densely populated village in Kecamatan Cisarua, but its population size is significant and it directly hosts the hospital campus. This means project impacts are not limited to hospital users, nearby residents may also experience construction-related disturbance, especially from vehicle movements, noise, dust, temporary access changes, and community safety risks.

Table 44 Demographic Profile[2]

Indicator	Kabupaten Bogor, 2025	Kecamatan Cisarua, 2025	Kecamatan Cisarua, 2024	Desa Cibeureum, 2024	ESIA Relevance
Total population	5,721,618	133,174	136,841	17,873	Defines exposed population and service catchment
Male population	2,930,563	68,998	70,76	9,312	Supports gender-disaggregated baseline
Female population	2,791,055	64,176	66,081	8,561	Supports gender-disaggregated baseline
Sex ratio	Approx. 105	Approx. 108	107	109	Indicates slightly male-dominant local structure
Area	2,991.78 km²		71.32 km²	11.29 km²	Confirms RSGP location in a highland subdistrict
Population density	Approx. 1,912/km²		1,919/km²	1,583/km²	Indicates community exposure to traffic, dust, noise and access disruption

[2] [A] **Kabupaten Bogor, 2025** and **Kecamatan Cisarua, 2025** data are from *Kabupaten Bogor Dalam Angka 2026*. [B] **Kecamatan Cisarua, 2024** and **Desa Cibeureum, 2024** data are from *Kecamatan Cisarua Dalam Angka 2025*

From this demographic data, ESIA can identify how many people will potentially be affected by this hospital development activity, especially for people in the Cisarua District area.

The potential impact of labor absorption in the construction and operational phases will also be included in the impact analysis, so that it can be estimated how many people of productive age will have a positive impact from this activity.

5.4 Community Perception Survey

To supplement the secondary socio-economic baseline and stakeholder consultation findings, a structured community perception questionnaire was conducted in June 2026 with 53 respondents within the Project Area of Influence. The survey collected information on respondent characteristics, hospital use, socio-economic conditions, access and traffic issues, environmental concerns, awareness of the proposed redevelopment, grievance channels, and community expectations. The results provide primary baseline evidence for assessing social risks and benefits linked to the redevelopment of RS Goenawan Partowidigdo.

Respondent Profile

Most respondents were residents of Desa Cibeureum, representing approximately 74% of the survey sample. The respondents were predominantly male, accounting for about 52% of the total. The largest age group was 46–60 years, representing around 38% of respondents. In terms of education, most respondents had completed senior secondary education, with approximately 75% reporting SMA/SLTA as their highest education level. This indicates that the survey largely reflects the views of nearby adult residents with direct familiarity with the hospital and its surrounding area.

Relationship with the Hospital

The survey shows that RS Goenawan Partowidigdo is already well known and frequently used by the surrounding community. Approximately 92% of respondents stated that they were familiar with the hospital, and around 85% had previously used hospital services. The most commonly accessed services were outpatient care, inpatient care, and emergency services. More than half of respondents, approximately 52%, live directly adjacent to or very close to the hospital. Access to the hospital is mainly by private motorcycle and walking, which reflects the close relationship between the hospital and nearby settlements.

Existing Community Issues

The main issue identified by respondents was waiting time for services, reported by approximately 29% of respondents. Other issues included unclear service information and traffic congestion around the hospital. These concerns represent existing baseline conditions and should not automatically be treated as project impacts. However, they are relevant because construction activities may worsen these issues if access, communication, and service continuity are not properly managed.

Grievance and Complaint Channels

Awareness of existing complaint channels remains limited. Approximately 57% of respondents stated that they did not know the hospital's complaint channels, while around 92% had never submitted a complaint. This suggests that the existing grievance system is not yet fully visible to nearby communities. For the Project, this finding supports the need for stronger disclosure of the Project-level GRM, including clear information on where complaints can be submitted, expected response times, confidentiality arrangements, and accessible options for vulnerable or low-literacy complainants.

Socio-economic Conditions

The respondents represented a mix of occupations, including private-sector workers, traders, self-employed persons, and unemployed residents. Approximately 49% reported monthly household income below IDR 2 million, and around one-third considered their income insufficient to meet household needs. This indicates that parts of the surrounding community have relatively limited economic resilience. Respondents identified local employment, business opportunities, and skills training as the main expected economic benefits from the redevelopment.

Local Employment and Business Expectations

A strong expectation from respondents was that local residents should be prioritised for project-related opportunities where they meet the required qualifications. These opportunities include construction jobs, operational jobs, procurement, food supply, small trading, transport services, and other supporting services. This expectation should be reflected carefully in the ESMP as a local hiring and local procurement measure, while also avoiding unrealistic promises. The Project should clearly communicate that local recruitment will be prioritised where skills, experience, and legal requirements are met.

Traffic and Access Conditions

Traffic congestion was one of the most frequently raised local concerns. Respondents noted that roads around the hospital are affected by congestion, and some also raised concerns about pedestrian safety and the movement of larger vehicles. These findings are important because construction may increase vehicle movements and create temporary access disruption. The ESMP should therefore require a construction traffic management plan, clear access control, separation of construction and hospital traffic where possible, delivery time restrictions, flagmen or marshals, and continued safe access for patients, ambulances, pedestrians, and nearby residents.

Environmental and Sanitation Conditions

Most respondents reported that household water is obtained from wells or public water supply, and approximately 96% considered existing water quality to be good. Household sanitation is generally based on private septic tanks, while solid waste is mainly collected through municipal waste services. These findings indicate that local residents may be sensitive to any perceived change in water quality, drainage, waste management, dust, or construction runoff. The Project should therefore maintain strict controls on wastewater, drainage, construction waste, dust, and spill prevention.

Awareness of the Redevelopment Plan

Community awareness of the proposed redevelopment remains limited. Approximately 59% of respondents had not yet heard about the redevelopment plan, while around 37% had only heard limited information. This shows a clear need for stronger information disclosure before and during construction. Information should be simple, regular, and accessible, covering the project schedule, construction phases, expected disturbances, access changes, complaint channels, and measures to maintain hospital services.

CSR and Community Programme Awareness

Awareness of existing hospital CSR or community programmes was also limited, with approximately 62% of respondents stating that they were not aware of such programmes. This does not necessarily mean that activities are absent, but it suggests that communication and visibility may be weak. The Project can use this as an opportunity to improve community outreach, especially through health education, local health screening, and engagement with village officials, community leaders, women's groups, youth groups, and vulnerable households.

Cultural Heritage Awareness

Approximately 62% of respondents were aware that there are historical or heritage-related buildings within the hospital area. This indicates that heritage is not only a technical or regulatory issue, but also part of local community perception and identity. The Project should therefore ensure that heritage-related information is clearly communicated and that any works near historic buildings are managed carefully through the Cultural Heritage Management Plan, including documentation, vibration control, chance-find procedures, and coordination with relevant cultural heritage authorities.

Community Support and Expectations

Overall, respondents showed generally positive views toward the redevelopment because it is expected to improve health services, hospital capacity, and local economic opportunities. However, support is linked to proper management of construction impacts. Key expectations include control of traffic, dust, noise, vibration, waste, drainage, and wastewater, protection of public access and nearby facilities, continued hospital services during construction, fair access to local job and business opportunities, attention to vulnerable groups, regular information disclosure, and protection of heritage buildings.

The questionnaire results confirm that the redevelopment is generally viewed as beneficial, especially for health service improvement and local economic opportunities. However, the results also identify several baseline sensitivities that must be addressed in the impact assessment and ESMP. These include traffic and access disruption, construction nuisance, service continuity, low awareness of grievance channels, local economic vulnerability, expectations for local benefits, and community interest in heritage protection. Therefore, the findings should directly inform the assessment of Community Health and Safety, Traffic and Access, Socio-economic Impacts, Stakeholder Engagement, GRM, and Cultural Heritage in the ESIA.

5.5 Settlement Pattern and Local Social Context

This subchapter explains the local setting around RSGP, including residential areas, public services, small trade, tourism activity, local access routes, and traffic along the Puncak corridor. It informs traffic management, access planning, community safety, service-continuity measures, stakeholder engagement, and the project GRM.

RSGP is located on Jalan Raya Puncak KM 83, Desa Cibeureum, Kecamatan Cisarua, within the Bogor–Puncak–Cianjur corridor. The location is strategically accessible because it is directly connected to the main Puncak road and is close to the Taman Safari junction. This makes the hospital easy to identify for patients, visitors, ambulances, staff, suppliers, tourists, and local road users. The Feasibility Study identifies three main access layers to RSGP: Tol Jagorawi / Ciawi–Gadog access, Jalan Raya Puncak, and local Cisarua–Cibeureum–tourism area roads. Jalan Raya Puncak is the direct access for patients, ambulances, visitors, staff and logistics, while local roads function as feeder roads from settlements, hotels, villas, tourist facilities and local services.

Kecamatan Cisarua consists of 10 villages/kelurahan. Desa Cibeureum covers 11.29 km², or 15.83% of the total area of Kecamatan Cisarua. By area, it is one of the larger villages in the subdistrict after Tugu Selatan and Tugu Utara. Its population density of 1,583 people/km² is lower than the Cisarua average but still indicates a populated peri-urban and tourism corridor setting.

The area around RSGP is shaped by residential settlement, public services, small trade, tourism-related activity, transport movement, and institutional health services. The location along the Puncak corridor increases exposure to traffic congestion and seasonal visitor flows, especially during weekends and holidays.

The traffic baseline is sensitive because the hospital is located in the Puncak tourism corridor. The Feasibility Study notes that this corridor has high traffic density, especially during weekends, public holidays, school holidays and tourism periods. Traffic management is often applied around Simpang Gadog and along the Puncak main road to control vehicle density. This can affect ambulance travel time, referral patients, staff arrival, medical logistics and construction deliveries. Therefore, the hospital location is both strategic and traffic-sensitive.

Traffic is generally expected to be more manageable on normal weekdays outside commuter and tourism peak periods. As a preliminary planning assumption, construction logistics should preferably be scheduled on normal weekdays between around 09:00–11:00 and 13:00–15:00, subject to confirmation by the ANDALALIN, Dishub and Satlantas. Deliveries should avoid early morning hospital access peaks, afternoon return traffic, Friday evening travel, Saturday tourist movements toward Puncak, Sunday afternoon/evening return traffic, long weekends, public holidays, school holidays, Lebaran, Christmas–New Year, and any period when one-way, odd-even, diversion or road closure systems are applied. Polri has confirmed that Puncak traffic management can include one-way and odd-even arrangements when tourist traffic increases, particularly during holiday periods.

The Taman Safari junction is an important local transport node because it connects Jalan Raya Puncak with access to Taman Safari and the Cibeureum area. The Feasibility Study notes that public transport users may reach the area through Bogor/Baranangsiang–Ciawi–Gadog–Megamendung–Cisarua–

Puncak routes and then continue from the nearest drop-off point by walking, ojek, online taxi, or local feeder transport. However, this also means that the same node serves hospital users, tourists, local residents, small businesses, and informal transport services. During weekends and holidays, traffic at this junction can affect access reliability to the hospital.

Local access around RSGP includes smaller feeder roads serving settlements, small shops, local service providers, tourism-related facilities, and community movements. These roads are likely to be used by pedestrians, motorcycles, ojek, local delivery vehicles, patients and family members, and residents accessing their homes or businesses. The direct social area of influence therefore includes the hospital campus, nearby residents of Desa Cibeureum, road users along Jalan Raya Puncak, ambulance users, suppliers, vendors and local businesses that may be affected by construction traffic, access changes, dust, noise and temporary service-flow changes.

Road safety is already a relevant baseline issue for Kabupaten Bogor and the Puncak corridor. Available emergency-call information from Bogor Siaga 112 shows repeated traffic accident reports in 2026, including motorcycle accidents, truck-related accidents, injuries requiring ambulance response, and some severe or fatal cases. Public reporting of Polres Bogor's year-end information also indicates that although traffic accidents in Kabupaten Bogor reportedly decreased by 6.43% in 2025 and fatality indicators decreased, the police still identified traffic accident black spots where road conditions may include poor lighting, slippery surfaces, and inadequate signs or markings. This information should be treated as regency-level and corridor-level context, not yet as a site-specific accident baseline for the hospital gate.

Community property and access conditions also need to be recorded before construction. The surrounding area includes residential use, small trade, services, tourism activity, and local public movement. Social issue documentation for Desa Cibeureum describes the village as having mixed economic activities, including trade, services, agriculture and tourism, and identifies local issues related to drainage, waste, health awareness, youth activities, and security. For traffic impact assessment, this means the baseline should not only record road width and vehicle volume, but also nearby house fronts, shop fronts, fences, drains, roadside shoulders, informal parking areas, utility poles, pedestrian paths, ojek waiting points, vendor areas and access to private/community property along any proposed construction vehicle route.

A specific local access issue should be included around the existing IPAL area. Part of the land around the current IPAL is reportedly used by local villagers as an informal access route. If this area is used for construction, temporary works, utility relocation, or new facility development, community access may be changed. This could create social concern even if no formal land acquisition occurs. The ESIA should verify the users of this access, document the route through photographs and mapping, consult Desa Cibeureum and RT/RW representatives, and agree on a safe temporary alternative route before disruption occurs.

For impact assessment purposes, the traffic and access baseline should therefore be considered moderate to high sensitivity because it involves an operating referral hospital, emergency access, patients with respiratory illness, local residents, pedestrians, small businesses, local transport users, tourism traffic and potential accident risks. The project may add impacts through construction trucks,

material delivery, spoil transport, temporary access changes, reduced parking, pedestrian safety risks, dust, vibration, runoff onto local roads, and possible damage to community property such as drains, walls, gates, shop fronts, pavements or road shoulders. These risks should be managed through the Construction Traffic Management Plan, Hospital Service Continuity Plan, Stakeholder Engagement Plan, and Project GRM.

5.6 Gender, Disability and Vulnerable Groups Baseline

This subchapter identifies how women, caregivers, elderly people, children, persons with disabilities, patients, and female staff may be affected differently. It supports gender-responsive, disability-inclusive, and GBV/SEAH-sensitive mitigation and monitoring.

Gender-Based Violence (GBV) remains a critical systemic challenge in Cisarua and the broader West Java province, consistently driven by severe underreporting, social stigma, and complex local demographics. On a provincial scale, West Java leading national indicators for violence against women aligns with broader assessments from Indonesia's National Commission on Violence Against Women (*Komnas Perempuan*), national baselines show that 1 in 3 Indonesian women (33.4%) aged 15–64 have experienced physical or sexual violence in their lifetime. Across the country, law enforcement networks like the Indonesian National Police (INP) recorded over 36,000 gender-based violence cases, illustrating the immense scale of the crisis, yet highlighting structural backlogs where only a fraction of cases reach resolution.

At the local level, Cisarua's specific position as a major transit hub for refugees and asylum seekers (predominantly ethnic Hazaras from Afghanistan, Pakistan and Iran. Many lived independently in rented accommodation and operated refugee-led learning centres) introduces unique vulnerabilities Relevant vulnerabilities include livelihood insecurity, interrupted education, psychosocial distress, housing and exploitation risks, language and information barriers, limited access to specialist healthcare, stigma and underreporting of abuse. Their legal and economic circumstances may increase vulnerability and reduce access to reporting and support.

Annual Volume: Regional database estimates via the West Java SIMFONI PPA place annual registered cases of violence against women and children in Bogor Regency at over 150 to 200 formally managed cases annually across its 40 sub-districts. a consolidated, isolated dataset tracking on Cisarua does not exist in public domain registries, At the Bogor regency level, available administrative and police data indicate the following:

- In 2024, a publicly reported Bogor Regency dataset recorded approximately 355 cases of violence against women and children.
- In 2025, Bogor Police recorded 371 reports handled by its women, children and human-trafficking protection function. Of these, 160 were reported as completed. “Completed” should not be interpreted as meaning that all cases resulted in prosecution or court conviction because the published information does not provide that level of detail.

- As of early February 2026, the same police function had recorded 45 reports, of which eight were reported as completed. This is partial-year information and should not be used to project the total number of cases for 2026.

These figures are not necessarily directly comparable because they may cover different reporting periods, types of violence, administrative systems, case definitions and stages of case handling. They represent cases reported to or recorded by government and police institutions rather than the actual prevalence of violence. The real number may be higher because GBV is frequently underreported due to stigma, fear of retaliation, economic dependency, privacy concerns, limited knowledge of services and lack of trust in reporting mechanisms.

Gender considerations are relevant to the RSGP redevelopment because the hospital serves a mixed population of patients, caregivers, staff, students, contractors, and surrounding communities.

Women, men, elderly persons, children, persons with disabilities, and patients with chronic respiratory conditions may experience the project differently, especially during construction when access routes, waiting areas, service flows, traffic, dust, noise, and temporary relocation of hospital functions may change.

Table 45 Number of Personnel Cadre

Personnel Cadre (per profile 2024)	Male	Female	Total
TOTAL (Profile 2024)	253	195	448

Based on the 2024 hospital profile, RSGP had 448 staff, consisting of 253 male staff, 56.5%, and 195 female staff, 43.5%. Updated 2026 sex-disaggregated workforce data will be confirmed with the Human Resources Unit.

Women are likely to be represented both as patients and as caregivers accompanying children, elderly patients, TB patients, and family members requiring repeated outpatient or inpatient care. Caregiving responsibilities may increase women's time burden where hospital access, waiting time, wayfinding, or service continuity is disrupted. For this reason, the ESIA should consider safe and clear pedestrian routes, accessible waiting areas, toilets, prayer rooms, lactation rooms, and information channels that are usable by caregivers, elderly visitors, and persons with disabilities.

Female staff, including nurses, doctors, administrative staff, laboratory staff, cleaners, and support workers, may also face specific risks during construction and operation. These include night-shift safety, movement through temporary corridors, access to separate toilets and changing areas, workplace violence or harassment, fatigue, and exposure to infectious or hazardous materials. The project should therefore ensure gender-responsive workplace facilities, safe circulation, adequate lighting, confidential reporting channels, and training on GBV/SEAH prevention and respectful workplace conduct.

The redevelopment also needs to maintain privacy, dignity, and safety for patients and visitors. Relevant baseline issues include the availability and adequacy of separate toilets, accessible toilets, private consultation and treatment spaces, screens or curtains in clinical areas, safe lighting,

controlled access to sensitive areas, and accessible routes for wheelchair users and persons with limited mobility. These issues are directly linked to patient trust, service quality, infection prevention, and the hospital's ability to provide inclusive healthcare services.

Potential GBV/SEAH and harassment risks should be managed as a specific community health and safety issue under the ESMP. Although the review of RSGP's 2025 grievance/community complaint logs for Quarters I-IV did not identify any complaint explicitly recorded as GBV, SEAH, sexual harassment, sexual exploitation, or gender-based violence, this should not be interpreted as absence of risk because such cases are often underreported. Construction activities may introduce contractor workers, temporary access changes, and new interaction points with patients, caregivers, staff, vendors, and local communities. The ESMP should therefore require a zero-tolerance worker Code of Conduct, induction training, separation of construction and public hospital areas, safe and well-lit temporary access routes, confidential and anonymous complaint channels linked to the project GRM, trained personnel for sensitive case handling, and survivor-centred response procedures.

Sex-disaggregated baseline data shall be compiled before finalisation of the ESIA and, at the latest, before construction mobilisation. Available data are presented below. RSGP HR and Medical Records/SIRS shall provide updated 2026 male/female data where routinely available, while the Contractor shall provide sex-disaggregated project workforce data before mobilisation. During construction, relevant gender-disaggregated indicators shall be updated monthly.

Table 46 RSPG Workforce by Gender

Group	Male	Female	Total / Available Data	Period / Status
PNS	142	136	278	31-Dec-24
PPPK	52	41	93	31-Dec-24
BLU-funded personnel	50	8	58	31-Dec-24
Contract personnel	9	10	19	31-Dec-24
Total RSGP personnel	**253**	**195**	**448**	Verified 2024 data

The verified workforce breakdown shows 253 male and 195 female staff, including 19 contract personnel (9 male and 10 female). The 2026 FS figure of 481 personnel is only a projected requirement and should not be presented as an actual 2026 workforce figure.

For patients, the available 2021–2025 statistics are service volumes and are not yet sex-disaggregated. RSGP Medical Records/SIRS should therefore provide aggregate male/female patient data for the final ESIA where these are routinely recorded. Caregiver and visitor data should be collected only at aggregate level without intrusive personal-data collection.

5.7 Healthcare Service Context

This subchapter explains RSGP's role as an active pulmonary referral and teaching hospital. It is important for assessing risks to service continuity, emergency access, infection prevention, patient safety, and temporary relocation of hospital functions.

Kecamatan Cisarua has limited higher-level health infrastructure compared with the wider Kabupaten Bogor health system. Kabupaten Bogor Dalam Angka 2026 records 27 general hospitals and four specialised hospitals across Kabupaten Bogor in 2024. However, Cisarua itself recorded no general hospital and only one specialised hospital, consistent with the presence of RSGP. The surrounding highland corridor also remains limited, Ciawi recorded two general hospitals, while Megamendung recorded no general or specialised hospital. At the primary care level, Cisarua had two non-inpatient Puskesmas and three auxiliary health centres (Pustu), with no inpatient Puskesmas. This confirms RSGP's strategic role as the only higher-level specialised hospital facility within Cisarua.

In spatial terms, RSGP is relatively close to RSUD Cimacan in Cianjur, approximately 11 km away, and to RSUD Ciawi, approximately 20 km away, but other referral hospitals are farther away, including RSUD Kota Bogor and RS Marzoeki Mahdi at approximately 35-40 km, RSUD Cibinong at approximately 50-55 km, and RSUD Cileungsi and RSUD Leuwiliang at greater distances. These distances are important because the Puncak corridor is affected by weekend, holiday, and tourism-related congestion, which can increase travel time for patients, referrals, ambulances, staff, and supply movements. The redevelopment of RSGP is therefore justified not only by service expansion needs, but also by its role in maintaining specialised pulmonary, TB/MDR-TB, respiratory, emergency, and referral services for Cisarua, Megamendung, the wider Bogor highland area, and cross-boundary users from Cianjur and Sukabumi.

RSGP operates within a referral hierarchy that includes Puskesmas at the sub-district level (Puskesmas Cisarua, Puskesmas Megamendung, Puskesmas Cibulan, among others), district level public hospitals (RSUD Ciawi, RSUD Cibinong, RSUD Cileungsi, RSUD Cimacan, RSUD Leuwiliang), provincial-tier and national-tier referral hospitals (RSUP Persahabatan Jakarta for pulmonary, RSUD Cipto Mangunkusumo for general tertiary), and a dense network of private and corporate hospitals across Greater Jakarta and Bogor. Within this network, RSGP's specialty differentiator is its long-standing pulmonary, MDR-TB, and cardiothoracic surgery competence, particularly being the only facility in the Bogor region with cardiothoracic surgery service. Existing institutional partnerships span 42+ regional and national hospitals, the Universitas Indonesia and UIN Syarif Hidayatullah PPDS programmes, and corporate insurers including Inhealth, Admedika, Jasa Raharja, and Taspen.

- Local Public Health Center, Cisarua, Megamendung, Cibulan (referral pathway feeding RSGP)
- District public hospitals (referral peer / receive transfers), RSUD Ciawi, Bogor city, Cibinong, Cileungsi, Cimacan, Leuwiliang
- Provincial / national peers, RSUP Persahabatan Jakarta (pulmonary), RS Penyakit Infeksi Sulianti Saroso, RS Marzuki Mahdi (mental health, also Bogor)

- PPDS partners, Universitas Indonesia, Universitas Islam Negeri Syarif Hidayatullah, cooperation history also with Universitas Kristen Indonesia (FK-UKI) 2004-2010

RSGP operates within a multi-level referral system that includes local puskesmas, district hospitals, provincial and national referral hospitals, private hospitals, and teaching institutions. Local referral facilities include Puskesmas Cisarua, Puskesmas Megamendung, and Puskesmas Cibulan. District-level and nearby hospitals include RSUD Ciawi, RSUD Kota Bogor, RSUD Cibinong, RSUD Cileungsi, RSUD Cimacan, and RSUD Leuwiliang. National and specialist peers include RSUP Persahabatan Jakarta, RS Penyakit Infeksi Sulianti Saroso, and other tertiary referral facilities.

Within this healthcare network, RSGP has a clear specialist role in pulmonary and respiratory care, including TB and MDR-TB services, pulmonary specialist services, and cardiothoracic surgery. The ESIA notes that RSGP is differentiated by its long-standing pulmonary, MDR-TB, and cardiothoracic competence, including being the only facility in the Bogor regional network with cardiothoracic surgery services.

The redevelopment is intended to support RSGP's transformation from a pulmonary specialist hospital into a general hospital with pulmonary excellence and a teaching hospital function. The project includes Building A for emergency, diagnostic, ICU, operating theatre, cathlab, and laboratory functions, Building B for outpatient and inpatient services, Building C for JKN and priority service blocks, and Building J-M for education, training, research, OSCE, simulation, laboratory, and auditorium functions.

The hospital has growing service demand. Outpatient visits increased from 38,154 in 2021 to 58,569 in 2025, with JKN/BPJS patients becoming the dominant patient group. The Feasibility Study notes that this growth reflects the hospital's stronger public-service role, but also shows limited ability to attract non-JKN patients due to current facility limitations, including comfort, privacy, waiting time, and value-added services.

Inpatient admissions increased from 4,184 patients in 2021 to 10,050 patients in 2025. The share of BPJS/JKN inpatient users increased from 85% in 2021 to 94% in 2025, while non-JKN patients declined to around 6% in 2025. This confirms RSGP's important social role in providing accessible services, but also indicates a need to improve service quality and infrastructure to maintain financial sustainability.

Emergency department visits also increased from 10,667 in 2021 to 18,864 in 2025, peaking at 19,937 in 2024. This indicates increasing pressure on emergency services and supports the need for improved emergency and diagnostic facilities.

5.8 Workforce Profile

This subchapter describes the existing hospital workforce and local labour context. It informs labour management, OHS planning, worker GRM, local hiring, training needs, and gender-responsive workplace measures.

As per December 2024, RSGP operated with a workforce of 448 personnel, 253 male (56.5%) and 195 female (43.5%), across the medical, nursing, allied health, and administrative cadres. The composition

reflects the long-standing Government workforce model of PNS (civil servants), supplemented by P3K (government employees on contract), BLU-funded staff, and contract personnel. The Pre-FS Tabel 11 highlights the BPS data for Bogor district shows that education participation remains stronger at primary level than secondary level.

Table 47 Specialty-Specific Workforce Particularly Relevant to The Pulmonary and TB Programme

Personnel Cadre (per profile 2024)	Male	Female	Total
Doctors (General + specialist + dentist)	19	21	40
Nurses (Perawat)	92	91	183
Anaesthesia nurses	1	2	3
Midwives	3	1	4
Pharmacists (Apoteker)	0	8	8
Pharmacy assistants	2	12	14
Lab and Blood Bank analysts	11	15	26
Radiographers	5	3	8
Dieticians (Nutrisionis)	0	4	4
Physiotherapists	2	1	3
Other health workers and admin (large bucket)	110	38	148
TOTAL (Profile 2024)	253	195	448
Pulmonary specialists (Sp.P)		7 (incl. 5 consultants)	
Nurses certified for MDR-TB care (Perawat tersertifikasi TB-RO)		13	
Lab personnel for TB (microscopy, media/reagent prep, BSL practice, culture, C-DST)		7	
Pharmacy personnel certified for cytotoxic handling		4	
Radiology personnel		9	

In 2025, the Net Enrolment Rate (APM) was 98.07% for SD/MI, 80.90% for SMP/MTs, and 59.97% for SMA/SMK/MA. The literacy rate for residents aged 15 years and above was 98.58%, while literacy among residents aged 60 years and above was lower, particularly among elderly women.

Table 48 Male and Female Comparation Profile

Indicator	Total	Male	Female
Labour force	2,839,349	1,937,187	902,162
Working population	2,620,918	1,783,811	837,107
Open unemployment	218,431	153,376	65,055
Non-labour force	1,551,109	312,142	1,238,967

The relatively lower participation at senior secondary level is relevant for local recruitment planning. Construction contractors should not assume that all local jobseekers have technical qualifications. Local hiring should therefore be linked with clear job information, simple application procedures, induction training, OHS training, and non-discriminatory recruitment.

5.9 Economic and Livelihood Context

This subchapter explains RSGP's role in local employment, procurement, patient and visitor spending, and future teaching-hospital activity. It helps assess local economic benefits and measures to maximise local hiring and supplier participation.

The Cisarua Puncak local economy is anchored by domestic tourism (homestays, villas, restaurants, retail), tea estate employment at Gunung Mas, market gardening, and a growing service economy linked to the Greater Jakarta weekend market. RSGP's direct economic contribution is significant at the kecamatan level, 448 staff, supplier procurement, and patient/visitor expenditure, and the redevelopment will increase this contribution through construction-phase employment, expanded operational workforce, and additional patient/visitor flows. The Hospital's transformation into a teaching hospital (RSPPU) will additionally inject medical-trainee economic activity (housing, transport, retail).

BPS data indicates that Kecamatan Cisarua has limited local public health infrastructure compared with the broader regency health system. In the health facility table, Cisarua recorded one specialised hospital, which is consistent with the presence of RSGP, and two non-inpatient Puskesmas. This confirms the strategic role of RSGP as a higher-level health facility in the local area.

RSGP is not only a project site but also an active health service provider for vulnerable patient groups. Construction must therefore avoid disrupting emergency access, outpatient movement, inpatient care, TB/MDR-TB pathways, infection prevention, and patient safety.

Within this local economy, RSGP functions as an important institutional economic anchor. The Hospital directly employs 448 personnel as of the 2024 institutional profile, consisting of 253 male and 195 female staff, across medical, nursing, allied health, administrative, and support functions. The Feasibility Study projects that RSGP's workforce may increase to approximately 639 personnel by 2030, subject to final service portfolio, DED confirmation, and Ministry of Health staffing approval. This indicates a potential direct employment uplift of around 191 formal jobs after redevelopment.

RSGP also contributes to the local economy through patient, visitor, staff, supplier, and trainee spending. Existing utilisation data show increasing demand for RSGP services. Outpatient visits increased from 38,154 visits in 2021 to 58,569 visits in 2025, while inpatient admissions increased from 4,184 patients in 2021 to 10,050 patients in 2025. Emergency visits also increased from 10,667 visits in 2021 to 18,864 visits in 2025. These patient and visitor flows support local spending on food, transport, parking, small retail, pharmacies, accommodation, and other services around Desa Cibeureum and the wider Cisarua Puncak corridor.

A preliminary estimate indicates that existing patient and visitor activity may generate approximately IDR 3.5-6.1 billion per year in locally retained expenditure, excluding hospital medical revenue, insurance payments, and large pharmacy bills. Following redevelopment, the increase in bed capacity, expanded clinical services, and higher patient and visitor flows could increase locally retained patient/visitor expenditure to approximately IDR 6.1-10.3 billion per year, representing an estimated uplift of IDR 2.5-4.3 billion per year. This estimate is indicative and should be updated once patient-

origin data and visitor-count data are extracted from the RSGP Medical Records and operational systems.

Table 49 RS Goenawan Partowidigdo Economic Contribution Profile

Economic Contribution Channel	Existing Baseline	Post-Redevelopment Projection	Expected Local Effect
Direct RSGP employment	448 personnel	Approximately 639 personnel by 2030	Increased formal employment and wage circulation
Patient and visitor local spending	IDR 3.5-6.1 billion/year	IDR 6.1-10.3 billion/year	Higher demand for food, transport, retail, parking, pharmacies, and accommodation
Construction procurement	Not applicable under baseline	Civil works and construction-support packages	Temporary demand for labour, transport, materials, security, cleaning, food, and local logistics
Teaching hospital activity	Existing education partnerships	Expanded RSPPU role	Additional trainee, lecturer, research, accommodation, transport, and retail spending
On-site tenants and service providers	BRI Branch Office, Indomaret, Kantin Dharma Wanita	No relocation currently expected, temporary construction disturbance possible	Continued service provision, but potential temporary access, delivery, signage, visibility, utility, dust, noise, and customer-flow impacts

However, the local economic benefits of the redevelopment should be assessed together with the potential adverse effects of temporary labour influx during construction. The final number of construction workers has not yet been confirmed and should be updated once the contractor's manpower plan, accommodation strategy, and construction phasing are available. If a significant share of workers is recruited from outside Cisarua or Kabupaten Bogor, temporary population pressure may occur around Desa Cibeureum and the wider Puncak corridor.

During construction, non-local workers may increase local spending on food, drinks, laundry, transport, mobile phone services, daily goods, and short-term accommodation. This can create positive income opportunities for food traders, warung, small shops, transport providers, boarding house owners, and local suppliers. Existing food vendors and small traders around the hospital may benefit from higher daily demand, especially during peak construction periods. Local catering and food supply arrangements may also provide opportunities for women-owned or household-based businesses if procurement is managed transparently.

At the same time, labour influx may create competition and price pressure in the local economy. Increased worker demand for meals and daily goods could raise prices near the project site, especially if supply is limited or concentrated in a small number of vendors. If procurement is dominated by large or non-local suppliers, local traders may receive limited benefit while still experiencing congestion, waste, access disruption, and competition from new temporary vendors. Informal food stalls may also

increase around construction access points, which could affect pedestrian safety, traffic flow, sanitation, waste management, and hospital cleanliness if not properly controlled.

Temporary demand for accommodation may also increase competition for rent. Construction workers, supervisors, subcontractors, and technical staff may seek rooms, boarding houses, rented houses, villas, homestays, or low-cost accommodation near the hospital. In the Puncak corridor, where accommodation is also influenced by tourism demand, this may increase rental prices or reduce the availability of affordable rooms for local residents, hospital staff, students, seasonal workers, and lower-income households. The impact is expected to be temporary and localized, but it could become moderate if the contractor relies heavily on unplanned local rentals without prior mapping and coordination.

Labour influx may also increase pressure on local public services. Workers may use local roads, public transport, water supply, sanitation, waste collection, security services, village administration, Puskesmas services, pharmacies, and emergency health services. This could add pressure to services that are already serving residents, tourists, hospital users, and vulnerable patients. The risk is particularly relevant because RSGP is an active referral hospital and construction must not increase waiting times, disturb emergency access, or shift worker-related health and safety burdens onto local public health facilities.

Labour influx and increased interaction between construction workers, hospital users, and surrounding communities may also create risks of Gender-Based Violence (GBV), Sexual Exploitation and Abuse (SEA), and Sexual Harassment (SH). These risks require separate assessment because construction will take place within an active hospital environment and will introduce contractor workers, subcontractors, drivers, security personnel, suppliers, and other temporary workers into areas used daily by hospital staff, patients, caregivers, visitors, vendors, and nearby communities. AIIB guidance for health-sector projects specifically recognises that inadequate privacy, overcrowding, poor lighting, and weak accountability can increase SEAH risks for patients and health workers, particularly women and girls.

For the surrounding community, exposure may occur around construction gates, local shops and food-vendor areas, public transport stops, worker accommodation, recruitment points, and procurement or vendor-selection processes. Potential behaviours may include unwanted comments or messages, persistent approaches, stalking, inappropriate touching, intimidation, assault, or requests for sexual acts in exchange for employment, contracts, access to business opportunities, accommodation, or other project-related benefits. Women vendors, female jobseekers, young women, adolescents, and persons in economically dependent positions may have higher vulnerability. These pathways are already identified in the RSGP construction-risk assessment.

For hospital staff and contracted staff, risk may increase where construction changes existing circulation arrangements or creates temporary corridors, shared access points, isolated parking areas, night-time movement, or frequent interaction with contractor personnel. Female nurses, doctors, trainees, administrative personnel, cleaners, outsourced workers, and other workers in lower-power employment positions may face higher exposure to verbal or sexual harassment, unwanted recording or photography, coercive behaviour, intimidation, or retaliation after raising a complaint. The risk may

be greater during night shifts or in areas where lighting, access control, or supervision is temporarily reduced. The ESIA already identifies female staff, patients, and caregivers as vulnerable receptors requiring privacy, lighting, safe access, and GBV/SEAH-sensitive complaint channels.

For patients, caregivers, and visitors, risks may arise from changed pedestrian routes, temporary waiting areas, queues, toilets, parking areas, service-relocation areas, and interfaces between clinical and construction zones. Patients may have reduced mobility, poor health, dependence on caregivers, or limited ability to leave an unsafe situation. Potential risks include harassment, voyeurism, unauthorised photography or recording, inappropriate contact, intimidation, and exploitation of a patient's dependency or vulnerability. Particular protection is required for children, pregnant women, persons with disabilities, elderly patients, female caregivers, and patients receiving treatment in private or sensitive clinical settings.

Available evidence does not establish a verified GBV/SEA/SH prevalence rate for Kecamatan Cisarua, Desa Cibeureum, or RSGP. Review of RSGP's 2025 DUMAS records did not identify complaints specifically coded as GBV, SEA, SH, or sexual harassment, however, this should not be interpreted as evidence that incidents do not occur because DUMAS was not designed as a confidential survivor reporting system and sensitive cases may be underreported. The existing RSGP grievance system nevertheless provides a useful institutional base that can be strengthened with anonymous reporting and a separate confidential pathway for sensitive complaints.

The GBV/SEA/SH impact is assessed as adverse, direct and indirect, mainly site-specific to immediate-local, and associated primarily with the construction period. Although exposure is temporary, physical, psychological, social, health, and employment consequences for an affected person may be serious and long-lasting. Given that final contractor workforce numbers, accommodation arrangements, shifts, transport routes, and security arrangements have not yet been confirmed, the likelihood is assessed as Possible. With Moderate impact magnitude and High receptor sensitivity, the pre-mitigation significance is assessed as High. With full implementation and verification of prevention, safe-access, grievance, and referral measures, residual significance may be reduced to Moderate. A Moderate residual rating does not mean that any incident is acceptable, all allegations require prompt, confidential and survivor-centred handling.

The overall impact is assessed as mixed. The impact on the local economy is beneficial if local hiring, local procurement, food supply, and small-vendor participation are actively managed. However, unplanned labour influx may create minor to moderate adverse impacts through rent competition, price increases, access disruption, informal vendor crowding, waste, sanitation issues, and pressure on public services. Receptors with higher sensitivity include low-income renters, existing small traders, women food vendors, hospital patients and caregivers, public transport users, and nearby households.

Mitigation should therefore include a Labour Influx and Worker Accommodation Management Plan, transparent local recruitment, prioritisation of qualified local workers, mapping of worker accommodation needs, avoidance of unmanaged worker camps or overcrowded rental housing, minimum accommodation standards, and coordination with Desa Cibeureum, Kecamatan Cisarua, Puskesmas Cisarua, and local security authorities. The contractor should provide on-site sanitation,

drinking water, waste management, first aid, worker transport, and health arrangements so that basic worker needs do not place unnecessary pressure on local public services.

To maximise local economic benefit, the contractor should prepare a Local Procurement and Vendor Participation Procedure. This should identify eligible local food vendors, catering providers, laundry services, transport providers, and small suppliers, apply transparent selection criteria, ensure fair payment terms, and provide basic hygiene, food safety, waste, and access-control requirements. Existing vendors and traders affected by changes in access, parking, or hospital circulation should be consulted before construction and given clear information on temporary arrangements. Monitoring indicators should include the number and percentage of local workers hired, number and value of local supplier contracts, number of local food vendors engaged, number of worker accommodation units used, rent or accommodation-related complaints, trader/vendor complaints, access-related complaints, and complaints related to pressure on public services.

In addition to hospital departments and public users, several on-site tenants and service providers operate within the RSGP premises. These include BRI Branch Office, Indomaret, and Kantin Dharma Wanita. BRI provides banking and financial services for staff, patients, visitors, and nearby users. Indomaret provides convenience retail services for hospital users, staff, visitors, and surrounding users. Kantin Dharma Wanita provides food and beverage services, mainly serving hospital staff, visitors, patients' families, and other hospital users.

Based on current project information, these tenants are not expected to be relocated, lose their premises, or experience permanent economic displacement as a result of the redevelopment. They are therefore not treated as project-affected persons for land acquisition or involuntary resettlement purposes at this stage. However, they are livelihood-sensitive receptors because construction may temporarily affect customer flow, pedestrian circulation, delivery access, parking arrangements, utilities, signage, safety, dust, and noise around their operating areas.

Based on information provided by RSGP, BRI and Indomaret are located outside the planned construction footprint and operate under contractual arrangements with RSGP. Kantin Dharma Wanita is also not expected to be affected by the planned construction works. RSGP has confirmed that the current project design does not obstruct access to these facilities and that they are expected to remain accessible and operational during construction. Therefore, none of the three tenants is currently expected to be relocated, lose its premises, or experience permanent economic displacement as a result of the redevelopment. This is consistent with the current social due-diligence conclusion that no tenant removal has been identified.

Table 50 List of Tenant in RSGP

No	Tenant / Service Provider	Indicative Function	Implication
1	BRI Branch Office	Banking and financial services for staff, patients, visitors, and the surrounding community	No relocation or permanent economic displacement expected. Maintain pedestrian/customer and delivery access during construction. Confirm contract expiry and renewal status before mobilisation.

No	Tenant / Service Provider	Indicative Function	Implication
2	Indomaret	Convenience retail for hospital users, staff, visitors, and nearby users	No relocation or permanent economic displacement expected. Maintain customer, delivery, parking and signage access. Confirm contract expiry and renewal status before mobilisation.
3	Kantin Dharma Wanita	Food and beverage service, mainly serving hospital staff, visitors, patients' families, and other users	No relocation and no direct construction impact expected. Maintain access and monitor only if construction phasing or circulation arrangements change.



Figure 47 Tenant in RSGP

The potential impact pathway for tenants is therefore different from physical or economic displacement. The main risk is temporary business disturbance during construction, especially if internal access routes are changed, hoarding blocks visibility, parking areas are shifted, delivery vehicles face restrictions, or pedestrian movement is redirected away from tenant locations. These risks should be managed through the ESMP, Construction Traffic Management Plan, Hospital Service Continuity Plan, stakeholder engagement, and the project-level GRM, rather than through a full RAP.

The redevelopment will also generate short-term construction-phase economic benefits. The current ESIA/Feasibility Study identifies a total investment requirement of approximately IDR 817.79 billion, including IDR 467.84 billion for civil works and IDR 226.86 billion for medical equipment. The highest local capture potential is expected from civil works and construction-support services, including labour, local transport, materials distribution, equipment rental, catering, cleaning, security, and minor subcontracting. Medical equipment procurement is expected to have lower local capture because many items are specialised and likely to be sourced from national or international suppliers.

BPS data also indicates that Kecamatan Cisarua has limited public health infrastructure compared with the broader Kabupaten Bogor health system. In 2024, Cisarua recorded one specialised hospital, consistent with the presence of RSGP, and two non-inpatient Puskesmas. At the broader regency level, Kabupaten Bogor recorded 27 general hospitals, four specialised hospitals, 30 inpatient Puskesmas, and 71 non-inpatient Puskesmas. This confirms RSGP's strategic role as a higher-level referral and specialist health facility in the local area.

RSGP is therefore not only a project site, but also an active service provider and local economic institution. Its redevelopment is expected to create positive economic effects through expanded employment, construction-phase spending, supplier demand, higher patient and visitor activity, and teaching-hospital functions. However, these benefits will not be automatic. To maximise local benefits, the Project should require the contractor and relevant RSGP units to apply transparent local hiring, local supplier mapping, local procurement reporting, and clear public information on job opportunities and procurement requirements.

At the same time, RSGP's economic role must be balanced with its health-service function. The Hospital serves vulnerable patient groups, including TB/MDR-TB patients, low-income JKN users, elderly patients, and patients requiring emergency or infection-control services. Construction must therefore be planned so that emergency access, outpatient movement, inpatient care, TB/MDR-TB pathways, infection prevention, and patient safety are not disrupted. This requires close linkage between this social baseline, the Construction Traffic Management Plan, the Hospital Service Continuity Plan, the C-ESMP, and the GRM.

5.10 Stakeholder Mapping

A more detailed stakeholder register, including interest-influence analysis, engagement methods, disclosure channels, responsibilities, and consultation schedules, is provided in Chapter 9 – Stakeholder Engagement and Annex C – Stakeholder Engagement Plan (SEP). Stakeholder identification remains preliminary and will be operationalised through institutional interviews, community FGDs, consultations with patients and vulnerable groups, academic partner workshops, workforce briefings, and engagement with NGOs and local media.

Based on the initial mapping, stakeholders with high influence and high interest include the Ministry of Health, AIIB, RSGP management, Bogor district authorities, DLH, Department of Transportation, and cultural heritage and conservation authorities. Stakeholders with high interest but generally lower formal influence include patients, families, hospital staff, contractor and subcontractor workers, local residents, road users, nearby businesses, vendors, and vulnerable groups. NGOs and local media may

have moderate to high influence because of their roles in community advocacy, public information, and oversight. These stakeholders require timely, accessible, transparent, and two-way engagement.

Stakeholder engagement will be implemented in two main phases. Phase 1, during ESIA preparation, will include institutional interviews, community consultation in Cibeureum Village, consultations with patients and vulnerable groups, academic partner engagement, workforce briefings, and engagement with relevant NGOs and local media. Phase 2, following disclosure and before construction mobilisation, will include public disclosure of the ESIA/ESMP, a feedback period, formal AMDAL consultation, contractor and subcontractor worker engagement, and documentation of responses to comments. Disclosure should use accessible language and formats, including Bahasa Indonesia summaries and oral explanations where needed. NGOs and local media should receive accurate, timely, and non-confidential project information through a designated contact person.

Special attention should be given to stakeholders who may face barriers to participation, including TB/MDR-TB patients, ODHA, elderly patients, persons with disabilities, women, low-income/JKN patients, caregivers, and temporary, migrant, female, or subcontracted construction workers. Engagement with these groups should use safe, accessible, and confidential channels where appropriate. Construction workers should receive pre-mobilisation consultation, induction, regular toolbox briefings, and access to a confidential worker GRM separate from the community GRM. Stakeholder feedback should inform the Hospital Service Continuity Plan, Construction Traffic Management Plan, Labour Management Plan, worker accommodation arrangements, C-ESMP, GRM, GBV/SEA/SH and HIV measures, and other vulnerable-group protections.

Table 51 Stakeholder Identification of RS Goenawan Partowidigdo

Stakeholder Group	Main Interests and Concerns	ESIA Engagement Implication
Patients, caregivers and visitors	Service continuity, safe access, waiting time, infection control, clear information	Patient-facing disclosure, signage, help desk and GRM
RSGP staff and internal workers	OHS, workload, shift arrangements, service relocation, workplace safety	Internal briefings and worker GRM
Nearby residents of Cibeureum village	Dust, noise, construction traffic, safety, local employment	Community consultation and advance notice of works
Road users and ambulance users	Traffic delay, emergency access, road safety	Traffic management and coordination with authorities
Local businesses, vendors and suppliers	Access, procurement opportunities, customer flow	Transparent communication and access management
NGO and Local Media	Environmental and social impacts, service continuity, community health and safety, vulnerable groups, GBV/SEA/SH and HIV risks, transparency and grievance handling	Early consultation, periodic briefings designated media contact, and confidential handling of sensitive case
Local government and agencies	Compliance, public order, health services, traffic and environmental management	Formal coordination and periodic reporting
Vulnerable groups	Accessible information, safe access, affordability, non-discrimination	Tailored engagement and accessible GRM

Contractor and subcontractor workers	Fair recruitment and contracts, wages and working hours, OHS, accommodation and WASH, worker transport, GBV/SEA/SH and HIV/STI risks, non-discrimination, and protection from retaliation	Pre-mobilisation consultation, induction and regular training, signed Code of Conduct, toolbox meetings, accessible information, and a confidential worker GRM separate from the community GRM

5.11 Vulnerable Groups Identification

This subchapter identifies groups that may be more sensitive to construction or service disruption, including low-income patients, elderly people, persons with disabilities, women, children, TB/MDR-TB patients, and nearby residents. It ensures mitigation is tailored to those most at risk.

AIIB ESS1 requires explicit identification of vulnerable groups in the area of influence, with tailored mitigation. For RSGP, the following groups warrant explicit consideration both as patient populations and as potentially affected community members.

Table 52 Vulnerable Groups Identification

Vulnerable Group	Relevance to RSGP Redevelopment	Required Management Focus
TB and MDR-TB patients and household contacts	Higher risk of stigma, prolonged treatment needs and infection-control sensitivity	Confidential pathways, DOTS continuity, safe circulation
Low-income and JKN/BPJS patients	High dependence on affordable public hospital services	Maintain JKN service continuity and clear information
Elderly patients with chronic respiratory illness	Higher sensitivity to dust, infection, mobility barriers and service disruption	Safe access, waiting areas, prioritised assistance
Children and paediatric patients	Higher sensitivity to infection and safety risks	Child-safe movement routes and caregiver access
Pregnant women	Need for safe, private and timely care	Clear emergency and service pathways
Persons with disabilities	Physical access and wayfinding barriers	Universal design, ramps, handrails, accessible toilets and signage
Female staff, patients and caregivers	Privacy, safety and harassment risks	Lighting, privacy, GBV/SEAH-sensitive grievance channels
Construction workers, including migrant/subcontractor workers	Labour, OHS, accommodation and GBV/SEAH risks	Labour management, Code of Conduct, worker GRM
Nearby residents and road users	Exposure to construction traffic, dust, noise and access changes	Advance notice, traffic control and community GRM

5.12 Natural Hazard

This subchapter describes local exposure to flooding, landslides, earthquakes, steep terrain, and Puncak corridor traffic conditions. It supports emergency response, ambulance access, drainage, slope management, and construction traffic planning.

Cisarua is located in the Puncak highland corridor, which is exposed to traffic congestion, tourism peaks, steep terrain, and hydrometeorological hazards. BPS natural disaster data for 2025 shows that several villages in Cisarua experienced **flooding, earthquakes, and landslides**. This is important for construction planning, access management, emergency response, and hospital continuity.

Table 53 Potential Natural Hazard

Hazard Indicator, Cisarua 2025	Number Of Affected Villages
Flood	5 villages
Earthquake	9 villages
Landslide	8 villages

Construction activities must maintain ambulance access, safe patient and visitor circulation, clear signage, and emergency readiness. Heavy vehicle movements should avoid peak hospital and tourism traffic periods where practicable. The ESIA should link this baseline to the Construction Traffic Management Plan, emergency response procedures, and hospital service continuity plan.

5.13 Cultural Heritage Setting

This subchapter identifies the heritage sensitivity of the RSGP campus, including older hospital buildings and the sanatorium history. It supports heritage screening, demolition controls, chance-find procedures, vibration monitoring, and consultation with heritage authorities.

The RSGP campus carries heritage significance through its continuous operation since 1914, making the original building stock more than 110 years old at the time of this ESIA, well beyond the 50-year threshold under Law 11/2010 on Cagar Budaya. The Hospital itself markets one of its existing wings under the 'Heritage Eksekutif' designation, indicating an internal acknowledgement of heritage value that may or may not coincide with formal designation status. Confirmation with BPCB Bandung and Disbudpar West Java is required to determine whether one or more buildings within the campus carry formal designated status, candidate status, or no status. As the pending confirmation, the project assumes designated status for purposes of conservative mitigation planning.

- Earliest construction, 1914 (Methodist Zending Hospital Tjisaroea by Dr. R.G. Perkins)
- Sanatorium era, 1928 (Sanatorioem Tjisaroea Bogor under S.C.V.T)
- Indonesian-state era from 1978, RSTP Cisarua
- Internal acknowledgement, 'Heritage Eksekutif' wing, currently in operational use as executive out-patient clinic

- Authorities for confirmation, BPCB West Java (Cultural Heritage Preservation Office), West Java

The hospital has a long institutional history, including the 1914 Methodist Zending Hospital and the 1928 Sanatorium Tjisaroea era. These buildings are more than 50 years old and may be considered potential cultural heritage under Law No. 11/2010. The project should apply a conservative approach until formal confirmation is received. This means no demolition, intrusive works or major alteration to candidate heritage structures without prior assessment, documentation, agency consultation and mitigation. A chance-find procedure is also required for any unexpected archaeological or historical material.

Based on https,//referensi.data.kemendikdasmen.go.id/budayakita/cagarbudaya or national heritage list, The Project are not included in WBW (Tangible Cultural Heritage), but there are not yet verification from Local West Java Cultural Office that The Project is not part of West Java Cultural Heritage.

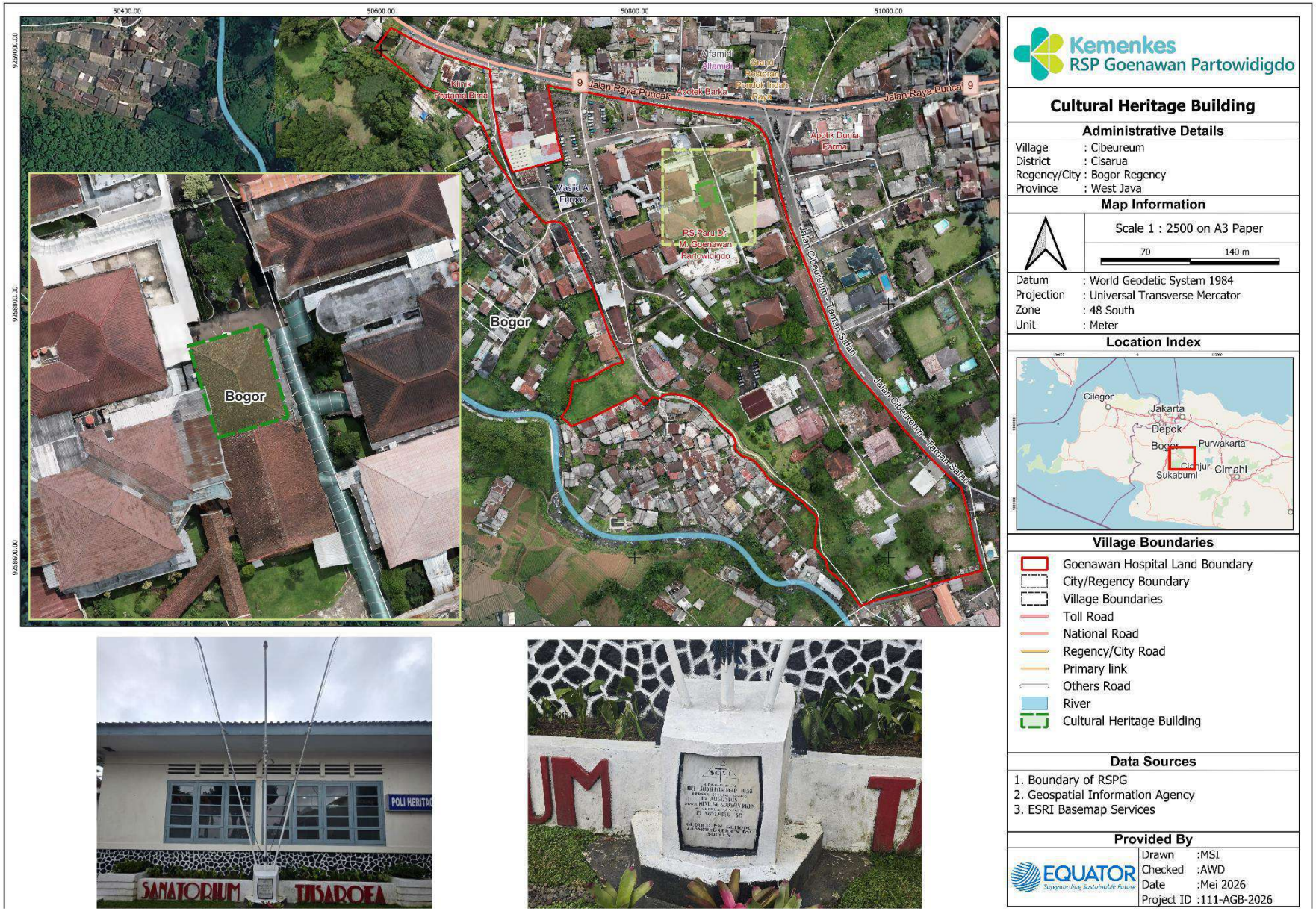


Figure 48 Cultural Heritage Building

RSGP has a material cultural heritage risk due to its long institutional history and the presence of older hospital buildings within an active redevelopment site. Available RSGP historical information indicates that the hospital's institutional lineage includes the Methodist Zending Hospital Tjisaroea period, followed by the Sanatorioem Tjisaroea Bogor period for tuberculosis care, and later transformation into RSTP Cisarua and RS Paru Dr. M. Goenawan Partowidigdo. The uploaded ESIA baseline identifies the 1914 Methodist Zending Hospital Tjisaroea, the 1928 Sanatorioem Tjisaroea Bogor, the 1978 RSTP era, and the currently operating "Heritage Eksekutif" wing as key heritage-related references.

For the purposes of the Project and this ESIA, RSGP has decided to treat the identified older and heritage-sensitive buildings, including the Heritage Eksekutif building, as Cultural Heritage (CH) assets to be preserved, irrespective of whether they have been formally designated as Cagar Budaya under the national registration process. Accordingly, the Cultural Heritage Management Plan (CHMP) and associated protection measures will apply throughout project design and construction and will not be delayed pending formal confirmation of legal heritage status. Any subsequent formal designation will supplement, but not reduce, the protection already applied by RSGP.

Based on the current Feasibility Study and schematic masterplan, the identified Heritage Eksekutif building, shown as "Gedung Heritage Eksisting," is located outside the proposed footprints of Buildings A, B, C, J and M and will be retained and preserved. No demolition, replacement, extension, structural modification, façade alteration or major renovation of this building is included in the current Project scope. Therefore, no direct physical loss or alteration of the identified heritage building is anticipated under the current design.

Potential impacts are primarily indirect construction-related impacts, including vibration from excavation, piling and compaction, accidental contact from heavy equipment or construction vehicles, contractor encroachment, dust and debris deposition, and potential changes in drainage or moisture conditions. Before construction begins near identified heritage structures, the Project shall complete condition and photographic surveys, establish appropriate protection buffers and no-go zones, install protective fencing and signage, control and monitor vibration, provide heritage-protection training to contractors, restrict equipment and material storage within protection zones, and implement stop-work and corrective-action procedures where damage or excessive vibration is detected. Detailed requirements, responsibilities, monitoring thresholds and corrective actions shall be provided in the CHMP and ESMP Annex.

Any subsequent design change proposing works on a heritage building or within its established protection buffer shall trigger formal change control, heritage impact assessment, and corresponding updates to the CHMP and Contractor ESMP before such works proceed.

A chance-find procedure shall apply to all excavation, earthworks, basement works, utility trenching, demolition and other ground-disturbing activities. In the event of an unexpected archaeological, historical or architectural find, work in the affected area shall stop immediately, the location shall be secured, the PIU and competent heritage authority shall be notified, the find shall be documented and assessed by an appropriately qualified specialist, and work shall resume only after the required clearance has been obtained.

5.14 Community Health

Based on data obtained from the Cisarua Health Center in the last 3 years (2023, 2024, and 2025), the environmental-based diseases that frequently occur in the area around the Cisarua Health Center are Acute nasopharyngitis [common cold], the experience increase per year. Survey social and health public conducted at RSGP, District Cisarua, Bogor Regency. Activities survey implemented through interview direct to patients who are undergo service health, good care road and care inpatient.

Amount respondents interviewed as many as 15 people, consisting of over 6 patients care hospitalized, 1 patient control post care hospitalization, and 8 patients care medium road seek treatment at several polyclinics, including Polyclinics Disease In, Polyclinic Medical Rehabilitation and Polyclinic Midwifery. Most of the patient care road originate from Bogor Regency. Meanwhile that, some patient care stay originates from Sukabumi Regency which gets references from House Sick area for handling disease moderate lung they suffering.

Based on the interview results, the majority of respondents responded positively to the planned construction and expansion of hospital facilities. Patients and their families expressed support for the plan, believing it would improve the availability of healthcare facilities in their immediate area. During treatment, both outpatients and inpatients generally did not report noise-related complaints.

Some respondents mentioned noise from cleaning activities in the hospital area, but these noises were short-lived and did not disrupt patient comfort. Interviews in the infectious disease ward, general ward, and VIP ward indicated that patients' comfort levels with the hospital environment were generally good. In addition to the comfortable environment, patients also expressed satisfaction with the services provided by the hospital. The facilities were deemed adequate, while the healthcare staff, both doctors and nurses, were considered responsive, friendly, and responsive in providing services to patients.

In terms of indoor environmental quality, air circulation in both inpatient and outpatient rooms were assessed as good. Patients felt they received adequate ventilation, creating a comfortable stay. Respondents also assessed the cleanliness and ventilation of public restrooms, both in inpatient rooms and in public areas of the hospital, as good. The hospital was assessed as providing a clean, comfortable, and quiet environment for patients. The facilities also addressed the needs of vulnerable groups, such as people with disabilities, the elderly, and pregnant women. This was evident in the availability of dedicated restrooms for the disabled, wheelchair access, and other supporting facilities that facilitate the mobility of service users.

Supporting facilities available at the hospital include two canteens: the Polyclinic Canteen and the Dharma Wanita Canteen. The Dharma Wanita Canteen is primarily used by hospital staff, although patients' families can also access it. Furthermore, a canteen is located in front of the polyclinic registration area, making it easier for outpatients to obtain food and drinks while waiting for services. Religious facilities, such as a prayer room or mosque, are also available, easily accessible from both the outpatient and inpatient areas.

Based on information obtained from RSGP and Cisarua Health Center, there are trend improvement amount HIV cases in three years last in the district area Cisarua and surrounding areas. Based on available data and information second facility service health said, some of them big identified HIV cases originate from group men in relationships sexual with men (MSM). Findings This show that HIV is still be one of issue health communities in need attention special through effort continuous promotive, preventive, curative, and rehabilitative services. Improvement activity education health, socialization HIV prevention, expansion access to service screening and counseling, as well as strengthening mentoring programs for group at risk and people with HIV need keep going carried out. These efforts expected can pressing rate HIV transmission at once increase quality life community in the service area health local.

Table 54 HIV Status of Men at Cisarua Sub-District 2026

Variable	Age					Total
	15 - 19	20 - 24	25 - 29	30 - 34	35 - 39	
Number of PLHIV visiting HIV care until the end of May 2026	1	2	7	11	1	24
The number of PLHIV visiting HIV care who were assessed for TB status until the end of the period May 2026	1	2	7	11	1	24
Number of PLHIV starting ARV treatment during the period January 2023 to May 2026	1	1	2	2	0	7
Number of PLHIV starting ARV treatment whose TB status was assessed during the period January 2023 to May 2026	1	1	2	2	0	7
Number of PLHIV on ARV treatment until the end of May 2026	13	29	141	2	28	222
Number of PLHIV under ARV treatment whose TB status was assessed until the end of May 2026	13	29	141	2	28	222

Source: Puskesmas Cisarua 2026

Table 55 HIV Status of Women at Cisarua sub-District 2026

Variable	Age			Total
	25 - 29	30 - 34	45 - 49	
Number of PLHIV visiting HIV care until the end of May 2026	1	2	7	24
The number of PLHIV visiting HIV care who were assessed for TB status until the end of the period May 2026	1	2	7	24
Number of PLHIV starting ARV treatment during the period January 2023 to May 2026	1	1	2	7
Number of PLHIV starting ARV treatment whose TB status was assessed during the period January 2023 to May 2026	1	1	2	7
Number of PLHIV on ARV treatment until the end of May 2026	13	29	141	222
Number of PLHIV under ARV treatment whose TB status was assessed until the end of May 2026	13	29	141	222

Source: Puskesmas Cisarua 2026

Table 56 HIV Status of Cisarua District Population Groups 2026

Variable	MSM	TG	FSW	DA	SWC	HRC
Number of PLHIV visiting HIV care until the end of May 2026	11	11	11	1	1	1
The number of PLHIV visiting HIV care who were assessed for TB status until the end of the period May 2026	11	11	11	1	1	1
Number of PLHIV starting ARV treatment during the period January 2023 to May 2026	5	1	2	0	1	1
Number of PLHIV starting ARV treatment whose TB status was assessed during the period January 2023 to May 2026	5	1	2	0	1	1
Number of PLHIV on ARV treatment until the end of May 2026	164	29	42	28	1	1
Number of PLHIV under ARV treatment whose TB status was assessed until the end of May 2026	164	29	42	28	1	1

MSM	Men Sex with Men	**DA**	Drugs Addict
TG	Trans Gender	**SWC**	Sex Workers Customer
FSW	Female Sex Workers	**HRC**	High Risk Couple

Source: Puskesmas Cisarua 2026

6 IDENTIFICATION AND ASSESSMENT OF ENVIRONMENTAL AND SOCIAL IMPACT

This Chapter presents the environmental and social impact assessment for the project. It begins with the assessment methodology, then characterises construction-phase impacts across nine impact pathways, summarises operational-phase impacts, and concludes with the cumulative impact assessment that AIIB ESS1 requires.

Table 6 Environmental and Social Components Identification

Component	Sub-Component	Settings	Risk/Impact Source	Area of Influence
Physiography & Environmental Chemistry	Air Quality & Greenhouse Gases	Active pulmonary hospital with respiratory-sensitive patients, construction occurs inside an operating hospital campus, nearby community and possible TNGGP edge receptors.	Pre-construction, demolition and site clearing. Construction, excavation, foundation works, material handling, heavy equipment, trucks, concrete works, diesel machinery. Operation, emergency generators, boilers/stack sources if applicable, HVAC, ambulance/vehicle movement, medical equipment, and higher electricity demand.	Construction work zones, hospital wards and clinical areas, patients, carers, staff and visitors, nearby residents, site boundary, access roads, possible TNGGP edge receptors.
	Noise and Vibration	Active hospital environment with ICU, wards, diagnostic areas and older heritage-sensitive buildings.	Piling/foundation works, demolition, excavation, compaction, heavy equipment, generators, loading/unloading, truck movement, operational HVAC, pumps, gensets, ambulances, parking and service vehicles.	Construction zones, ICU and wards, heritage/older buildings, internal roads, nearby receptors and adjacent community.
	Water Quality	Hospital drainage system, high rainfall setting, downstream drainage and potential Ciliwung headwater sensitivity.	Sediment-laden runoff from excavation and stockpiles, concrete washout, fuel/oil/chemical spills, poor housekeeping, worker wastewater, operational wastewater from wards, laboratories, laundry, kitchen,	Construction drainage, IPAL system, local drains, downstream receiving environment, nearby community and hospital users.

Component	Sub-Component	Settings	Risk/Impact Source	Area of Influence
			diagnostics and infectious/sputum handling areas.	
	Hydrology	Highland rainfall regime, hospital drainage network, basement works, increased impervious surfaces.	Drainage blockage, increased runoff from cleared/compacted areas, basement excavation, temporary drainage diversion, stormwater overflow, operational roof runoff, parking/internal road runoff and basement drainage.	Hospital drainage system, basements, internal roads, emergency routes, downstream drainage channels.
	Geomorphology and Topography	Highland site with local slopes, excavation areas, basements, stockpiles and retaining structures.	Cut-and-fill, basement excavation, slope trimming, temporary earthworks, erosion, stockpiling and local ground instability.	Excavation areas, basement locations, slopes, stockpile areas, internal roads, nearby infrastructure.
	Natural Hazard: Flood and Landslide	High rainfall Cisarua:Puncak setting, drainage-sensitive hospital campus, local slope and landslide/flood exposure.	Heavy rainfall during excavation, blocked drains, uncontrolled runoff, erosion, sedimentation, slope instability, basement ponding/flooding and climate-related rainfall extremes.	Slopes, basements, drains, internal roads, access routes, ambulance routes, nearby community receptors.
	Waste and Hazardous Materials, including B3 and healthcare waste	Operating hospital with existing B3/healthcare waste streams, expanded services will increase infectious, sharps, sputum and other hazardous waste.	Construction waste, demolition waste, packaging, used oil, paint, solvents, operational infectious waste, sputum-related waste, sharps, cytotoxic waste, expired pharmaceuticals and incinerator/genset residues if applicable.	Construction work areas, temporary waste storage, TPS B3, IPAL/B3 handling areas, licensed third-party waste transport routes, hospital service areas.
Land and Spatial	Spatial Plan	Existing RSGP land under Ministry of Health control, hospital masterplan area, active PKKPR/PBG/permitting context.	Construction outside approved footprint, unapproved temporary laydown/stockpile/parking areas, non-compliance with masterplan, PBG, PKKPR or operational building use.	RSGP land boundary, approved building footprint, temporary laydown areas, internal roads, adjacent public access and neighbouring land uses.

Component	Sub-Component	Settings	Risk/Impact Source	Area of Influence
	Land-Based Transportation	Jl. Raya Puncak corridor, RSGP entrance, internal access roads, ambulance and patient access routes, busy tourism corridor.	Construction truck movement, material delivery, worker commuting, temporary parking demand, road crossing, loading/unloading, service vehicles, increased operational patients/visitors/staff/trainees and logistics.	Jl. Raya Puncak, RSGP main entrance, internal hospital roads, ambulance routes, pedestrian routes, nearby Cibeureum community and local businesses.
Biodiversity	Terrestrial Flora and Fauna	Modified habitats within the RSGP site (including hospital green areas and retained trees), surrounding settlement vegetation, agricultural areas and other modified habitats, as well as the interface with TNGGP (including TWATG) edge habitats and habitat patches.	Vegetation clearing, tree pruning, dust deposition, noise, waste management, lighting, accidental spills, worker disturbance and long-term landscaping/human activity.	The project footprint, the immediate local area, and contiguous modified habitats extending to the ecological interface with the edge habitats and habitat patches of TNGGP and TWATG within the wider Area of Influence.
Social	Socio-Economy and Demography	Desa Cibeureum and Cisarua communities, local businesses, hospital workforce, local job seekers, contractor workforce.	Local recruitment, non-local labour influx, worker accommodation, local procurement, food/lodging/transport demand, temporary access disturbance and pressure on small businesses.	Construction workers, subcontractors, local job seekers, nearby residents, local shops/warungs, transport providers, hospital staff, patients, carers and visitors.
	Socio-Culture	Active hospital community, patients and carers, nearby residents, hospital routines, TB-sensitive service context, heritage identity of RSGP.	Worker-community interaction, construction disturbance, changed access and visiting comfort, disruption to hospital routines, complaints, TB stigma/privacy issues, and works near heritage buildings.	Hospital users, staff, carers and visitors, nearby residents, community leaders, heritage buildings and culturally valued hospital spaces.
	Labour and Working Conditions	Contractor and subcontractor workforce, local and non-local workers, possible worker	Recruitment, mobilisation, contracts, wages/payment, working hours, accommodation, subcontractor control, worker GRM, Code of Conduct,	Construction workers, subcontractors, female workers, local job seekers, worker accommodation,

Component	Sub-Component	Settings	Risk/Impact Source	Area of Influence
		accommodation, later expanded operational workforce.	discrimination, harassment and GBV/SEAH risk.	outsourced workers, hospital staff and nearby communities interacting with workers.
	Occupational Health and Safety	Active construction site within an operating pulmonary hospital, later operational healthcare workplace with TB/MDR-TB exposure and hazardous materials.	Construction work at height, lifting, excavation, electrical works, hot works, moving equipment, dust, noise, vibration, hazardous materials and hospital utility interface, operational infectious exposure, sputum handling, sharps, chemicals, radiation/diagnostics, laboratories and psychosocial stress.	Contractor workers, subcontractors, supervision team, security personnel, RSGP maintenance/IPSRS staff, healthcare workers, laboratory staff, cleaners, waste handlers.
Community Health, Safety and Security	Community Health	Active pulmonary hospital with respiratory/TB-sensitive patients, hospital users, nearby communities, vulnerable patients and carers.	Dust, emissions, noise, vibration, worker influx, sanitation issues, stagnant water, infectious disease interface, poor separation of construction and clinical zones, and disruption to patient circulation or clinical access.	Patients, especially TB/MDR-TB and respiratory patients, carers, visitors, hospital staff, construction workers, nearby Cibeureum residents, elderly people, children, persons with disabilities, low-income users.
	Community and workers Safety and Security	• Publicly accessible hospital environment, internal roads, construction zones, Jl. Raya Puncak access, patients, carers and visitors moving through active service areas. • Available health information indicates that HIV/STI prevention requires attention in the wider mobile-population and transit context.	• Construction traffic, open excavations, falling objects, unsafe pedestrian routes, unauthorised access to work zones, emergency access disruption, poor security conduct, GBV/SEAH risk, parking and ambulance movement. • Potential increased risk of STI/HIV transmission associated with existing transit-related mobility, labour influx, worker accommodation, and increased	Hospital patients, carers, visitors, staff, pedestrians, road users, ambulance routes, nearby residents, local businesses and construction workers.

Component	Sub-Component	Settings	Risk/Impact Source	Area of Influence
			worker–community interaction during construction and operation.	
	Hospital Service Continuity and Patient Access	Major construction inside an operating referral hospital, emergency, inpatient, TB/MDR-TB, diagnostic, laboratory, pharmacy and isolation services must continue.	Phased construction, temporary relocation, blocked or changed patient routes, construction-clinical interface, dust/vibration near clinical areas, ambulance access disruption and downtime of utilities or services.	Emergency department, inpatient wards, TB/MDR-TB services, diagnostic and laboratory areas, pharmacy, patient and visitor routes, ambulance routes, staff and vulnerable users.
	Population Mobility and STI/HIV	Cisarua–Puncak functions as a tourism and transit hub with mobile populations, including residents, visitors, transport and hospitality workers, and other temporary populations. Local HIV data and service capacity should be confirmed with Dinas Kesehatan Kabupaten Bogor and RSGP.	Mobilisation of non-local workers, worker accommodation and increased worker-community interaction could increase STI/HIV exposure where awareness, preventive services, safe behaviour, and confidential voluntary testing and referral are inadequate. Other risks include stigma, discrimination and disclosure of HIV status. HIV is not transmitted through ordinary workplace or community contact.	Contractor and subcontractor workers, workers' partners, local residents, hospitality and transport workers, visitors, people seeking HIV services, and people living with HIV.
Cultural Heritage	Built Heritage / Older Hospital Structures	Older RSGP buildings associated with the 1914 Methodist Zending and 1928 Sanatorium periods, formal heritage status still requires confirmation.	Excavation, foundation works, piling or compaction, heavy equipment movement, construction traffic, material storage, temporary works and contractor activity near older structures. Old buildings will remain intact.	Older/heritage buildings, adjacent construction zones, hospital heritage spaces, workers and supervision teams.
	Chance Finds / Subsurface Archaeology	Unknown archaeological or historical materials may exist below ground within older hospital grounds.	Excavation, trenching, foundation works, basement works, utility relocation, drainage works, soil stripping, grading and other intrusive ground works.	Intrusive work areas, excavation and trenching zones, utility routes, basement areas, heritage authority interface.

Component	Sub-Component	Settings	Risk/Impact Source	Area of Influence
Cumulative impact	Cumulative Environmental and Social Pressures	Cisarua-Puncak landscape with tourism, residential/commercial growth, agricultural activity, high rainfall, traffic congestion and possible climate-mediated vector change.	Interaction of RSGP redevelopment with regional traffic, local water resource pressure, TNGGP edge habitat pressure and local social service demand.	Jl. Raya Puncak corridor, Ciliwung headwater catchment, TNGGP edge habitats, Cisarua-Puncak communities and services.

Note for consistency, the table should later be cross-checked against the final DED, construction method statement, ANDALALIN, and Contractor ESMP before assigning final significance ratings.

6.1 Project Area of Influence

The Project Area of Influence (AoI) for the RSGP redevelopment is defined as the geographic, environmental, social, institutional, and functional area within which project-related risks and impacts may occur during pre-construction, construction, and operation. Consistent with the reference ESIA approach, the AoI is not limited to the physical construction footprint, but also includes areas affected by direct, indirect, induced, and cumulative impacts, including construction traffic, dust, noise, vibration, drainage, hospital service continuity, labour influx, waste management, disease transmission and stakeholder concerns.

For RSGP, the AoI is centred on RS Goenawan Partowidigdo Cisarua Bogor, located at Jalan Raya Puncak KM 83, Desa Cibeureum, Kecamatan Cisarua, Kabupaten Bogor, West Java, with coordinates approximately -6.6879, 106.9396. The project site is located on Ministry of Health land with an area of approximately 67,847 m², and the TOR indicates that no new land acquisition is required. The redevelopment includes Buildings A, B, C, and J&M, together with supporting facilities, medical and non-medical equipment, and operational readiness improvements.

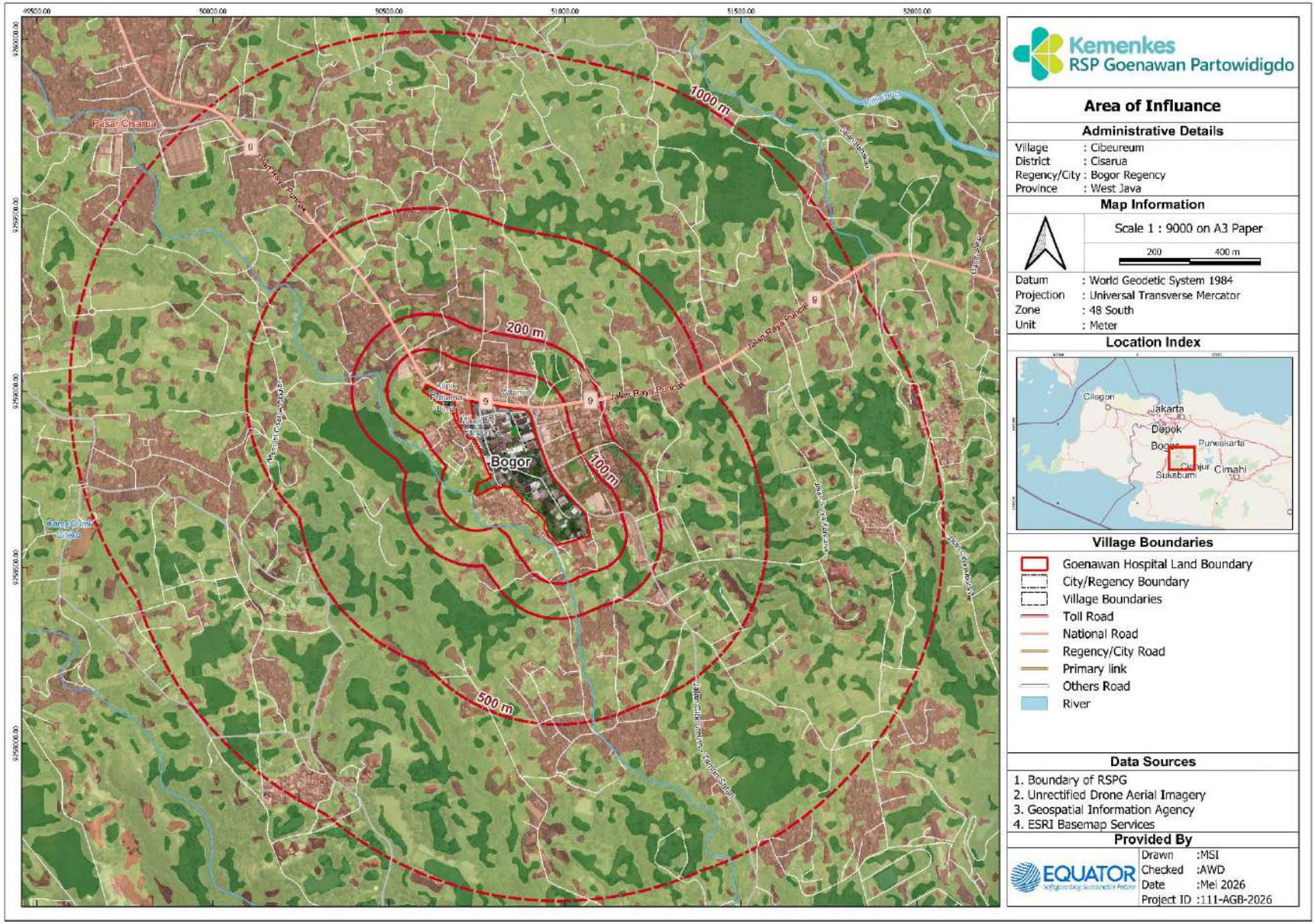


Figure 49 Project Area of Influence

6.1.1 Geographic Project Boundary

The geographic project boundary covers the RSGP hospital compound and all construction work areas within the existing hospital land. This includes the footprints of the proposed new buildings, demolition or enabling-work areas, temporary contractor facilities, material storage areas, internal access roads, temporary parking, utility relocation corridors, drainage improvement areas, and any internal areas affected by construction phasing.

Table 57 The Primary Geographic Boundary

AoI Layer	Boundary Definition	Main Receptors
Core Project Boundary	Existing RSGP land and construction footprint for Buildings A, B, C, and J&M	Construction workers, hospital staff, patients, visitors, students, internal hospital units
Immediate Hospital Interface	Active hospital buildings and services next to construction areas	ICU/HCU/NICU/ICCU, emergency unit, operating theatres, inpatient wards, laboratories, radiology, pharmacy, patient waiting areas
External Access Interface	Hospital entrance, exit, ambulance route, Jl. Raya Puncak-Gadog KM 83, nearby junctions and local access points	Road users, ambulances, visitors, public transport users, pedestrians, nearby businesses
Neighbouring Community Interface	Nearby settlements, commercial activities, tourism-related businesses, and public-service users in Desa Cibeureum	Nearby residents, local vendors, small businesses, homestays, restaurants, and community facilities

This approach follows the ESIA, where the AoI covers the hospital compound, construction footprint, access roads, ambulance routes, nearby settlements, vendors, utilities, waste-disposal interfaces, and sensitive hospital units.

6.1.2 Environmental Area of Influence

The environmental AoI is defined based on the likely spread of physical and environmental impacts from project activities. It includes areas that may be affected by construction dust, air emissions, noise, vibration, stormwater runoff, wastewater, hazardous and non-hazardous waste, vegetation clearance, landscape changes, and traffic-related emissions.

Table 58 The Environmental AoI

Environmental Component	Indicative AoI	Basis For Inclusion
Air quality and dust	Construction footprint, internal roads, material loading/unloading areas, and receptors within approximately 100 m from active construction areas and access routes	Dust from excavation, demolition, soil movement, material handling, vehicle movement, and stockpiles
Noise	Active construction areas, adjacent hospital buildings, nearby sensitive receptors, and areas within approximately 50 m from noisy activities or construction access routes	Noise from equipment, demolition, piling/foundation works, trucks, generators, and construction traffic
Vibration	Piling/foundation work areas, nearby active hospital buildings, older structures, and candidate cultural heritage buildings	Vibration may affect patient comfort, sensitive medical services, building condition, and potential heritage structures
Surface water and drainage	On-site drainage, downstream drainage channels, stormwater discharge points, and areas affected by runoff or sediment movement	Construction runoff, sediment, accidental spills, blocked drains, and increased runoff from new paved areas
Groundwater and clean water	Existing hospital water supply system, storage tanks, wells or supply connections, and any areas affected by temporary construction demand	Construction and operation may increase water demand and require careful protection of supply quality
Wastewater	Existing or upgraded hospital wastewater treatment system, sewer lines, treatment units, and discharge points	Additional load from expanded services, construction worker sanitation, and operational wastewater
Solid waste and medical/hazardous waste	Waste storage areas, temporary B3 storage, internal collection routes, third-party transporter routes, and final treatment/disposal facilities	Construction waste, healthcare waste, hazardous waste, packaging waste, and operational medical waste
Biodiversity and green space	On-site trees, landscaped areas, mature vegetation, and ecological interface with surrounding highland landscape	Vegetation removal, habitat disturbance, loss of shade, landscape change, and potential interaction with nearby ecological receptors

Environmental Component	Indicative AoI	Basis For Inclusion
Cultural heritage and chance finds	Older hospital structures, candidate heritage buildings, excavation areas, utility trenches, and foundation works	Potential effects on historical hospital buildings and unknown archaeological finds

The dust and noise buffer approach is adapted from other Hospital ESIA, which used 100 m for dust distribution and 50 m for noise impact from the project boundary and mobilisation routes. These distances should be treated as **preliminary screening buffers** for RSGP and should be confirmed through baseline monitoring, construction method statements, detailed design, and the ANDALALIN/traffic study.

6.1.3 Social Area of Influence

The social AoI covers people, groups, institutions, and services that may be affected by the project or may influence project implementation. For RSGP, the social AoI is centred at Cibeureum village and Cisarua sub-district, with a broader referral catchment extending to Bogor City, Sukabumi district, Cianjur district, and parts of Greater Jakarta. The existing RSGP draft already identifies hospital users, staff, nearby residents, users of Jl. Raya Puncak, vendors, suppliers, and broader referral users as part of the social AoI. Area of Influence for the social assessment presented in Table 59.

Table 59 The Social AoI

Social AoI Layer	Area / Group Included	Main Issues to Assess
Ring 1 - Direct Impact Area	RSGP compound, active hospital units, patients, patient families, caregivers, staff, students, vendors, contractors, and immediate neighbouring residents/businesses in Desa Cibeureum	Dust, noise, vibration, construction safety, access changes, hospital service continuity, emergency access, patient safety, risks of sexual infectious diseases, complaints
Ring 2 - Local Community and Mobility Area	Desa Cibeureum, Kecamatan Cisarua, Jl. Raya Puncak corridor, nearby tourism and commercial activities, local transport routes, and surrounding villages affected by construction traffic	Traffic congestion, ambulance delay, road safety, local employment, worker-community interaction, small business disruption, community health and safety
Ring 3 - Wider Service Catchment	Cisarua, Megamendung, other Bogor highland subdistricts, wider Kabupaten Bogor, Sukabumi, Cianjur, and parts of Greater Jakarta	Referral access, continuity of specialist pulmonary services, patient communication, service quality, access for vulnerable patients

This ring-based approach is consistent, which divides the social AoI into Ring 1 for the closest affected communities, Ring 2 for subdistrict-level mobility and service access, and Ring 3 for the wider hospital catchment area.

6.1.4 Health Area of Influence

The health AoI covers people groups, institutions, and services that may be affected by the project or may influence project implementation. The health AoI is centred on Cibeureum village and Cisarua district. Currently available data includes RSGP employees and the Cibereum village community. Data on the number of construction workers and their origins will be crucial in identifying Areas of Influence on health, particularly infectious diseases. Area of Influence for the health assessment presented in Table 60.

Table 60 The Health AoI

Social AoI Layer	Area / Group Included	Main Issues to Assess
Ring 1 - Direct Impact Area	RSGP compound, active hospital units, patients, patient families, caregivers, staff, students, vendors, contractors including daily workers, and immediate neighbouring residents/businesses at Cibeureum village	Dust, noise, vibration, construction safety, access changes, hospital service continuity, emergency access, patient safety, workers safety and complaints, and the risks of sexual infectious diseases.
Ring 2 - Local Community and Mobility Area	Desa Cibeureum, Kecamatan Cisarua, Jl. Raya Puncak corridor, nearby tourism and commercial activities, local transport routes, and surrounding villages affected by construction traffic	Traffic congestion, ambulance delay, road safety, local employment, worker-community interaction, small business disruption, community health and safety

This ring-based approach is consistent, which divides the health AoI into Ring 1 for the closest affected communities, Ring 2 for subdistrict-level mobility and service access.

6.1.5 Sensitive Receptors within the AoI

A sensitive receptor is requiring special consideration in environmental planning and zoning to minimize environmental, social, safety and health risks and impacts.

Table 61 The Sensitive Receptors Require Specific Attention in the RSGP ESIA and ESMP

Sensitive Receptor	Reason For Sensitivity
ICU, HCU, NICU, ICCU, operating theatres, emergency unit, isolation rooms, inpatient wards	Sensitive to dust, noise, vibration, infection risk, access disruption, and service interruption
TB, respiratory, elderly, child, and immunocompromised patients	Higher vulnerability to dust, infection, indoor air quality changes, and service disruption
Women patients, female staff, caregivers, and visitors	May face safety, privacy, sanitation, lighting, GBV/SEAH, and caregiving burden concerns
Persons with disabilities	Require safe temporary access routes, ramps, clear signage, accessible toilets, and inclusive grievance channels
Hospital workers and construction workers	Exposed to OHS risks, labour risks, fatigue, biological hazards, and worker-community interaction risks, risks of sexual infectious diseases
Public facilities (Cibereum village office, Cibereum elementary schools, An-Nur Mosque), Nearby residents and local businesses	May experience traffic, dust, noise, access disruption, and temporary livelihood disturbance
Older hospital buildings and potential cultural heritage structures	May be sensitive to demolition, vibration, alteration, and visual or setting impacts
Road users along Jl. Raya Puncak	May be affected by construction vehicle movement, congestion, and road safety risks

6.1.6 Functional Facilities Interface

The functional AoI also includes facilities and services that are outside the construction footprint but are necessary for project implementation or may receive additional project-related load, these include.

Table 62 Relevance of The Facilities with the Aoi

Interface Facility / Service	Relevance to AoI
Electricity supply and backup generators	Increased operational energy demand and emergency power reliability
Clean water supply and storage	Higher water demand during construction and operation

Interface Facility / Service	Relevance to AoI
Wastewater treatment system	Increased wastewater load from expanded hospital services
Medical waste and B3 waste transporters/disposal facilities	Off-site risk interface for hazardous and infectious waste
Construction material sources and haul routes	Traffic, dust, road safety, and cumulative transport impacts
Contractor basecamp and worker accommodation, if used	Labour influx, OHS, sanitation, GBV/SEAH, worker-community interaction (incl. sexual infectious diseases)
Temporary spoil/disposal areas	Sediment, waste control, traffic, and land-use risk
Ambulance and referral routes	Service continuity and emergency access protection
Laydown area of materials and heavy equipment	Safety mobilization and movement of the hospital visitors and construction workers

At this stage, these facilities should be treated as **linked facilities or ESMP interfaces** unless they meet the formal AIIB Associated Facilities test. Screening should be updated when DED, contractor mobilisation planning, supply-chain arrangements, and waste-management contracts are confirmed.

6.1.7 Cumulative Area of Influence

The cumulative AoI includes areas where RSGP construction and operation may overlap with existing pressures in the Puncak corridor, including traffic congestion, tourism-related mobility, existing hospital operations, local commercial activity, drainage constraints, and waste-management capacity. The cumulative assessment should consider whether project activities may add to existing or planned activities in the same time and place.

Table 63 The Cumulative AoI

Valued Environmental and Social Component	Cumulative Concern
Jl. Raya Puncak traffic corridor	Added construction traffic may combine with tourism traffic and hospital traffic
Emergency and ambulance access	Delays may occur if construction traffic overlaps with peak road traffic
Hospital service continuity	Construction may overlap with active pulmonary referral services

Valued Environmental and Social Component	Cumulative Concern
Noise, vibration, and dust	Existing traffic and construction activities may combine with project impacts
Drainage and stormwater	Added impervious surface and construction runoff may increase local drainage load
Wastewater and healthcare waste	Expanded hospital services may increase treatment and disposal demand
Local economy	Construction may bring local work opportunities but also temporary disturbance to nearby businesses
Community health and safety	Construction-interface risks may overlap with high patient and visitor movement

6.1.8 Summary of RSGP Area of Influence

In summary, the RSGP AoI includes:

- **Physical project boundary**, the existing RSGP land, construction footprints, internal roads, laydown areas, temporary facilities, utility corridors, and supporting infrastructure.
- **Environmental AoI**, receptors affected by dust, noise, vibration, drainage, wastewater, waste, traffic emissions, biodiversity disturbance, and cultural heritage risks.
- **Social AoI**, hospital users, staff, students, contractors, vendors, nearby residents, local businesses, road users, local government, and the wider referral catchment.
- **Health AoI**, hospital users, staff, students, contractors, vendors, and nearby residents.
- **Functional AoI**, utility systems, waste-management chains, water supply, wastewater treatment, haul routes, contractor facilities, and emergency access routes.
- **Cumulative AoI**, the overlap between RSGP redevelopment, active hospital operations, Jl. Raya Puncak traffic, local tourism activity, municipal services, and future hospital capacity expansion.

The AoI should remain a living boundary and be updated after completion of the detailed engineering design, traffic impact assessment, baseline monitoring, stakeholder consultation, and contractor construction methodology. This is important because the final risk area may change depending on construction phasing, demolition methods, piling/foundation methods, hospital service relocation, worker accommodation arrangements, waste disposal contracts, and traffic routing.

6.2 Identification and Assessment of Environmental and Social Risks and Impacts

The risk and impact assessment within this document utilizes a structured qualitative descriptive approach based on clearly defined operational criteria to determine impact magnitude and receptor sensitivity. To ensure high analytical precision and fulfill international safeguard expectations, the evaluation framework comprehensively integrates specific risk criteria against granular receptor vulnerabilities. Avoidance of subjective numerical scoring systems ensures transparency and consistency throughout the environmental review process. Ultimately, the qualitative impact significance is determined through an interaction matrix cross-referencing impact magnitude and receptor sensitivity, in accordance with international best practices (IFC, 2012, IFC, 2013, AIIB, 2025, IAIA, 2018, Equator Principles Association, 2023).

6.2.1 Rapid Assessment of Completed Demolition Works

Prior to preparation of this ESIA, demolition and site clearance had already commenced for portions of the redevelopment area. As these activities occurred before completion of the AIIB ESIA, a rapid retrospective environmental and social assessment was undertaken to identify whether significant residual risks or non-conformities remain that require corrective actions before further construction proceeds.

The rapid assessment reviewed available documentation, conducted site inspections, and evaluated remaining evidence of demolition activities.

Particular attention was given to the potential presence and management of asbestos-containing materials because several demolished buildings pre-dated current asbestos restrictions. A separate Asbestos Audit was reviewed as part of the assessment. The audit identified the locations of ACMs, documented their removal and disposal, and confirmed that remaining ACM risks require continued management during subsequent construction activities. Any remaining ACMs or newly discovered suspect materials shall continue to be managed under the Project Asbestos Management Plan and Chance Find Procedure.

Based on the available evidence, no major residual environmental or social impacts requiring suspension of construction were identified. However, the assessment identified several actions that remain necessary before and during the next construction phase, including continued verification of hazardous waste disposal records, implementation of the Asbestos Management Plan, ongoing dust and noise controls, and continued monitoring of hospital service continuity and community access.

The findings of this rapid assessment have been incorporated into the impact assessment and corresponding mitigation measures in the ESMP.

6.2.2 Impact Characterization Parameters

Each potential impact is analyzed comprehensively using four baseline parameters to determine its descriptive classification,

a. **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).

b. **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).

c. **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.

d. **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.

6.2.3 Classification of risks and Impacts Magnitude

Impact magnitude is commonly determined by combining four parameters of impact characterization parameters including nature & duration of risks and impacts, impact likelihood, impact scope, and spatial scale. The classification of impact characterization parameters is categorized into five distinct tiers of Impact Magnitude as follows (Table 64).

Table 64 Risk/Impact Magnitude Category.

Risk/Impact Magnitude Category	Descriptive Criteria Definition
Negligible	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.
Minor	The impact is small in scale, site-specific, short-term (temporary) in duration, and fully capable of natural recovery (reversible) without active human intervention.

Risk/Impact Magnitude Category	Descriptive Criteria Definition
Moderate	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	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	The impact is extreme and widespread, permanent and irreversible in nature, completely disrupts essential ecological functions, or causes massive, severe socio-economic disruptions.

6.2.4 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 2, receptor sensitivity is classified into five distinct tiers based on baseline ecological importance, social resilience, and existing levels of environmental modification. These operational definitions provide a standardized framework to ensure objectivity and consistency during the subsequent impact significance matrix cross-referencing.

Table 65 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.

6.2.5 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 consider the significance is 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 (Table 3). 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 66 Impact Significance Interaction Matrix

Impact Magnitude	Very Low	Low	Moderate	High	Critical
Negligible	Negligible	Low	Low	Moderate	Moderate
Minor	Low	Low	Moderate	Moderate	High
Moderate	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.

6.2.6 Summary of Environmental and Social Risks and Impacts Assessment

This section provides a concise, yet integrated overview of the principal environmental and social risks and impacts identified through the ESIA-ESMP process for the proposed project. It consolidates the detailed impact predictions and significance ratings developed for each project phase and activity, clearly distinguishing between adverse and beneficial effects and indicating where cumulative or residual impacts may arise. Particular attention is given to those risks and impacts that have been evaluated as moderate, major, or otherwise sensitive, based on their magnitude and the vulnerability, sensitivity, or value of the receptors and resources affected. By presenting this information in a structured narrative and tabular form, the section is intended to support transparent decision-making by enabling project proponents, regulators, and stakeholders to readily understand the project's

overall environmental and social risk profile and to identify priority areas for mitigation, monitoring, and management within the ESMP.

During preparation of the ESIA in May–June 2026, no demolition activities were underway. Part of the demolition and site-clearing activities had already been completed as early enabling works. Any remaining demolition will be managed as part of the construction phase and is excluded from AIIB financing. Accordingly, the ESIA considers both the completed demolition works through retrospective environmental and social due diligence and the risks associated with any future demolition activities. The retrospective review covers dust, noise and vibration, hazardous materials, demolition waste, traffic and worker safety, hospital service continuity, community access, and grievance management.

An asbestos screening/audit was undertaken at RSGP on 19 June 2026 to identify the potential presence of Asbestos-Containing Materials (ACM). Three material samples were assessed. Sample 1, collected around the Guest House and Kiara Payung area, showed clear elongated fibre structures with bundled and layered morphology and was classified as suspect ACM with the strongest fibre indication. Sample 2, from the Widuri area, showed rough, porous and fragmented material with elongated fibre-like structures and was also classified as suspect ACM. Sample 3, associated with demolition-related material, showed layered, brittle and fragmented characteristics with weaker fibre indications, but was likewise classified as suspect ACM until proven otherwise.

The screening therefore does not yet confirm that asbestos is definitively present in these materials. The identified materials shall remain classified and managed as suspect ACM until confirmatory laboratory testing, such as PLM, TEM or another recognised method, demonstrates otherwise. Other older roofing, ceiling panels, insulation, wall boards, utility areas and building fragments that were not fully covered by the initial selective screening should also be included in a detailed pre-demolition asbestos survey before they are disturbed.

Before any remaining demolition, renovation or intrusive works proceed, the affected areas shall be checked against the asbestos register and a detailed pre-demolition asbestos survey shall be completed. Confirmed ACM or high-risk suspect ACM within the demolition footprint shall be removed, isolated or otherwise safely managed by competent personnel before structural demolition. The demolition method statement and Asbestos Management Plan shall include controls for containment, wet working methods, restricted access, appropriate respiratory protection and PPE, air monitoring where required, safe packaging, transport and disposal of ACM waste, and protection of patients, hospital staff, visitors and other sensitive receptors.

For demolition activities already completed, the retrospective due diligence should verify, where records are available, demolition approvals, contractor method statements, supervision reports, photographs, waste and B3 manifests, worker safety records, incident records, complaint logs and evidence of site clearance. Particular attention should be given to determining whether materials corresponding to the suspect ACM identified in the screening may have been disturbed during the earlier demolition. Where records are incomplete or past asbestos controls cannot be demonstrated, this shall be recorded as an environmental and social safeguards gap, with corrective actions defined before further demolition or construction activities proceed.

Table 67 Summary of Environmental and Social Risks and Impacts Assessment

No	E&S Risks and Impacts	Project Activities That Cause Risks/ Impacts	Nature & Duration	Impact Likelihood	Impact Scope	Spatial Scale	Impact Magnitude	Receptor Sensitivity	Impact Significance
1	**PRE-CONSTRUCTION**								
A	**ENVIRONMENTAL**								
	Dust, PM10 and PM2.5 from completed demolition	Demolition of existing structures, dismantling, debris handling, loading/unloading, temporary stockpiling, and truck movement during pre-construction enabling works.	Adverse, short-term, residual risk may remain if debris or exposed soil is still present.	Almost Certain	Direct to workers, hospital users, and nearby receptors.	Site-specific to immediate local area.	Moderate	High – respiratory patients, TB/MDR-TB patients, elderly patients, children, hospital staff, visitors, workers, and nearby residents.	High
	Noise and vibration from completed demolition	Concrete breaking, dismantling, loading, truck movement, operation of demolition equipment, and removal of building components.	Adverse, short-term, may have caused temporary disturbance during active demolition.	Almost Certain	Direct and indirect disturbance to hospital services, patients, workers, and nearby receptors.	Site-specific to immediate local area, especially near wards, ICU/HCU, older buildings, and sensitive hospital units.	Moderate	High – in-patients, intensive care areas, staff, visitors, older building fabric, and nearby community receptors.	High
	Demolition waste and debris management risk	Generation, segregation, temporary storage, loading, transport, recycling, and disposal of demolition waste.	Adverse, short-term but may continue if waste remains on site or disposal records are incomplete.	Likely	Direct and indirect, affects site housekeeping, drainage, workers, waste handlers, and compliance.	Site-specific, may extend to disposal route and final disposal facility.	Moderate	Moderate to High – workers, waste handlers, hospital users, nearby residents, and regulators.	Moderate to High
	Potential exposure to suspect Asbestos-Containing Materials (ACM) identified during	Disturbance, breaking, dismantling, handling, loading, transport, or disposal of building materials and demolition debris containing or suspected to contain ACM.	Adverse, disturbance and potential fibre release are short-term during demolition and material handling, while potential health consequences from asbestos exposure may be	Possible. Suspect ACM has been identified by the screening,	Direct exposure may affect demolition workers and waste handlers, indirect exposure may affect hospital	Site-specific to local area.	High	High – particularly demolition workers and waste handlers, as well as respiratory and TB/MDR-TB patients, hospital staff, visitors, and other sensitive	High

No	E&S Risks and Impacts	Project Activities That Cause Risks/ Impacts	Nature & Duration	Impact Likelihood	Impact Scope	Spatial Scale	Impact Magnitude	Receptor Sensitivity	Impact Significance
	the asbestos screening.	The 19 June 2026 screening identified suspect ACM in samples collected around the Guest House/Kiara Payung, Widuri Guest House, and the demolition area.	long-term.,,	but asbestos presence and actual past exposure have not been definitively confirmed.	staff, patients, visitors, and nearby receptors if fibres migrate outside the controlled work area.,receptors.			hospital users.	
	SOCIAL								
	OHS risk during completed demolition	Falling objects, unstable structures, sharp materials, equipment movement, dust exposure, noise exposure, manual handling, and traffic interface.	Adverse, any incidents, near misses, or unsafe conditions must be checked.	Likely	Direct to workers and indirect to hospital users near work areas.	Site-specific.	High	High – contractor workers, subcontractors, supervisors, security, IPSRS/maintenance staff, and nearby hospital staff.	Very High
	Community health and safety risk during completed demolition	Falling debris, , adjustment of pedestrian and public transport routes noise from the heavy vehicles and equipment, vehicle movement,	Adverse, short-term, residual risk may remain if the area is not fully secured or cleaned.	Likely	Direct and indirect, affects hospital users, pedestrians, visitors, and nearby community.	Immediate local area.	Moderate to High	High – patients, carers, children, elderly people, persons with disabilities, staff, pedestrians, and nearby residents.	High
	Traffic and access disruption during demolition	Debris hauling, truck movement, temporary access restriction, loading/unloading of materials, mob-demob of worker vehicles, and possible interference with ambulance or patient access.	Adverse, short-term, already occurred, may continue if site access remains changed.	Occurred / Likely	Direct and indirect, affects access, traffic safety, emergency response, and local movement.	Local area, including hospital entrance, internal roads, Jl. Raya Puncak, and nearby community access routes.	Moderate	High – ambulance users, patients, visitors, staff, pedestrians, road users, and nearby residents.	High

No	E&S Risks and Impacts	Project Activities That Cause Risks/ Impacts	Nature & Duration	Impact Likelihood	Impact Scope	Spatial Scale	Impact Magnitude	Receptor Sensitivity	Impact Significance
	Hospital service-continuity disturbance including WWTP/IPAL disruption	Construction works (demolition, excavation, piling, utility relocation, drainage changes, heavy vehicles) near hospital services and wastewater infrastructure	Adverse, short-term during construction, critical due to continuous hospital and IPAL operation	Possible without proper utility mapping, protection, and bypass planning	Disruption to wastewater collection/treatment, effluent quality, odour, drainage, infection control, and clinical services	Site-specific, may extend to nearby drainage/outfall if overflow or discharge occurs	Moderate to High	High – patients, staff, visitors, IPAL operators, and nearby community/environment	High
	Cultural heritage / older building risk	Demolition of existing facilities, vibration from the heavy equipment, debris movement, or site clearing near older hospital structures or culturally valued hospital spaces.	Adverse, short-term activity but potential risks may be permanent if heritage fabric was affected.	Possible, or Unknown if no heritage screening was conducted	Direct and indirect, affects older buildings, institutional memory, and heritage-sensitive areas.	Site-specific.	Moderate to High	High – older hospital buildings, heritage-sensitive structures, hospital identity, and regulators.	High
	Documentation and safeguards compliance gap	Partial demolition carried out before ESIA/ESMP finalisation, C-ESMP approval, or complete supporting records.	Adverse compliance and reputational risk, can be corrected through retrospective due diligence and corrective action.	Possible	Direct compliance impact, indirect risk for AIIB review, regulator confidence, and community trust.	Project-wide within RSGP redevelopment.	Moderate	High – RSGP, Ministry of Health, AIIB, regulators, affected hospital users, workers, and nearby community.	High
2	**CONSTRUCTION**								
A	**ENVIRONMENTAL**								
	Dust, PM10, PM2.5 generation	Construction activities, including site clearing and demolition/dismantling of existing buildings, breaking and removal of construction materials, debris handling, and transport, loading, and unloading of materials.	Adverse, temporary/short-term, occurring during demolition, site clearing and construction works.	Likely	Direct, to the hospital visitors, local community and construction workers	Site-specific to immediate local area	Moderate	Moderate. Receptors include patients, healthcare workers, visitors, construction workers and nearby residents, particularly elderly people, children, persons with disabilities and other vulnerable	Moderate

No	E&S Risks and Impacts	Project Activities That Cause Risks/ Impacts	Nature & Duration	Impact Likelihood	Impact Scope	Spatial Scale	Impact Magnitude	Receptor Sensitivity	Impact Significance
								groups who may be more sensitive to temporary dust and reduced ambient air quality.	
	Degraded ambient air quality from exhaust gas emissions of diesel-powered machinery	Operation of additional diesel generators, construction equipment, light and heavy vehicles, material transportation vehicles and supporting vehicles.	Adverse, short-term during construction phase, demolition and heavy equipment use.	Likely	Direct, to the hospital visitors, local community and construction workers	Site-specific to immediate local area	Moderate	Moderate. Patients, hospital staff, visitors, nearby residents, elderly, children, surrounding community and other vulnerable groups.	Moderate
	Greenhouse gas emissions	Fuel combustion from construction equipment, generators and transportation vehicles, electricity consumption during construction.	Adverse, long-term during construction phase due to the fossil-based fuel uses for the related engine.	Likely	Indirect	Site-specific for project activities, regional scale for cumulative climate effect	Negligible	Low. GHG emissions may contribute cumulatively to atmospheric GHG concentrations and long-term climate change, but the estimated project emissions are limited.	Negligible
	Noise and Vibration	Piling/foundation works, demolition, excavation, compaction, heavy equipment, generators, concrete works, loading/unloading, and truck movement causing noise and vibration.	Adverse, short-term to construction phase, intermittent peaks during piling, demolition and heavy equipment use.	Likely	Direct, indirect disturbance to patients, staff and hospital service comfort.	Site-specific to immediate local area, with higher concern near wards, ICU, heritage buildings and adjacent receptors.	Moderate	High - in-patients, intensive care areas, staff, visitors, wildlife and heritage/older building fabric.	High
	Water Quality	Runoff from excavation and stockpiles, sediment-laden stormwater,	Adverse, short-term construction-phase risk, higher during	Possible	Direct, may indirectly affect downstream	Site-specific to local drainage channels and potential Ciliwung	Moderate	Moderate - hospital drainage, downstream water	Moderate

No	E&S Risks and Impacts	Project Activities That Cause Risks/ Impacts	Nature & Duration	Impact Likelihood	Impact Scope	Spatial Scale	Impact Magnitude	Receptor Sensitivity	Impact Significance
		concrete washout, fuel/oil/chemical spills, poor housekeeping, and worker domestic wastewater.	rainfall, reversible if spills/sediment are controlled.		drainage and water users.	headwater receiving environment.		quality, Ciliwung headwater sensitivity, and community/ environmental receptors.	
	Hydrology	Drainage blockage, increased runoff from cleared/compacted areas, basement excavation, temporary diversion of drains, and stormwater overflow during heavy rain.	Adverse, short-term to medium-term during earthworks and temporary drainage changes, rainfall-sensitive.	Possible	Direct, indirect effects on access, safety and local drainage capacity.	Site-specific to local area, including hospital drainage, basement works, internal roads and nearby drainage pathways.	Minor	Low - hospital operations, local adjacent residential, workers and downstream drainage receptors.	Low
	Geomorphology and Topography	Cut-and-fill, basement excavation, stockpiling, slope trimming, temporary earthworks, erosion, and local ground instability.	Adverse, short-term during earthworks, may become medium-term if slope/erosion control fails.	Possible	Direct	Site-specific, mainly within excavation, basement, slope and stockpile areas.	Moderate	Moderate, highland slope setting, hospital structures, workers and adjacent infrastructure.	Moderate
	Natural Hazard - Flood and Landslide	Heavy rainfall during excavation, blocked drains, uncontrolled runoff, erosion, sedimentation, slope instability, and ponding in basement or low-lying work areas.	Adverse, event-based but may occur throughout construction, especially in rainy season, potentially severe if unmanaged.	Possible	Direct and indirect, can affect safety, access and service continuity.	Site-specific to local area, including slopes, basement, drains, internal roads and access routes.	Minor	Low - patients, workers, hospital emergency access, nearby communities and drainage/slope receptors.	Low
	Spatial Plan	Potential non-compliance with approved masterplan/PBG/PKKPR, construction outside approved footprint, temporary use of land for stockpiles, laydown areas, parking, and contractor	Adverse regulatory and planning risk, short-term to medium-term, reversible through correction but may delay permits/works.	Unlikely	Direct compliance impact, indirect reputational and schedule impact.	Site-specific within RSGP land boundary and approved construction/temporary work areas.	Minor	Low - Ministry of Health/RSGP compliance obligations, regulators, hospital users and adjacent land users.	Low

No	E&S Risks and Impacts	Project Activities That Cause Risks/ Impacts	Nature & Duration	Impact Likelihood	Impact Scope	Spatial Scale	Impact Magnitude	Receptor Sensitivity	Impact Significance
		facilities.							
	Land-Based Transportation	Construction truck movement, material delivery, worker commuting, temporary parking demand, road crossing, loading/unloading, and possible disruption to ambulance and patient access.	Adverse, short-term construction-phase but recurring, higher during deliveries, peak hospital hours and Puncak tourism periods.	Likely	Direct and indirect, affects traffic safety, access, emergency response and local businesses.	Local area, including Jl. Raya Puncak, hospital entrance, internal roads, ambulance routes and nearby Cibeureum receptors.	Moderate to High	High - ambulance users, patients, visitors, staff, pedestrians, road users, nearby residents and businesses.	High
	Biodiversity	Vegetation clearing, tree pruning, dust deposition, noise, waste management, lighting, accidental spills, worker disturbance and long-term landscaping/human activity.	Adverse, short-term to medium-term during clearing and construction, mostly reversible with restoration/landscaping.	Possible	Direct, indirect via habitat disturbance and runoff.	Site-specific to local scale, with potential ecological influence extending from the project boundary to surrounding green habitat and closed edge habitats and habitat patches linked to TNGGP.	Low to Moderate	Moderate - modified hospital habitat with Endangered Species inside, higher sensitivity to the interface area with edge habitat and patches habitat of TGGP.	Moderate
B	**SOCIAL**								
	Socio-Economy and Demography	Local recruitment, non-local labour influx, worker accommodation, local procurement, increased demand for food/lodging/transport, and temporary disruption to access or small	Mixed, beneficial local jobs/procurement, adverse access and influx risks, short-term during construction.	Likely	Indirect, with some direct effects on workers and businesses.	Local area, mainly Desa Cibeureum, Cisarua, hospital campus and worker accommodation/transport nodes.	Moderate	Moderate - local job seekers, small businesses, informal vendors, transport providers, workers and nearby residents.	Moderate

No	E&S Risks and Impacts	Project Activities That Cause Risks/ Impacts	Nature & Duration	Impact Likelihood	Impact Scope	Spatial Scale	Impact Magnitude	Receptor Sensitivity	Impact Significance
		businesses.							
	Socio-Culture	Worker-community interaction, construction disturbance, changes to access and visiting comfort, disruption to hospital social routines, complaints, and works near heritage buildings.	Adverse, short-term to construction period, may be sensitive where heritage or patient comfort is affected.	Likely	Direct and indirect.	Immediate local area, including hospital users, neighbouring residents and heritage-sensitive buildings/spaces.	Moderate	High - patients, carers, staff, community leaders, visitors and heritage/culturally valued hospital spaces.	High
	Labour and Working Conditions	Recruitment, mobilisation of Project related vehicles, wage/payment practices, working hours, provision of forging, worker GRM implementation, Code of Conduct socialization, and GBV/SEAH/HIV risk.	Adverse if unmanaged, short-term construction phase, can be recurring across contractor and subcontractor workforce.	Likely	Direct on workers, indirect on communities through worker behaviour and accommodation.	Site-specific to local area, including worksites, accommodation, access points and nearby service areas.	Moderate	Low - construction workers, subcontractor workers, female workers, local job seekers and vulnerable workers.	Moderate
	Occupational Health and Safety	Moving equipment, dust, noise and vibration from the equipment, hazardous materials, and interface with hospital utilities, Sexual Infectious Diseases, Workers dormitory location. HIV/STI.	Adverse, short-term construction phase but high-frequency hazard exposure, can cause severe incidents if unmanaged.	Likely	Direct and indirect.	Site-specific, mainly construction zones, utility interface areas, access roads and work-at-height/excavation zones. Indirect and direct health impact may spread outside the Project area	High	High - contractor workers, subcontractors, supervisors, security, IPSRS/maintenance staff and nearby hospital staff.	Very High
	Community Health	Dust generation, emissions from the machinery fuel based, noise andvibration from the heavy vehicle and	Adverse, short-term construction phase, recurring and sensitive because the	Likely	Direct and indirect, includes environmental health, infection	Immediate local area, including wards, TB/MDR-TB services, IGD, patient routes,	Moderate to High	High - respiratory/TB patients, MDR-TB patients, elderly/children,	High

No	E&S Risks and Impacts	Project Activities That Cause Risks/ Impacts	Nature & Duration	Impact Likelihood	Impact Scope	Spatial Scale	Impact Magnitude	Receptor Sensitivity	Impact Significance
		equipment, worker influx, , infectious disease interface (HIV/STI), and disruption to patient circulation or clinical access.	hospital remains operational.		prevention and service continuity pathways.	visitors and nearby community receptors.		carers, staff, visitors and nearby residents.	
	Community Safety and Security	Construction traffic, open excavations, falling objects, unsafe pedestrian routes, unauthorised access to work zones, emergency access disruption, security conduct, and GBV/SEAH risk.	Adverse, short-term construction phase, highest near access points, pedestrian routes and clinical-construction interfaces.	Likely	Direct and indirect.	Site-specific to immediate local area, including construction boundaries, internal roads, public access points and ambulance routes.	Moderate	High - patients, carers, visitors, pedestrians, local residents, women/girls and hospital staff.	High
	Cultural Heritage	Excavation, trenching, foundation works, basement works, utility relocation, drainage works, soil stripping, grading, and other intrusive ground works.	Permanent / irreversible	Possible	Very limited	Site-specific	Moderate	High. Unknown finds may have historical or archaeological value and require stop-work, protection, expert review, and notification to the relevant cultural heritage authority.	High
3	**OPERATION**								
A	**ENVIRONMENTAL**								
	Air Quality & Greenhouse Gases	Operation of emergency generators, boilers/stack sources if applicable, HVAC and energy use, ambulance/vehicle movement, medical equipment, and increased electricity demand causing	Adverse, long-term throughout operation, mostly continuous for energy use and intermittent for backup/emergency equipment.	Likely	Direct for emissions, indirect for GHG contribution.	Site-specific to immediate local area for air pollutants, broader/regional for GHG accounting.	Moderate	High - respiratory patients, staff, visitors, nearby residents and climate-sensitive hospital operations.	High

No	E&S Risks and Impacts	Project Activities That Cause Risks/ Impacts	Nature & Duration	Impact Likelihood	Impact Scope	Spatial Scale	Impact Magnitude	Receptor Sensitivity	Impact Significance
		exhaust, stack emissions and Scope 1/2 GHG emissions.							
	Noise	Operation of HVAC, pumps, generators, service vehicles, ambulances, loading/unloading, parking circulation and increased patient/visitor activity.	Adverse, long-term operation, mostly low-level continuous with intermittent peaks.	Possible	Direct, indirect disturbance to comfort and recovery.	Site-specific to immediate local area, especially near wards, residences, service yards and access roads.	Minor	Low - in-patients, staff, visitors and nearby residents.	Low
	Water Quality	Increased volume of hospital wastewater from expanded hospital bed capacity, wards, laboratories, diagnostic services, sputum/infectious handling areas, laundry, kitchens and domestic use, risk of IPAL overload or non-compliance.	Adverse, long-term operational risk, continuous wastewater generation.	Likely	Direct, indirect effect on receiving drainage/water environment if treatment fails.	Site-specific to local drainage/receiving water environment.	Moderate	Moderate - downstream water environment, public health, regulators, hospital users and nearby communities.	Moderate
	Land-Based Transportation	Increased parking lot, , ambulance movement, logistics, waste collection, parking circulation and service vehicle access after expanded capacity.	Adverse and beneficial, long-term recurring operational traffic and access impact.	Likely	Direct and indirect.	Local area, especially Jl. Raya Puncak, hospital entrance, parking areas, internal circulation and ambulance routes.	Moderate	High - patients, emergency users, road users, pedestrians, nearby residents, businesses and tourism corridor traffic.	High
	Biodiversity	Long-term landscaping and revegetation, vegetation maintenance, human activity, and waste management	Adverse risk generally low, long-term operational disturbance, partly reversible through landscape vegetation	Possible	Direct and indirect.	Site-specific to immediate local area, including limited potential risk to the surrounding green spaces and closed edge	Low	Moderate - modified hospital habitat, planted vegetation, fauna, higher sensitivity to the interface area with	Moderate

No	E&S Risks and Impacts	Project Activities That Cause Risks/ Impacts	Nature & Duration	Impact Likelihood	Impact Scope	Spatial Scale	Impact Magnitude	Receptor Sensitivity	Impact Significance
			management.			and patches habitats of TNGGP		edge habitat and patches habitat of TGGP KBA.	
B	**SOCIAL**								
	Socio-Economy and Demography	Expanded hospital services, increased workforce, trainees, procurement, visitor spending, transport demand and local service demand.	Mostly beneficial long-term, possible adverse pressure on traffic, local services and access.	Likely	Indirect, with direct employment effects.	Local to regional, including Cisarua-Puncak economy and wider referral catchment.	Moderate beneficial, Low to Moderate adverse	Moderate - local workers, businesses, patients, trainees, suppliers and nearby communities.	Moderate Positive, adverse risks Moderate
	Socio-Culture	Transformation into teaching hospital, increased patient/visitor flows, TB stigma and privacy issues, hospital routines, heritage identity and public complaints.	Mixed, long-term beneficial for service identity and education, with adverse risks if privacy, access and complaints are poorly managed.	Likely	Direct and indirect.	Site-specific to local area and wider patient catchment.	Moderate	High - patients with TB/respiratory illness, carers, staff, students, nearby residents and heritage-sensitive receptors.	High
	Labour and Working Conditions	Expanded hospital workforce, shift work, recruitment, trainee integration, cleaning/security/outsourced labour, worker GRM, harassment prevention and equal opportunity.	Adverse and beneficial, long-term operational employment impact.	Likely	Direct.	Site-specific, mainly hospital workforce especially for radiation bunker area and outsourced service areas.	Moderate	Moderate to High - health workers, female workers, cleaners, security, outsourced staff, trainees and vulnerable workers.	High
	Occupational Health and Safety	Healthcare work involving TB/MDR-TB exposure, infectious waste, sputum handling, sharps,	Adverse, long-term operational exposure, potentially severe if PPI/K3RS controls fail.	Likely	Direct.	Site-specific, especially wards, isolation areas, laboratories, waste areas, radiology,	High	High - healthcare workers, cleaners, laboratory staff, waste handlers,	Very High

No	E&S Risks and Impacts	Project Activities That Cause Risks/ Impacts	Nature & Duration	Impact Likelihood	Impact Scope	Spatial Scale	Impact Magnitude	Receptor Sensitivity	Impact Significance
		chemicals, radiation/diagnostics, laboratories, lifting, shift work, emergency response and psychosocial stress.				operating areas and emergency units.		security and maintenance staff.	
	Community Health	Improved access to pulmonary, emergency, inpatient, diagnostic and teaching hospital services, residual risks from TB/MDR-TB transmission, HAIs, indoor air, wastewater, B3 waste, crowding and patient flow.	Mixed, major long-term beneficial service impact, with adverse public health risk if infection/environmental controls fail.	Likely	Direct and indirect.	Local to regional service catchment, site-specific for infection-control interface.	High beneficial, Moderate to High adverse	High - TB/MDR-TB patients, respiratory patients, children, elderly, carers, visitors, staff and surrounding communities.	High Positive, adverse risks High to Very High
	Community Safety and Security	Increased patient/visitor circulation, parking and ambulance movement, emergency evacuation, security services, public access control, lighting, GBV/SEAH prevention and grievance handling.	Adverse risk and beneficial safety management, long-term operational.	Possible to Likely	Direct and indirect.	Site-specific to immediate local area, including entrance, parking, pedestrian routes, wards and public areas.	Moderate	High - patients, visitors, carers, women/girls, children, elderly, persons with disabilities, staff and nearby residents.	High
	Vulnerable patient access, dignity, privacy and non-discrimination	Construction within an active hospital, temporary service relocation, access route changes, increased patient/visitor flow, interaction with workers/security/students, changes in waiting areas, signage, registration, and complaint channels.	Mixed. Beneficial long-term if new facilities improve accessibility, privacy, and service quality, adverse short-term if temporary arrangements do not protect vulnerable patients.	Likely	Direct and indirect, affects access to care, safe circulation, patient dignity, privacy, and trust in services.	Site-specific to hospital areas, with relevance to wider referral patients.	Moderate adverse during construction, Moderate beneficial during operation if inclusive design and procedures are	High to Critical – persons with disabilities, TB/MDR-TB patients, ODHA/people living with HIV, elderly respiratory patients, children, pregnant women, low-income JKN/BPJS patients, patients facing stigma including substance-	High before mitigation, Moderate residual with universal access, privacy, non-discrimination, confidential GRM, clear signage, staff/contract

No	E&S Risks and Impacts	Project Activities That Cause Risks/ Impacts	Nature & Duration	Impact Likelihood	Impact Scope	Spatial Scale	Impact Magnitude	Receptor Sensitivity	Impact Significance
							implemented.	use/drug-dependency patients where present, women patients/caregivers, and other vulnerable service users.	or training, and service-continuity controls.
	Relocation of health services and patients	Temporary relocation of Class 1, Class 3 and paediatric isolation beds during 2027–2028, followed by phased transfer of clinical services, patients, staff, medical records, medicines, specimens and equipment from existing or temporary areas to the new Buildings A, B and C. Changes will also occur to patient registration, ambulance access, emergency routes and caregiver circulation.	Adverse and temporary during each relocation, beneficial in the long term after the new buildings are safely commissioned and fully operational.	Likely—the relocation is planned, although harmful outcomes can be prevented.	Direct and indirect. Risks include interruption of treatment, oxygen or medication, delayed emergency response, loss or mismatch of records and specimens, unsafe patient movement, mixing of infectious and non-infectious patient flows, privacy breaches, confusion regarding service locations, and temporary reduction of service capacity.	Mainly site-specific, but disruption may affect referral hospitals, ambulance services and patients from the wider regional catchment.	Moderate overall, potentially High for critical care, emergency, isolation and infection-control services.	High to Critical—ICU/RICU/NICU/PICU and emergency patients, TB/MDR-TB and other isolation patients, oxygen-dependent patients, children, elderly people, pregnant women, persons with disabilities, low-income JKN/BPJS patients, caregivers and health workers.	High to Very High before mitigation, Moderate residual. Measures include an approved relocation and patient-transfer plan, phased moves, facility-readiness checks, confirmed beds and emergency transport, separated infection routes, record and medication reconciliation, advance notice, clear

No	E&S Risks and Impacts	Project Activities That Cause Risks/ Impacts	Nature & Duration	Impact Likelihood	Impact Scope	Spatial Scale	Impact Magnitude	Receptor Sensitivity	Impact Significance
									signage, staff drills, and post-transfer verification.
	Healthcare-associated infectious disease transmission, including blood-borne infections	Routine treatment of patients with TB/MDR-TB, respiratory and contact-transmitted diseases, and blood-borne infections such as HIV, hepatitis B and hepatitis C. Exposure pathways include blood and body fluids, needlestick or sharps injuries, sputum and laboratory specimens, unsafe injections or transfusions, inadequately sterilised equipment, contaminated surfaces and improperly managed infectious waste. The presence of a person living with HIV in the hospital does not itself create a risk through ordinary contact.	Adverse, long-term operational and potentially severe if PPI and K3RS controls fail.	Possible for actual transmission, although exposure opportunities are likely because infectious-disease care is a routine hospital activity.	Direct exposure of patients and workers through airborne, droplet, contact or blood-borne pathways, indirect exposure through equipment, surfaces, waste or unsafe clinical practices. Secondary spread of respiratory or contact-transmitted infections may extend to households or the community. HIV is not transmitted through ordinary social or workplace contact.	Mainly site-specific. Some respiratory and contact-transmitted infections may extend to patients' or workers' households and the surrounding community.	High because consequences may be serious, although likelihood can be substantially reduced through effective controls.	High—health workers, laboratory staff, cleaners, waste handlers, students, patients, caregivers and visitors. Particularly sensitive receptors include immunocompromised patients, people living with HIV, elderly patients, children and patients with chronic respiratory conditions.	High before mitigation, Moderate residual. Measures include effective PPI, screening and separated patient flows, isolation and PPE, safe clinical and waste practices, vaccination and exposure response including HIV PEP, HAI monitoring, confidential HIV care and continuous ART, and protection from stigma and discrimination.

6.3 Construction Phase Impacts

Construction-phase impacts span nine principal pathways characterised below. Each pathway is identified, the receptors are noted, and the cross-reference to mitigation in Chapter 7 and Annex A (ESMP) is provided. Detailed impact-mitigation pairings are tabulated in Section 7.2.

6.3.1 Dust Generation

Earthworks (basement excavation for Buildings A and C, site grading, foundation works), aggregate haulage, concrete batching, and ongoing site activity will generate fugitive dust and equipment-related combustion emissions. The receptors include the operating Hospital itself (in-patients, vulnerable respiratory patients), staff, surrounding community, and TNGGP edge ecosystems. Mitigation includes wet suppression, wheel-wash, covered haulage, batching plant control, and active monitoring at sensitive receptors.

The impact likelihood of dust generation occurs during the construction phase and categorized as likely. Dust generation can directly impact hospital visitors, construction workers, and residents living near the hospital. Residents west of the RSGP are potentially exposed to construction dust because the residential area is 16 meters lower than the hospital.

6.3.2 Ambient Air Quality

During construction activities, several construction-related vehicles will operate around the hospital area, such as light vehicles, heavy vehicles, and heavy equipment. These vehicles generally use fossil-based fuels. During its operational activities, the vehicle produces exhaust gases which will affect changes in ambient air quality around the hospital.

This increase in exhaust gases will occur during the construction phase. From the baseline data held by the hospital, the quality of CO parameters exceeds environmental quality standards so that increased vehicle activity has an impact on changes in ambient air quality. These changes in air quality have a direct impact on hospital workers, hospital visitors and construction workers.

6.3.3 Greenhouse Gases

Construction activities will involve various vehicles and consume more electricity than under normal operating conditions. Fossil fuel use will increase during this phase. Indirectly, additional fuel use and electricity consumption contribute to increased greenhouse gas emissions. The impact of increased GHG occurs during the construction phase. The impacts can occur at site and regional scales for cumulative climate effects.

6.3.4 Noise and Vibration

Heavy plant operation (excavators, vibratory compactors, pile drivers if applicable, generators), aggregate haulage, and site activity will generate noise and vibration impacts that intersect particularly sharply with the Hospital's clinical operations. Based on published reference values from BS 5228 and other construction noise guidance documents, noise levels at active construction areas may typically range between approximately 80 and 95 dBA[3], depending on the equipment in operation and the construction activity being undertaken.

Vibration risks extend to the colonial-era Heritage Eksecutive structures (1914+) where structural integrity may be more sensitive than for modern construction.

Mitigation includes acoustic barriers, restricted-hour operation near in-patient wards, vibration monitoring at heritage receptors, and the use of low-vibration techniques (e.g., bored piles rather than driven piles where geotechnical conditions permit).

6.3.5 Water Quality

The high-rainfall regime (3,000-4,000 mm/year) creates pronounced stormwater management challenges during construction, including erosion of exposed soil surfaces, sediment runoff into the upstream Ciliwung catchment (with downstream consequence for Greater Jakarta water resources), and risk of contamination of construction-area runoff with cement, fuels, lubricants, and concrete washwater.

Visually, the impact on water quality that occurs is an increase in TSS in the surrounding water bodies due to water runoff during the construction phase in the preparation, maturation and land clearing activities. Runoff water with high TSS can flow into water bodies through drainage at the Project location, then to surrounding drainage and to nearby rivers.

Mitigation includes silt fencing, sediment basins, covered material stockpiles, storm-event work planning, and segregated collection of contaminated run-offs for treatment before discharge.

6.3.6 Hydrology

The Project Area has an area of approximately 69,661 m², so the impact on hydrology can be categorized as local. The impact occurs due to the possibility of blocked drainage due to construction materials or construction waste being carried by water runoff during heavy rainfall. This impact will not change the hydrological conditions broadly or at the sub-district level.

[3] BS 5228-1:2009+A1:2014 Code of Practice for Noise and Vibration Control on Construction and Open Sites.

6.3.7 Geomorphology and Topografi

The construction process will only alter the existing building and replace it with a new one. Land clearing will only involve removing any remaining demolition materials from the old building. Topographic modifications were made during the basement construction but there was no increase in the height of the building's base. These impacts on geomorphology and topography are local in nature. Sensitive receptors are hospital employees, hospital visitors and construction workers.

6.3.8 Heritage and Archaeological Resources

RSGP has cultural heritage sensitivity due to its long institutional history, including the Methodist Zending Hospital Tjisaroea period, the Sanatorioem Tjisaroea Bogor period, and the presence of older hospital buildings associated with the historical development of the institution. Based on its institutional history and available historical evidence, RSGP recognizes relevant older buildings as cultural heritage resources for the purposes of the Project. This recognition does not depend on formal designation as Cagar Budaya by a government authority.

Consistent with AIIB ESS1 and good international practice, these buildings shall therefore be treated as cultural heritage receptors and protected throughout Project design and implementation. Their heritage significance should be documented through a building-by-building inventory, photographic and historical documentation, condition assessment, and review by a suitably qualified cultural heritage specialist.

Before demolition, excavation, piling, intrusive investigation, structural alteration, façade modification, or major renovation is undertaken on or close to an identified heritage building, the Project shall assess the potential physical and indirect impacts. This assessment shall include an overlay of proposed construction footprints and work areas, assessment of excavation and vibration risks, identification of appropriate protection buffers, and establishment of construction controls.

A Cultural Heritage Management Plan (CHMP) shall be prepared and implemented for the RSGP-recognized heritage resources that may be directly or indirectly affected by the Project. The CHMP shall define protective measures including no-go or restricted-work areas, protective fencing, pre- and post-construction condition surveys, vibration controls, restrictions on heavy machinery, worker induction, monitoring, incident response, and procedures for repair or conservation where required.

The protection of these buildings under the ESIA and CHMP does not require RSGP to seek formal government designation of the buildings as Cagar Budaya. Any statutory requirements that may independently apply under Indonesian law will continue to be observed.

A chance-find procedure shall apply to excavation, basement works, utility trenching, demolition, and other ground-disturbing activities. If previously unknown archaeological, historical, architectural, or other potentially significant cultural material is discovered, work in the affected area shall stop, the location shall be secured, and the find shall be assessed by a qualified cultural heritage specialist. Notification to the competent authority shall be undertaken where required under applicable

Indonesian law, and works shall resume only after the required assessment and clearance have been completed.

6.3.9 Natural Hazard

Natural hazards are low-risk but still require attention, particularly the potential for landslides in the project area. The project site is located on higher ground than the surrounding area, so the construction process must consider the risk of landslides that may occur during the construction phase. Areas with potential landslides can occur during basement excavation activities, especially when heavy rain is occurring. This impact can occur locally in the Project area and affected the internal road and access.

6.3.10 Spatial Plan

Changes from the development of RSGP according to national regulations will require Building Construction Approval (PBG), which is an official permit from the government that must be obtained before constructing, changing, expanding, or maintaining a building.

Changes and additions must follow what has been planned and stated in the PBG. The planning of dedicated space/areas for construction needs such as material laydown areas and heavy equipment placement must be appropriate. The specific location for placing Project-related goods must be appropriate to prevent overlap with hospital operational needs.

6.3.11 Domestic Waste

Construction will generate inert demolition waste (concrete, masonry, soil), packaging waste, metal off-cuts, timber, and limited hazardous waste streams (used oil, paint, solvents). Each stream has prescribed handling per PermenLHK 6/2021, with priority on waste minimisation, on-site segregation, recycling/recovery for inert and metals, and licensed off-site disposal for hazardous fractions.

6.3.12 Land-Based Transportation

Construction-phase truck movements on Jl. Raya Puncak will intersect with the existing weekend and holiday traffic congestion regime , a particularly sensitive operational risk given the road's national/regional function and its KSPN status. Mitigation includes truck-movement scheduling outside peak periods (avoiding weekend and holiday peaks), defined haulage routes, traffic management staff at site access, coordination with Polantas and Dishub Kabupaten Bogor, and integration with the ANDALALIN study being prepared by the EGI Transportation Specialist ~~(Teguh Setiawan, A.T.D).~~

6.3.13 Biodiversity

The construction phase of the proposed development has the potential to generate several biodiversity-related risk and impacts associated with vegetation clearing, habitat modification, workers activity, and construction-related disturbances within the project site and surrounding landscape. The impact including,

a. Vegetation Clearing and Habitat Change

Construction activities will commence with land clearing and site preparation, including the removal of existing vegetation within the project footprint. These activities will result in changes to the existing modified habitat and vegetation structure, including the removal of several mature trees.

Following the completion of construction activities, replanting and landscape restoration activities are planned within the project area, which will contribute to the re-establishment of vegetation cover and green spaces. Nevertheless, the post-construction habitat condition is expected to differ from the pre-construction condition in terms of vegetation composition, structure, maturity, and ecological function. As a result, habitat utilization by wildlife species may also change over time depending on the characteristics of the replanted vegetation and the long-term landscape management within the project area.

b. Disturbance and Mortality of Wildlife

Construction activities present the potential for direct mortality, injury, disturbance, or displacement of fauna inhabiting the project site, particularly less mobile species or species dependent on microhabitats within the site area, including birds, amphibians, reptiles, and small mammals. Potential impacts may include disturbance of nesting birds, accidental mortality during vegetation clearing and earthworks, and loss of sheltering habitat associated with trees, landscaped vegetation, drainage features, and secondary green spaces within the project footprint. In addition, the presence of construction workers may increase the risk of opportunistic hunting, trapping, collection, or harassment of wildlife, particularly bird species, reptiles, and other small vertebrates that may occur within or around the project area. Such activities, although generally localized and incidental, could contribute to additional pressure on local fauna populations if not properly managed and controlled.

Several bird species recorded within the area include migratory species and species endemic to Java Island. While no direct habitat connectivity with TNGGP has been identified, some avifauna species may still maintain ecological interactions with populations associated with nearby conservation areas through the use of fragmented vegetation patches and habitat-edge environments within the broader montane landscape. However, such interactions are expected to remain limited to landscape-level movements and edge-habitat utilization rather than direct ecological dependency on the project site. Consequently, impacts are expected to be primarily site-specific and localized, affecting individual animals and habitat features within the project footprint and adjacent edge habitats, with limited potential to influence ecological functions at the wider landscape scale.

c. Introduction and Spread of Invasive Species

Another potential impact during the construction phase is the introduction and spread of invasive or non-native species within the project site and surrounding areas. Potential sources include imported construction materials, soil transport, landscaping materials, vehicles, equipment, worker activities, and improperly managed food waste. The dispersal of invasive plant species or opportunistic fauna may also be facilitated by wildlife movement between the project site and surrounding habitats. Although the project area is located outside conservation areas, uncontrolled spread of invasive species may potentially extend toward nearby natural habitats and peripheral areas of Taman Nasional Gunung Gede Pangrango, potentially contributing to ecological disturbance and competition with native species, particularly within habitat-edge environments.

d. Wildlife Behavioural Changes and Human-Wildlife Interaction

Construction activities may also cause changes in wildlife behaviour due to habitat alteration, increased human presence, construction noise, artificial lighting, traffic movement, and other disturbances associated with project activities. Species adaptable to modified environments may become habituated to human activities, particularly where domestic waste management is inadequate. Poor handling and storage of food waste and domestic refuse may attract opportunistic wildlife species, causing changes in feeding behaviour and increasing wildlife reliance on anthropogenic food sources. Such conditions may increase the potential for human-wildlife interactions and indirectly influence wildlife movement patterns and ecological behaviour within the surrounding landscape.

e. Disturbance to Cibereum River Habitat

Construction activities have the potential impact and risk to surface water quality within the Cibereum River habitat through construction-related runoff carrying suspended sediments, fuels, & lubricantsinto connected drainage systems, and inadequate management of domestic wastewater from the construction workforce introducing organic pollutants and excess nutrients into surface drainage. Such changes in water quality may adversely affect aquatic and semi-aquatic fauna dependent on the river system, including freshwater fish, amphibians, and aquatic invertebrates, which are sensitive to elevated turbidity, reduced dissolved oxygen, and chemical contamination. Impacts are expected to be localized and temporary, primarily occurring during the active construction phase and anticipated to diminish following the completion of works and implementation of appropriate mitigation measures

6.3.14 Socio-Economic and Demography

Construction activities will attract both local and outside workers from Cisarua sub-district and Bogor Regency. The presence of construction workers will increase business opportunities for the surrounding community, such as providing temporary housing for workers. This population increase is temporary during the construction phase. Non-skilled daily construction workers can be obtained from the surrounding community (Cibereum village). There are also temporary disruption to on-site tenants and service providers due to access changes, delivery restrictions, parking adjustments, utility works, dust, noise, and safety controls during construction.

Impacts that may also occur from the increase in population include (i) pressure on Public Facilities, The sudden surge in the number of workers increases the burden on health facilities, transportation, and the availability of clean water around the project location, (ii) Potential for Social Conflict, Differences in habits, values, and rhythms of life between migrant workers and local residents have the potential to cause social friction or misunderstanding, (iii) Increased Crime & Public Order Disturbances, New crowds often invite social vulnerabilities such as an increase in petty crime rates, drug abuse, or prostitution problems. (iv) Changes in Demographic Structure, The age and gender composition of the area becomes more dominated by men of productive age, (v) Potential Increase in HIV and Other Sexually Transmitted Infection Transmission: Increased interaction between workers and surrounding communities may expand sexual networks and increase exposure risks, particularly where unprotected sex, transactional sex, sexual exploitation or GBV/SEA/SH occurs and access to prevention, testing, counselling and treatment is limited. This is a two-way risk affecting both workers and community members.

6.3.15 Socio-Culture

The addition of construction workers during the construction phase can trigger a surge in temporary residents. This often triggers demographic changes, increases the need for public facilities, and accelerates cultural acculturation between newcomers and local communities.

Impacts on socio-culture can also occur due to, (i) acculturation and assimilation, the exchange of culture, language, and customs between workers from outside the area and the native population, (ii) shifts in traditional values, the entry of more modern or cosmopolitan outside cultures can shift local values, norms of politeness, or customs that are highly respected by the local community. (iii) commercialization of culture, if the project area becomes a busier destination, local culture sometimes experiences commercialization to meet the needs of newcomers.

6.3.16 Labour Influx and Working Conditions

Construction of the RSGP redevelopment will require contractor and subcontractor workers over an estimated 36-month construction period. The workforce will likely include local hires from Cisarua, Megamendung and broader Bogor, as well as non-local skilled and specialist workers mobilised by the contractor. Although the influx is expected to be moderate in scale, it is not negligible given the active hospital setting and the presence of sensitive receptors, including patients, carers, female staff, nearby residents and local businesses.

Key impact pathways include increased interaction between workers and communities, potential social tension if recruitment is perceived as unfair, GBV/SEAH and harassment risks, communicable disease transmission linked to worker movement and accommodation, and working condition risks such as unclear contracts, delayed wages, excessive working hours, inadequate rest, weak subcontractor control, inadequate accommodation, discrimination, limited worker grievance access and non-compliance with OHS procedures.

The pre-mitigation significance is assessed as **High**, not because the workforce is expected to be large, but because even moderate influx can create serious social, health and worker welfare risks if unmanaged. Mitigation will include preferential local hiring with skills-development support, transparent recruitment, contractor-managed accommodation with community-sensitive siting, Code of Conduct and GBV/SEAH training, worker and community grievance mechanisms, strong OHS supervision, and implementation of the Contractor Labour Management Plan. With these measures, the residual significance is expected to reduce to **Moderate**.

6.3.17 Occupational Health and Safety

Construction workers may face occupational health and safety risks during the construction phase. These risks are relevant because the Project will involve demolition, excavation, structural works, material lifting, equipment operation, electrical works, hot works, work at height, confined space entry, night works, and construction activities within an active hospital environment. Without proper controls, these activities may lead to injury, illness, fatigue, or fatal accidents.

The main occupational health risks include respiratory problems from dust and chemical exposure, hearing damage from construction noise, musculoskeletal disorders from manual handling, heat stress from outdoor work, fatigue from long working hours or night shifts, and mental stress from high workload, separation from family, and safety pressures. Workers may also face communicable disease risks, including HIV/STI risks, where labour mobility, distance from family, crowded accommodation, limited health education, and risky behaviour increase exposure.

The main occupational safety risks include the following:

- **Working at heights:** Workers may be exposed to fall risks during scaffolding, roof works, formwork, façade installation, structural works, and use of ladders or temporary platforms. Falling from height may cause serious injury or fatality.
- **Hot works:** Welding, cutting, grinding, and other hot works may create fire, explosion, burn, smoke, and eye injury risks, especially near flammable materials, oxygen cylinders, fuel, temporary electrical cables, or hospital utility areas.
- **Confined spaces:** Workers entering tanks, manholes, utility chambers, basement areas, septic tanks, drainage structures, or poorly ventilated rooms may face oxygen deficiency, toxic gas, poor ventilation, heat stress, drowning, or difficulty in emergency rescue.
- **Electrical risks:** Temporary power supply, exposed cables, damaged tools, wet working areas, electrical panels, and energised systems may cause electric shock, burns, fire, or electrocution.
- **Slips, trips, and falls:** Uneven surfaces, wet areas, scattered materials, temporary cables, poor housekeeping, inadequate lighting, open excavations, and temporary access routes may increase the risk of slips, trips, and falls.

- **Excavation and trenching risks:** Open excavations, unstable soil, poor barricading, water accumulation, and movement of equipment near excavation edges may cause falls, collapse, or burial.
- **Lifting and heavy equipment risks:** Crane operation, lifting of materials, reversing trucks, excavators, loaders, and other mobile equipment may expose workers to struck-by, caught-between, crushing, and collision risks.
- **Night shift and fatigue risks:** Night works and extended shifts may reduce alertness and visibility, increase human error, and raise the likelihood of traffic accidents, falls, equipment incidents, and poor emergency response.
- **Heat stress and dehydration:** Outdoor work under high temperature, heavy PPE use, limited rest, and inadequate drinking water may cause dehydration, heat exhaustion, heat stroke, and reduced concentration.
- **Noise and vibration exposure:** Prolonged exposure to heavy equipment, cutting, drilling, and demolition activities may cause hearing loss, tinnitus, fatigue, and reduced communication between workers.
- **Chemical and hazardous material exposure:** Paint, solvents, fuel, cement, silica dust, asbestos-containing materials if found, and other hazardous substances may cause skin irritation, respiratory illness, poisoning, or long-term disease.
- **Psychosocial and mental health risks:** Tight schedules, high-risk work, migrant worker conditions, isolation from family, poor accommodation, and financial pressure may contribute to stress, fatigue, conflict, and unsafe behaviour.

To manage these risks, the Contractor shall prepare and implement an Occupational Health and Safety Plan as part of the Contractor ESMP before mobilisation. The plan shall include hazard identification, job safety analysis, permit-to-work systems, method statements, emergency response procedures, worker induction, daily toolbox meetings, supervision arrangements, incident reporting, first aid, medical referral, and OHS monitoring.

Specific controls shall include fall protection for work at height, certified scaffolding, guardrails, full-body harnesses where required, hot work permits, fire extinguishers, fire watch, gas testing for confined spaces, lock-out/tag-out for electrical works, safe temporary electrical installation, housekeeping, barricading of excavations, traffic marshals, lifting plans, equipment inspection, safe access routes, lighting for night works, rest breaks, drinking water, shaded rest areas, and heat stress monitoring.

All workers, including subcontractors and casual workers, shall receive mandatory OHS induction before starting work. Training shall cover site rules, PPE, working at height, hot work, confined space entry, electrical safety, excavation safety, lifting safety, traffic safety, emergency response, fire prevention, hazardous materials, heat stress prevention, HIV/STI awareness, worker grievance mechanism, and code of conduct. High-risk works shall only be carried out by trained and authorised workers under competent supervision.

The Contractor shall also provide appropriate personal protective equipment, including safety helmets, safety shoes, high-visibility vests, gloves, eye protection, respiratory protection, hearing protection, fall arrest equipment, and other task-specific PPE. PPE shall be provided free of charge, maintained in good condition, and replaced when damaged.

For HIV/STI prevention, the Contractor shall provide mandatory HIV/STI awareness training during worker induction, health information materials in Bahasa Indonesia, voluntary testing and referral information, coordination with Puskesmas Cisarua and Dinas Kesehatan Kabupaten Bogor where relevant, and a Code of Conduct prohibiting sexual harassment, exploitation, abuse, and the use of commercial sexual services linked to the Project.

OHS monitoring shall include daily site inspections, permit-to-work records, toolbox meeting records, PPE compliance checks, equipment inspection records, heat stress checks, worker accommodation checks if applicable, incident and near-miss reporting, corrective action tracking, and monthly OHS performance reporting. Any fatality, serious injury, dangerous occurrence, fire, electrical incident, confined space incident, fall from height, or repeated unsafe condition shall be reported immediately to the Project owner, supervision consultant, and relevant authorities in accordance with applicable requirements.

6.3.18 Community Health

Public health and safety risks center on traffic interactions with truck movements (risk of pedestrian and motor vehicle accidents on Jl. Raya Puncak), dust exposure for nearby residents, noise exposure for nearby impacted beneficiaries, and increased risks related to worker influx (GBV/SEAH, infectious diseases such as HIV) associated with the concentration of temporary construction workers.

During the construction phase, activities such as demolition, excavation, and truck movement release fine dust and hazardous particles (PM10 and PM2.5) into the air. Residents are susceptible to eye irritation, coughing, and other respiratory problems.

Heavy equipment such as excavators, cranes, and drilling machines generate high levels of noise. Continuous exposure to loud noise can disrupt communication, trigger stress, and cause sleep disturbances (insomnia). Vibrations from heavy machinery can also potentially cause cracks in the walls of homes.

The entry and exit of heavy vehicles, such as cement trucks and dump trucks, alters traffic around residential areas, increasing the risk of traffic accidents for local residents (especially children). Damage to roads around residential areas due to heavy loads can also disrupt daily mobility.

Mitigation includes access to community complaints through the GRM (Appendix D), infectious disease screening for incoming workers, and a Code of Conduct that enforces zero tolerance for harassment.

6.3.19 Community Safety and Security

Construction activities may create community safety and security risks, particularly from heavy vehicle movement, material delivery, equipment mobilisation, temporary access changes, excavation areas, and construction works within an active hospital campus. Increased material trucks and heavy equipment movement on Jl. Raya Puncak, hospital access roads, internal roads, and nearby local access routes may increase accident risks for pedestrians, patients, visitors, caregivers, staff, local residents, informal vendors, and children.

Patients, visitors, caregivers, and hospital staff located near construction sites may also be exposed to direct safety risks if construction areas are not properly separated from hospital operations. These risks include accidental entry into restricted work zones, slips and trips around temporary access routes, contact with moving equipment, falling materials, open excavations, exposed cables, temporary scaffolding, unstable surfaces, poor lighting, and confusion caused by changed circulation routes. Vulnerable hospital users, including children, elderly patients, persons with disabilities, pregnant women, and patients with respiratory illness or limited mobility, may face higher risks because they may move more slowly, require assistance, or be less able to respond quickly to construction hazards.

Construction activities may also affect hospital staff working close to construction areas, including medical staff, cleaning staff, security personnel, ambulance drivers, and facility maintenance workers. Potential risks include unsafe interaction with construction vehicles, obstruction of routine work routes, reduced visibility near temporary barriers, emergency access delays, exposure to dust and noise, and increased risk of incidents during night works or material delivery. These risks could affect both worker safety and continuity of hospital services if not properly managed.

In addition to traffic safety risks, the Project may cause temporary damage or disruption to community infrastructure, public property, and public utilities if not properly managed. Potential impacts include damage to road surfaces from overloaded or frequent truck movements, blockage of local access routes, damage to roadside drainage, obstruction of pedestrian pathways, accidental damage to underground or overhead utilities, and interruption of water, electricity, wastewater, drainage, communication, fire safety, or hospital utility systems. These risks are expected to be localised and temporary, but could become significant if emergency access, ambulance routes, village access, hospital service routes, or public utilities are disrupted.

A specific access issue has been identified around the existing IPAL area, where part of the land is reportedly used by local villagers as an informal road access route. If this area is used for construction, temporary works, utility relocation, or new facility development, the Project shall verify the current access pattern, identify affected users, consult Desa Cibeureum and RT/RW representatives, and agree on a safe temporary or permanent alternative access route before any restriction is implemented.

To avoid and manage these risks, the Contractor shall prepare and implement a Construction Traffic Management Plan and Community Health and Safety Plan before mobilisation. These plans shall include approved haulage routes, entry and exit points, speed limits, delivery schedules, flagmen or

traffic marshals, pedestrian separation, warning signs, lighting, fencing, hoarding, emergency access protection, and coordination with RSGP Security, Dishub, Polantas, Desa Cibeureum, and relevant utility providers.

The Contractor shall also establish clear physical separation between construction areas and active hospital areas. This shall include secure fencing or hoarding, controlled access gates, warning signs in Bahasa Indonesia, safe pedestrian corridors, temporary ramps where needed, lighting for night-time movement, protection from falling objects, covered walkways where construction occurs near public routes, and clear wayfinding signs for patients, visitors, caregivers, and staff. Access to emergency units, inpatient wards, outpatient clinics, ambulance routes, pharmacy, laboratory, radiology, and other essential hospital services shall be maintained at all times.

Before heavy vehicles or excavation works begin, the Contractor shall conduct a pre-construction condition survey of affected roads, access routes, drainage channels, pedestrian areas, utilities, and public facilities within the project influence area. The survey shall include photographs, location maps, utility maps, and agreement on the baseline condition with RSGP, the supervision consultant, and relevant local stakeholders where community infrastructure may be affected.

Any project-related damage to public roads, community access routes, public property, drainage, or utilities shall be recorded, reported, and repaired by the Contractor at its own cost and within an agreed timeframe. Temporary repairs shall be made immediately where safety or access is affected, while permanent reinstatement shall be completed after the relevant construction activity is finished. Emergency access for ambulances, fire engines, hospital operations, and local community movement shall remain open at all times.

Monitoring shall include daily inspection of construction routes, temporary pedestrian routes, barriers, signage, lighting, excavation protection, hospital access points, and work areas located near patient, visitor, caregiver, and staff circulation routes. Monitoring shall also include weekly review of road and drainage conditions, utility incident logs, traffic incident records, ambulance access checks, community complaints, hospital user complaints, staff safety concerns, and corrective action tracking. Any road damage, utility disruption, blocked access, unsafe public interface, injury, near miss, or repeated complaint shall be treated as a safeguards incident and reported through the Project GRM and monthly ESMP reporting.

6.3.20 Cultural Heritage

Construction activities may affect heritage-sensitive buildings within the RSGP campus, including older structures associated with the 1914 Methodist Zending Hospital Tjisaroea period, the 1928 Sanatorioem Tjisaroea Bogor period, and the current Heritage Eksekutif wing. Until formal status is confirmed [4]by the competent cultural heritage authority, these buildings shall be treated as candidate

[4] The BPCB are contacted by The RSGP for checking the suspected cultural heritage building, until now there are no update from the BPCB, is it also stated if the process registers the suspected are complete, the the process of assessment will be conducted in 60 days (the fastest) however it might need more time in forming the cultural heritage team. The RSGP already stated part of historical building as hospital historic cultural heritage.

cultural heritage / Objects Suspected as Cultural Heritage (ODCB) and protected through a precautionary approach. The ESIA V2 already identifies the need for authority confirmation, buffer assessment, CHMP preparation, vibration limits, construction method restrictions, protection barriers, and chance-find procedures.

The main risks are physical cracking, vibration damage, settlement from excavation or piling, accidental impact from heavy equipment or vehicles, dust deposition on historic materials, chemical staining or corrosion, and loss of heritage setting. These risks are most relevant where demolition, excavation, piling, compaction, crane operation, heavy vehicle movement, or material storage occurs close to heritage-sensitive buildings.

The following minimum control measures shall apply before and during construction:

1. Pre-construction heritage control

Before any demolition, excavation, piling, structural alteration, façade works, or heavy equipment activity near heritage-sensitive buildings, the Project shall complete:

- building-by-building heritage inventory,
- photographic and dimensional recording,
- pre-construction condition survey, including existing cracks and vulnerable elements,
- overlay of final DED layout, excavation, piling points, access roads, crane locations, and heavy vehicle routes against heritage-sensitive buildings,
- confirmation of heritage status with BPCB/BPK Wilayah, Provinsi Jawa Barat, and/or Kabupaten Bogor,
- final Cultural Heritage Management Plan (CHMP) and contractor method statement.

No intrusive works or vibration-generating activities may start near heritage-sensitive buildings until the above items are completed and cleared by the PIU/RSGP, supervision consultant, and cultural heritage specialist.

Vibration limits and stop-work triggers

The Project shall use **Peak Particle Velocity (PPV, mm/s)** as the main vibration control parameter at heritage-sensitive buildings. For RSGP, the provisional limits should be conservative:

Table 68 Vibration Control Parameter at Heritage-Sensitive Buildings

Parameter	Requirement
Normal operating target	Keep vibration as low as reasonably practicable and below **2 mm/s PPV** at heritage-sensitive receptors

Alert level	**2 mm/s PPV**: review method, reduce equipment intensity, increase monitoring
Action / stop-work level	**3 mm/s PPV** at the heritage building foundation or nearest structural element: stop vibration-generating work, inspect the structure, and revise the method before restarting
Maximum limit unless approved by specialist	Do not exceed **3 mm/s PPV** for heritage-sensitive buildings without written approval from a qualified structural/conservation specialist

This is more conservative than general building-damage screening values, which often use around **5 mm/s PPV** for preliminary assessment, while heritage or especially sensitive structures are commonly managed at lower values. NZTA research identifies 5 mm/s PPV as a preliminary building-damage criterion, but also notes that specialist advice is needed for susceptible soil conditions. DIN 4150-3 guidance for listed or especially sensitive structures includes a low-frequency guideline value of **3 mm/s PPV** at foundation level.

Buffer zones and heavy vehicle distance

The contractor shall establish physical buffer zones around all heritage-sensitive buildings:

Table 69 Buffer Zones Around Heritage-Sensitive Buildings

Zone	Minimum requirement
No-go heritage protection zone	Minimum **10 m** from the outer wall/façade or structural boundary of heritage-sensitive buildings, unless a smaller distance is specifically approved by the heritage/structural specialist
Controlled vibration zone	**10–50 m** from heritage-sensitive buildings, all works require method statement, vibration monitoring, and supervision
Monitoring zone	Continuous vibration monitoring for piling, compaction, demolition, or heavy equipment works within **50 m** of heritage-sensitive buildings

Within the **10 m no-go zone**, the following are prohibited unless approved in writing by the cultural heritage specialist and supervision consultant:

- heavy vehicle movement or parking,
- crane outriggers or heavy equipment operation,
- material storage, fuel storage, chemical storage, and waste storage,

- piling, hydraulic breaking, vibratory compaction, and heavy demolition,
- excavation without temporary works design and settlement monitoring.

Where construction vehicles must pass within **10–50 m**, the contractor shall use approved routes only, maintain smooth road surfaces, apply a maximum speed of **10 km/h**, avoid sudden braking and reversing close to heritage buildings, prohibit idling next to heritage façades, and use flagmen/marshals to control movements.

Construction method restrictions

The contractor shall avoid high-vibration methods near heritage-sensitive buildings. Where works are required close to these buildings, the contractor shall prioritize:

- bored piling or other low-vibration piling methods instead of driven piling,
- saw-cutting and controlled dismantling instead of impact breaking,
- small hand-held equipment instead of large hydraulic breakers,
- staged excavation with temporary support,
- manual or light mechanical works within sensitive areas,
- dust suppression using methods that do not create moisture damage to historic materials.

Impact piling, vibratory rollers, hydraulic breakers, and heavy compaction shall not be used within the controlled zone unless vibration prediction and trial monitoring demonstrate compliance with the PPV limits.

Settlement and crack monitoring

Before works start, the contractor shall install crack gauges and/or tell-tales on existing cracks, and settlement markers where excavation, basement works, dewatering, or piling may affect heritage-sensitive buildings. Any new crack, crack widening, visible wall movement, door/window distortion, or abnormal settlement shall trigger immediate inspection and possible stop-work. The final numerical settlement trigger should be confirmed by the structural engineer after the pre-construction condition survey.

Dust, chemical, and moisture protection

Heritage façades, timber, plaster, masonry, metal elements, and decorative features shall be protected from dust, paint, fuel, solvents, cement slurry, and corrosive chemicals. Material mixing, paint spraying, chemical storage, and washing of equipment shall not be allowed near heritage-sensitive buildings. Temporary drainage shall be arranged so that runoff, ponding, or seepage does not affect old foundations or walls.

Contractor and worker training

All contractors, subcontractors, equipment operators, drivers, security staff, and workers assigned near heritage-sensitive buildings shall receive mandatory cultural heritage induction before starting work. Training shall be delivered in Bahasa Indonesia and recorded through attendance sheets.

The training shall cover:

- location and significance of RSGP heritage-sensitive buildings,
- no-go zones and controlled zones,
- vibration limits and stop-work triggers,
- prohibited activities near heritage buildings,
- safe movement of heavy vehicles and equipment,
- dust, chemical, and drainage controls,
- chance-find procedure,
- reporting lines to the Heritage Focal Point, HSE Officer, supervision consultant, and RSGP/PIU,
- sanctions for non-compliance.

Additional toolbox talks shall be conducted before demolition, excavation, piling, compaction, crane operation, or heavy vehicle works near heritage-sensitive buildings. No worker or equipment operator may work in the controlled zone without completing the heritage induction.

Chance-find procedure

If archaeological, historical, architectural, or cultural materials are discovered during excavation or utility works, the contractor shall stop work immediately in the affected area, secure the location, prevent removal or damage, notify the Heritage Focal Point and supervision consultant, and coordinate with the competent cultural heritage authority. Work may resume only after written clearance is received.

Monitoring and reporting

The contractor shall submit weekly heritage monitoring records during active construction near heritage-sensitive buildings, including vibration data, inspection photographs, training records, complaints, incidents, and corrective actions. Any exceedance of the vibration limit, visible damage, chance find, or unauthorised activity inside the no-go zone shall be reported within 24 hours to RSGP, PIU, supervision consultant, and relevant heritage authority where required.

6.4 Operational Phase Impacts

Operational impacts arise from the expanded scale of services (177 → 270 beds), the broadened service portfolio (KJSU additions, expanded MDR-TB), the teaching mandate (RSPPU), and the higher patient/visitor flows. Operational-phase impacts is identified, the receptors are noted, and the cross-

reference to mitigation in Chapter 7 and Annex A (ESMP) is provided. Detailed impact-mitigation pairings are tabulated in Section 7.2.

6.4.1 Air Quality and Greenhouse Gases

Air pollutants from hospitals are dominated by hazardous compounds originating from energy combustion and waste management. Emissions from the use of standby generators (often powered by diesel) produce NOx, SO2, and particulate emissions that can lower local air quality standards. Vehicle pollution and the high volume of ambulance traffic, logistics vehicles, and visitor cars cause increased exhaust emissions in the area around the hospital. Volatile Organic Compounds (VOCs) and the use of cleaning chemicals, disinfectants, drugs, and anesthetic gases (such as nitrous oxide) release VOCs into the air, which trigger the formation of surface ozone (smog).

6.4.2 Noise

Hospital operational noise (such as ambulance sirens, generators, and air conditioners) can cause significant noise pollution in surrounding residential areas. The main impacts include psychological disorders such as stress, decreased sleep quality (frequent awakenings), and an increased risk of cardiovascular disease due to long-term exposure.

The risks of noise exposure can lead to decreased physical health, including sleep disturbances. Exposure to loud noises at night (such as ambulances arriving and leaving) disrupts sleep cycles, reduces the depth of sleep, and causes chronic fatigue in the morning. Vulnerable groups such as infants, children, and the elderly are more sensitive to noise, which can trigger developmental disorders and reduced immunity.

6.4.3 Water Quality

The impacts and risks of hospital operations on the environment, particularly water quality, include pollution from domestic and medical wastewater containing residual drugs, heavy metals, and pathogenic microorganisms. If not managed properly with treatment facilities, this can damage aquatic ecosystems and public health.

Details of the main impacts and risks to water quality can arise from medical and pharmaceutical waste (Hazardous and Toxic Materials) and residual drugs (pharmaceutical residues). Disposing of leftover drugs or IV fluids down the drain can contaminate water bodies and cause antibiotic resistance in environmental bacteria. Toxic chemicals such as disinfectants, cleaning fluids, and radiological chemicals that enter waters can change the acidity (pH) level and kill aquatic biota.

The existing wastewater treatment plant with a capacity of 126 m3 will be built at a new location with a larger capacity of 300 m3. The additional wastewater discharge volume will be 124 m3/day.

6.4.4 Land Based Transportation

Hospital operations generate and attract traffic volumes in the surrounding area. This has the potential to cause congestion, parking congestion, and impede emergency ambulance service. These impacts reduce the level of road service and compromise the safety of road users.

The detailed impacts and risks to traffic resulting from hospital operations include a massive increase in vehicle generation and attraction from the influx of patients, visitors, medical staff, and logistics vehicles, which can significantly burden the road capacity around the hospital.

The reduction in road capacity due to the increased vehicle volume leads to a decrease in average vehicle speed and increased delays (waiting times) at intersections.

Side obstacles in front of the hospital often arise from pedestrians, online motorcycle taxis (ojek/taxi), and vehicles picking up and dropping off passengers indiscriminately.

Another risk is a lack of parking when internal parking facilities are inadequate. Queues of vehicles searching for parking or illegal parking on the roadside narrow the traffic lanes and trigger severe congestion.

6.4.5 Biodiversity

The operation phase of the proposed hospital may generate several biodiversity-related risks and impacts associated with human presence, visitor activities, waste generation, landscape management, and ongoing site maintenance. The potential impact is the disturbance of wildlife caused by hospital staff, visitors, contractors, and other site users. Opportunistic hunting and harassment of wildlife may occur if not properly controlled, particularly for birds, reptiles, and other small vertebrates utilizing the remaining green spaces in the project area. Such activities could place additional pressure on local wildlife populations and alter the ecological functions of these habitats.

Inadequate management of food waste and domestic refuse could attract opportunistic species such as birds, rodents, and other urban-adapted fauna, encouraging wildlife habituation to human activities and increasing dependence on anthropogenic food sources. In addition, operational activities may contribute to the introduction and spread of invasive or non-native species through landscaping materials, ornamental plantings, imported soil, maintenance activities, and vehicle movements.

In the freshwater habitat, the Cibereum River habitat may also be subject to ongoing disturbance through surface water runoff from impervious areas within the project site and the discharge of treated effluent from the hospital's WWTP. Stormwater runoff generated from rooftops, paved surfaces, and access roads may carry pollutants including suspended solids, hydrocarbons, and trace contaminants into drainage systems connected to the river corridor. Furthermore, while treated effluent from the WWTP is expected to meet applicable discharge standards, continuous discharge into or in proximity to the river system may cumulatively affect water quality parameters, including nutrient loading, dissolved oxygen levels, and temperature, with potential consequences for aquatic fauna such as freshwater fish, amphibians, and invertebrates sensitive to water quality changes

Conversely, the operation phase may also generate positive biodiversity outcomes. Planned revegetation, landscaping, and the establishment of gardens and green open spaces are expected to increase vegetation cover and enhance habitat availability, providing supplementary shelter, foraging resources, nesting opportunities, and ecological stepping stones for birds, pollinators, and other wildlife species adapted to modified landscapes.

6.4.6 Socio-economic and Demography

Hospital operations have a significant impact on surrounding communities. Positively, they drive economic growth and job creation, but they also trigger demographic risks such as increased population density and social burdens from congestion, land conversion, and increased medical waste in the surrounding area.

The local economic growth resulting from the presence of a hospital has stimulated the growth of supporting businesses such as pharmacies, private clinics, boarding houses, restaurants, and transportation facilities in the surrounding area. Another positive impact is the creation of significant employment opportunities for both medical personnel (doctors, nurses, and other staff) and non-medical personnel (administration, security, cleaning, and technicians).

The risk to the cost of living due to the high economic activity around the hospital can trigger local inflation, such as soaring property/boarding house rental prices and the price of basic necessities for local residents.

6.4.7 Socio-Culture

Hospital operations significantly impact the social and cultural fabric of the surrounding community. This includes shifts in local values (such as the rise of individualistic culture), challenges in aligning medical values with traditional beliefs, and the risk of service denial due to communication barriers.

The impact on culture and society is a shift in social norms, as the presence of large-scale medical facilities often transforms rural settings into urban areas, which can indirectly bring new, more individualistic lifestyles. The risk of conflict between health values and modern medical practices often clashes with traditional healing cultures or local spiritual beliefs.

6.4.8 Labour and Working Condition

The hospital will operate 24/7. Working conditions, including working hours and the work environment, require special attention to minimize risks to workers. Heavy and repetitive physical activities, such as lifting/moving patients, prolonged bending during surgery, or pushing heavy beds and trolleys, can pose risks to employees. This can lead to musculoskeletal disorders (MSDs) such as low back pain, muscle injuries, and physical exhaustion.

RSGP is required to employ certified personnel—including both healthcare professionals and support staff—who work with radiation equipment. These certifications are issued by competent authorities, such as the Ministry of Health and BAPETEN, to ensure the safety of both patients and workers.

6.4.9 Occupational Health and Safety

Hospital operations create a high-risk work environment. The main impacts include exposure to infectious diseases, physical exhaustion, and psychological stress. These risks stem from 24-hour service and the use of complex technology, which demands high vigilance from all medical and non-medical personnel.

The main impacts and risks to working conditions in hospitals are biological risks from exposure to disease, where healthcare workers are at risk of contracting viruses, bacteria, or fungi directly from patients (e.g., through droplets or bodily fluids).

Occupational accidents can also occur due to being pricked by used syringes or cut by contaminated sharp objects (which can transmit HIV, Hepatitis B, or C). Cleaning and sanitation workers are also at risk of exposure to infectious waste.

6.4.10 Community Health

Hospital operational activities have the potential to cause health impacts on the surrounding community, which primarily originate from B3 medical waste (Hazardous and Toxic Materials), radiation exposure and noise.

The risks that can occur during the operational phase of a hospital are water and sanitation contamination from bacteria and pathogens originating from hospital wastewater (used water from washing, toilets, laboratories) which is disposed of without going through an adequate Wastewater Treatment Plant (WWTP) which can contaminate wells and the surrounding environment, causing disease outbreaks such as diarrhea or cholera.

6.4.11 Community Safety and Security

Hospital operational activities pose a number of impacts and risks to the safety and security of the surrounding community, including exposure to hazardous medical waste, the risk of disease transmission, environmental pollution (water, air, and noise), as well as mobility disruptions and potential social conflict due to traffic congestion in the surrounding area.

Hazardous and Toxic Materials (B3) medical waste from substandard disposal or management of medical waste (syringes, blood-stained bandages, and leftover medications) can contaminate groundwater and soil. Residents in the surrounding area are at risk of infection or needlestick injuries if the waste is disposed of carelessly.

Exposure to radiation and chemicals from X-rays, CT scans, or radioactive materials/chemotherapy requires strict protection. If a building's shielding system is inadequate, people are vulnerable to electromagnetic radiation or chemical exposure.

Bacteria and microorganisms (bio-aerosols) in the air that come out of isolation rooms or infectious laboratories have the potential to carry viruses and bacteria that can spread through the air (airborne) if the ventilation system does not use a special filter.

The location of RSGP near the T-junction leading to the tourist area poses a risk of causing traffic accidents due to the entry and exit of high-speed ambulances, hearses, and visitors' vehicles, which often cause congestion and increase the risk of accidents for local residents, pedestrians, or local road users.

6.4.12 Radiation Safety and Protection

The operation and expansion of diagnostic imaging and other medical services using ionizing radiation at RSGP will be managed through a formal Radiation Protection and Safety Programme/Plan. The programme will apply to existing and new radiation-generating equipment and will be integrated with the Hospital Occupational Health and Safety Programme (K3RS), Radiation Protection Officer (Petugas Proteksi Radiasi/PPR), clinical governance, equipment management, emergency preparedness, and patient-safety systems.

Regulatory Compliance

RSGP shall operate radiation facilities and equipment in accordance with applicable Government of Indonesia and BAPETEN requirements. The principal regulatory framework includes Government Regulation No. 45 of 2023 concerning Ionizing Radiation Safety and Radioactive Source Security and BAPETEN Regulation No. 4 of 2020 concerning Radiation Safety in the Use of X-Ray Equipment in Diagnostic and Interventional Radiology. Relevant licensing and conformity requirements will also follow the current risk-based licensing framework and BAPETEN requirements for conformity assessment of diagnostic and interventional X-ray equipment.

Before commissioning any new or relocated radiation equipment, RSGP shall ensure that the required BAPETEN licence/authorization, equipment conformity assessment, shielding verification, equipment acceptance and quality-control testing, and qualified radiation personnel are in place. Personnel requiring formal authorization or work permits shall comply with BAPETEN Regulation No. 4 of 2024 concerning work permits for personnel at radiation facilities and activities using ionizing radiation sources.

Radiation Protection Procedures

Radiation protection shall follow the principles of justification, optimization and dose limitation, as applicable to occupational and public exposure. The Hospital shall maintain written operating procedures covering controlled and supervised areas, access restriction, radiation warning signs, shielding, safe positioning, use of protective equipment, equipment operating procedures, preventive maintenance, quality assurance, and investigation of abnormal exposure events.

A designated and appropriately authorized Radiation Protection Officer (Petugas Proteksi Radiasi/PPR) shall support the licence holder and Radiology Unit in implementation of the radiation protection programme. Radiation-related responsibilities shall be clearly defined between Hospital Management, the Radiology Unit, K3RS, Medical Physics, equipment maintenance personnel and other authorized radiation workers.

Worker Dosimetry and Occupational Health

Personnel classified as radiation workers shall be provided with appropriate individual dosimetry in accordance with BAPETEN requirements. Personal dosimeters shall be worn correctly during relevant work activities, evaluated at the required intervals, and the results recorded and reviewed by the responsible radiation-protection personnel. Any unusual result, dose approaching an applicable constraint or limit, loss or misuse of a dosimeter, or suspected accidental exposure shall trigger investigation and corrective action.

Individual dose histories shall be maintained as controlled occupational-health records. Radiation workers shall also undergo appropriate occupational health monitoring in accordance with BAPETEN requirements for health monitoring of radiation workers. BAPETEN continues to recognize Perka BAPETEN No. 6 of 2010 as the regulation governing implementation and records for radiation-worker health monitoring.

Additional controls shall be applied, where relevant, for pregnant radiation workers, staff performing interventional procedures, maintenance personnel entering controlled areas, and other personnel who may receive higher occupational exposures.

Patient Radiation Safety

Patient exposure shall be medically justified and optimized so that the radiation dose is sufficient to achieve the intended diagnostic or therapeutic purpose without unnecessary exposure. Particular attention shall be given to children, pregnant or potentially pregnant patients, patients requiring repeated examinations, and higher-dose procedures such as CT and interventional radiology.

The Hospital shall maintain protocols for correct patient identification, verification of the requested examination, pregnancy screening where clinically relevant, selection of appropriate examination parameters, prevention of unnecessary repeat examinations, image-quality review, and recording of patient-dose information.

Patient-dose optimization shall consider the current Indonesian Diagnostic Reference Levels (Tingkat Panduan Diagnostik Indonesia/TPDI). The current national reference values for general radiography, CT, interventional fluoroscopy and diagnostic nuclear medicine are established through BAPETEN Decision No. 1812 of 2025, which replaced the earlier 2021 and 2022 reference-level decisions.

BAPETEN also requires health facilities to record and periodically report relevant patient-dose data through the national Si-INTAN patient-dose information system. These data are used to support radiation-dose optimization and national diagnostic reference levels.

Radiation Monitoring and Equipment Quality Assurance

Radiation monitoring shall include:

- periodic measurement of radiation exposure rates in controlled areas, adjacent occupied spaces and other relevant locations.
- verification of room shielding and protective barriers, particularly following construction, renovation, relocation or installation of new radiation equipment.
- routine personal dosimetry for radiation workers.
- equipment acceptance testing and periodic conformity assessment.
- internal quality control of X-ray and imaging equipment.
- calibration and functional checking of radiation-monitoring instruments. and
- recording, trending and investigation of abnormal monitoring results.

New diagnostic equipment shall not enter routine clinical operation until relevant commissioning, conformity, radiation-protection and quality-control requirements have been satisfactorily completed. BAPETEN Regulation No. 1 of 2025 establishes the current conformity-assessment framework for X-ray equipment used in diagnostic and interventional radiology.

Emergency Preparedness and Incident Response

The Radiation Protection and Safety Plan shall establish procedures for foreseeable abnormal or emergency situations, including suspected unintended or excessive exposure, equipment malfunction, failure of radiation-control systems, entry of unauthorized persons into controlled areas, and loss of radiation-protection control.

Emergency procedures shall specify immediate shutdown or isolation actions, protection of patients and workers, securing of the affected area, notification of the Radiation Protection Officer and Hospital management, medical assessment where required, preservation of dosimetry and equipment information, investigation of the event, regulatory notification where required, corrective actions, and documented authorization before affected equipment is returned to service.

Radiation-related emergency arrangements shall be integrated into the Hospital Emergency Response Plan and K3RS system and periodically tested through drills or simulations.

Training and Competency

Only appropriately qualified, trained and, where legally required, authorized personnel shall operate radiation-generating equipment or carry out designated radiation-protection functions. BAPETEN Regulation No. 4 of 2024 establishes work-permit and training requirements for personnel working at radiation facilities and activities involving ionizing radiation sources.

Relevant staff shall receive induction and periodic refresher training covering:

- basic radiation hazards and health effects.
- radiation-protection principles and safe operating procedures.

- correct use of personal dosimeters and protective equipment.
- controlled-area access and warning systems.
- patient identification, justification and dose optimization.
- protection of pregnant patients and workers.
- response to abnormal exposures and equipment malfunction.
- incident reporting and emergency procedures. and
- lessons learned from monitoring, audits, incidents and near misses.

Training attendance, competency records, licences/work permits and refresher-training dates shall be maintained and reviewed periodically.

Implementation Commitment

Prior to commissioning expanded radiology or other facilities involving ionizing radiation, RSGP shall verify and document the status of applicable BAPETEN licences, personnel authorizations, equipment conformity certificates, radiation-room shielding assessment, personal dosimetry arrangements, worker health-surveillance records, radiation monitoring equipment, patient-dose recording and Si-INTAN reporting arrangements, emergency procedures, and staff training.

Any identified gaps shall be closed before the relevant equipment or facility is placed into clinical service. Radiation-safety performance will subsequently be monitored through the ESMP as part of operational OHS, patient safety and regulatory-compliance monitoring.

6.5 Cumulative Impact Assessment

Cumulative impacts arise from the interaction of the RSGP redevelopment with other projects and trends in the Cisarua-Puncak landscape, including ongoing tourism development, residential and commercial growth on the Puncak corridor, agricultural intensification on tea-estate margins, and climate-change-mediated shifts in temperature, rainfall regime, and disease vectors. The cumulative dimensions most material for assessment are, traffic load on Jl. Raya Puncak, water resource pressure on the Ciliwung headwater catchment, biodiversity pressure on TNGGP edge habitats, and pressure on local social services from population growth.

Cumulative impact refers to the combined effect on environmental or social conditions that results when the incremental impact of the RSGP redevelopment is added to other past, present, and reasonably foreseeable future activities. These activities may be undertaken by RSGP, other government agencies, private developers, communities, or other parties. Individually, some impacts may appear minor or localised. However, when they occur together over time, they can become collectively significant.

For RSGP, cumulative impact assessment is important because the project is not occurring in an empty or isolated site. The redevelopment will be implemented within an active respiratory and TB referral hospital, located along the busy Jl. Raya Puncak corridor in Cisarua. The ESIA draft already identifies the site context as sensitive because the hospital remains operational during construction, the

surrounding road corridor is busy, and the project may affect traffic safety, dust, noise, infection prevention, worker-community interaction, and hospital service continuity.

The RSGP redevelopment includes new Buildings A, B, C, and J to M, supporting hospital functions such as emergency care, ICU/HCU/NICU/ICCU, operating theatre, laboratory, cathlab, chemotherapy, haemodialysis, inpatient care, and education/training functions. The ESIA also notes that the expanded development may increase wastewater volume, medical and hazardous waste generation, water demand, energy demand, traffic and parking demand, and operational environmental health risks.

The cumulative impact assessment therefore considers the interaction between,

1. Existing RSGP hospital operations,
2. Construction activities for the proposed RSGP redevelopment,
3. Future phases of hospital development under the RSGP master plan and 270-bed target,
4. Existing traffic, tourism, residential, commercial, and local economic activity in the Cisarua-Puncak corridor,
5. Existing environmental pressures, including drainage, water resource demand, waste management capacity, and climate-related risks,
6. Reasonably foreseeable public and private developments in Kecamatan Cisarua and the wider Puncak area, subject to confirmation with Bappeda Kabupaten Bogor and DPMPTSP.

The current RSGP ESIA draft already recognises cumulative pressures from tourism development, residential and commercial growth along the Puncak corridor, agricultural activity, climate-related changes in rainfall and disease vectors, traffic load on Jl. Raya Puncak, water resource pressure, biodiversity pressure near TNGGP edge habitats, and pressure on local social services. This section expands that placeholder into a more complete assessment.

Table 70 Cumulative Impact Assessment Matrix

Cumulative Impact Pathway	Existing / Past / Present Pressure	RSGP Incremental Contribution	Reasonably Foreseeable Future Pressure	Potential Cumulative Impact	Significance Before Additional Mitigation
Traffic, road safety, and access	Jl. Raya Puncak already carries high traffic volumes, especially during weekends, holidays, tourism peaks, and local commuting periods. Hospital traffic from patients, staff, ambulances, visitors, and suppliers already uses the same corridor.	Construction trucks, heavy equipment mobilisation, worker transport, material delivery, spoil removal, and temporary changes to hospital access. During operation, increased patient, staff, student, visitor, ambulance, supplier, and waste transport movements.	Future RSGP phases, increased hospital service capacity, tourism growth, residential/commercial development, and road works in the Puncak corridor.	Increased congestion, longer ambulance travel time, pedestrian and motorbike safety risks, access disruption for patients and caregivers, and higher traffic-related emissions and noise.	**Major during construction if unmanaged, Moderate-Major during operation**
Air quality and dust	Existing air quality is influenced by road traffic, tourism vehicles, generators, local commercial activity, and occasional construction in the surrounding area.	Dust from excavation, demolition/enabling works, material handling, internal road movement, and truck traffic, exhaust from construction equipment and vehicles.	Other construction, increased road traffic, future hospital operations, and backup power use.	Short-term localised dust and exhaust may combine with traffic emissions, increasing exposure for respiratory patients, TB/MDR-TB patients, elderly patients, children, staff, and nearby residents.	**Moderate-Major during construction, Moderate during operation**
Noise and vibration	Existing noise comes from road traffic, ambulances, hospital activities, generators, and local commercial/tourism activities.	Construction equipment, piling/foundation works if used, truck movement, concrete works, cutting, drilling, and temporary generator use.	Future hospital works, traffic growth, increased ambulance/service vehicle movement, and other local development.	Combined noise and vibration may affect inpatients, ICU/HCU areas, operating theatres, staff performance, nearby residents, and potential heritage structures.	**Moderate-Major near sensitive receptors**

Cumulative Impact Pathway	Existing / Past / Present Pressure	RSGP Incremental Contribution	Reasonably Foreseeable Future Pressure	Potential Cumulative Impact	Significance Before Additional Mitigation
Surface water, drainage, and runoff	Cisarua has high rainfall and sloping highland conditions. Existing drainage may already receive runoff from hospital, road, settlement, tourism, and commercial areas.	Land clearing, excavation, soil exposure, material storage, concrete works, increased impervious surface, and construction runoff.	Future hospital buildings, local land-use change, more paved surfaces, climate-related extreme rainfall, and upstream/downstream drainage pressure.	Increased runoff, sedimentation, blocked drains, localised ponding/flooding, erosion, and reduced drainage capacity if not managed cumulatively.	**Moderate-Major during heavy rainfall periods**
Clean water demand	Existing hospital operations, surrounding settlements, tourism accommodation, restaurants, agriculture, and local services already use water resources.	Construction water use, worker sanitation, dust suppression, concrete works, and later increased water demand from expanded beds, laboratories, operating rooms, dialysis, laundry, cleaning, WASH, and teaching facilities.	Future hospital phases, higher patient numbers, tourism growth, population growth, and climate variability affecting water availability.	Increased pressure on water supply reliability, possible competition with other users during dry periods, and higher operational cost if efficiency is not applied.	**Moderate**
Wastewater volume and quality	Existing hospital wastewater already requires treatment through WWTP and compliance with wastewater standards.	Increased wastewater from new clinical functions, inpatient beds, laboratories, haemodialysis, chemotherapy, emergency services, staff, students, visitors, and construction worker sanitation.	Future hospital service expansion and possible increases in nearby domestic/commercial wastewater loads.	Higher cumulative load to IPAL and receiving drainage. If IPAL capacity or Pertek BMAL does not match future flow and pollutant load, the risk of non-compliance increases.	**Moderate-Major if IPAL upgrade is delayed**
Medical waste and hazardous/B3 waste	Existing RSGP operations already generate infectious waste, sharps, pharmaceutical waste, laboratory waste, and other B3 waste. As a pulmonary/TB hospital, respiratory and	Increased infectious medical waste, sputum-related waste, laboratory waste, isolation-room waste, chemotherapy/cytotoxic waste, haemodialysis waste, filters, sludge, construction	Future hospital service expansion, higher patient load, increased specialist services, and possible pressure on licensed third-	Cumulative increase in waste volume may exceed storage, segregation, transport, or licensed treatment capacity if not planned. This may	**Major if waste capacity is not upgraded, Moderate with**

Cumulative Impact Pathway	Existing / Past / Present Pressure	RSGP Incremental Contribution	Reasonably Foreseeable Future Pressure	Potential Cumulative Impact	Significance Before Additional Mitigation
	sputum-related waste streams are particularly important.	hazardous waste, packaging, and demolition debris.	party transport and treatment capacity.	increase infection, odour, spill, occupational exposure, and regulatory compliance risks.	**licensed system and strict control**
Solid waste and domestic waste	Existing hospital, local settlements, tourism, restaurants, and businesses already contribute to domestic waste generation.	Construction packaging, food waste, office waste, worker waste, and increased operational domestic waste from patients, caregivers, staff, students, visitors, and retail/canteen areas.	More hospital users, future development, local tourism growth, and municipal waste capacity constraints.	Increased waste storage and collection demand, potential litter, odour, pest/vector risks, and pressure on municipal waste services.	**Moderate**
Electricity demand, fuel use, and GHG emissions	Existing hospital, commercial activity, tourism facilities, and surrounding settlements already consume electricity and fuel.	Construction electricity and fuel demand, operational increase from HVAC, medical equipment, ICU, operating theatres, laboratories, dialysis, lighting, lifts, IT systems, sterilisation, and emergency generators.	Future hospital phases, increased service hours, more medical equipment, higher cooling demand from climate change, and wider regional electricity demand.	Increased electricity demand, operational cost, generator use during outages, air emissions, and GHG emissions unless green hospital and energy-efficiency measures are implemented.	**Moderate**
Biodiversity, green space, and landscape	The wider Cisarua-Puncak area is ecologically sensitive due to highland landscapes, tourism pressure, settlement expansion, and proximity to conservation/ecological areas.	Tree removal, loss of on-site green space, construction disturbance, lighting, noise, and drainage changes.	Future land conversion, tourism growth, road traffic, and pressure near TNGGP edge habitats.	Incremental reduction in green space and ecological quality, with possible effects on urban heat, shade, runoff, and local habitat values.	**Moderate, higher if mature trees or sensitive habitats are affected**
Community and Workers	Existing risks include traffic accidents, busy tourism movement, respiratory disease	Construction trucks, dust, noise, labour influx, temporary access changes, worker-community	Increased patient flow, tourism, population growth, future works, and climate-	Combined risks may increase community safety concerns, communicable	**Moderate-Major during construction**

Cumulative Impact Pathway	Existing / Past / Present Pressure	RSGP Incremental Contribution	Reasonably Foreseeable Future Pressure	Potential Cumulative Impact	Significance Before Additional Mitigation
health and safety	burden, TB transmission risk, HIV/AIDS and SID, and local social issues in Desa Cibeureum.	interaction, HIV prevention Program for workers and community, and hospital infection-control interface risks.	related disease-vector changes.	disease exposure, complaints, and pressure on local health and emergency services.	
Hospital service continuity	RSGP is an active referral hospital, with emergency, inpatient, TB/MDR-TB, diagnostic, and other clinical services that must continue.	Construction may temporarily affect circulation, waiting areas, ambulance access, vibration-sensitive services, dust control, utilities, and patient comfort.	Future hospital phasing, service expansion, higher patient flows, and possible simultaneous renovation/utility works.	Service disruption may accumulate over time, increasing waiting time, caregiver burden, complaints, referral delays, and safety risks for vulnerable patients.	**Major if phasing is poorly controlled**
Social services, livelihoods, and local economy	Desa Cibeureum and the Puncak corridor have mixed livelihoods linked to services, trade, tourism, transport, and small businesses.	Temporary jobs, procurement, worker spending, but also traffic/access disruption, noise, and possible small-business disturbance near hospital access points.	Tourism growth, local population growth, and future hospital expansion may increase demand for housing, food, transport, and local services.	Positive cumulative benefit through employment and health-service improvement, but possible negative pressure on local access, prices, informal vendors, and community expectations.	**Minor-Moderate adverse, Moderate beneficial if local benefit is managed**
Cultural heritage and older hospital structures	RSGP has older institutional buildings and a long hospital history. Some structures may have heritage value, even if formal status is still being confirmed.	Vibration, demolition/interface works, visual change, excavation, utility relocation, and possible chance finds.	Future redevelopment stages may increase pressure on remaining older buildings and the historical setting.	Gradual loss of heritage character or physical damage may occur if each work package is assessed separately without a site-wide heritage approach.	**Moderate-Major under precautionary approach**

The RSGP redevelopment is expected to generate manageable project-level impacts if standard mitigation is implemented. However, cumulative impacts may become significant because the project will be constructed in an active hospital, along the already busy Puncak corridor, and as part of a broader hospital expansion programme. The most important cumulative risks are traffic and emergency access, air quality and dust for respiratory patients, wastewater and medical/B3 waste capacity, electricity and water demand, drainage, hospital service continuity, and gradual pressure on green space and heritage setting.

The cumulative impact assessment should therefore remain a living assessment. It must be updated after the ANDALALIN, final DED, water and wastewater capacity review, waste forecast, electricity demand forecast, stakeholder consultation, and confirmation of other planned developments in Cisarua sub-district and the wider Puncak corridor.

6.6 Summary of Mitigation Measures

Table 71 Matrix of Mitigation Measure

No	E&S Risks and Impacts	Project Activities that Cause Risks/ Impacts	Impact Magnitude	Receptor Sensitivity	Impact Significance	Proposed Mitigation Measures	Project Stage/ Responsibility	Estimated Cost (IDR) Actual Cost Will Be Determined by The Consultant/ Contractor
	PRE CONSTRUCTION							
A	**ENVIRONMENTAL**							
1	Structural and operational vulnerability due to failure to incorporate climate change risks into engineering design	Excavation of the basement parking area, storage of excavated soil material	High	High. RSGP is an active pulmonary referral hospital with sensitive patients, continuous clinical utility needs, emergency access requirements, and exposure to high rainfall and local drainage constraints in the Cisarua highland setting.	High	• Commission a Climate Risk and Vulnerability Assessment (CRVA) during the design stage, covering extreme rainfall, local flooding, landslide susceptibility, drainage capacity, water availability, and emergency access continuity. • Integrate CRVA findings into construction management plan, site layout, drainage, slope protection, basement design, road access, and utility resilience. • Include climate-adaptive design features such as adequate stormwater capacity, permeable surfaces where feasible, roof drainage, rainwater management, passive cooling, energy-efficient HVAC, and backup water/power systems for critical clinical services. • Confirm that ambulance access	Pre-construction / PMU, PIU, RSGP Management, DED Consultant, Procurement Team	IDR 50,000,000–75,000,000 Once before PBG Submission

No	E&S Risks and Impacts	Project Activities that Cause Risks/ Impacts	Impact Magnitude	Receptor Sensitivity	Impact Significance	Proposed Mitigation Measures	Project Stage/ Responsibility	Estimated Cost (IDR) Actual Cost Will Be Determined by The Consultant/ Contractor
						and emergency routes remain functional during heavy rainfall events. • Include a Climate Adaptation and Resilience Plan in the ESMS and update it periodically based on new climate information and observed site conditions.		
2	Failure to incorporate environmental and social considerations into the DED and bidding documents	Engineering design of new Buildings A, B, C, J-M, utility systems, temporary works, contractor areas, access routes, parking, drainage, wastewater, waste handling, and hospital service continuity arrangements.	High	High. Active hospital operations, pulmonary/TB patients, staff, visitors, nearby dense small-sized settlements, local road users, and regulators.	High	• Ensure all E&S risks and mitigation measures identified in the ESIA are formally communicated to the engineering team and incorporated into each DED milestone. • Embed ESIA/ESMP requirements into technical specifications, BOQ, tender documents, and contractor contractual obligations. • Include requirements for dust control, noise/vibration control, traffic management, infection prevention, wastewater capacity, B3 and medical waste management, worker welfare, GBV/SEAH prevention, and GRM. • Design the hospital to support green building principles, including energy efficiency, water efficiency, indoor air quality, waste	Pre-construction / PMU, PIU, RSGP Management, DED Consultant, Procurement Team	IDR 50,000,000–75,000,000

No	E&S Risks and Impacts	Project Activities that Cause Risks/ Impacts	Impact Magnitude	Receptor Sensitivity	Impact Significance	Proposed Mitigation Measures	Project Stage/ Responsibility	Estimated Cost (IDR) Actual Cost Will Be Determined by The Consultant/ Contractor
						segregation, accessibility, safe circulation, and low-maintenance operation. • Establish an E&S design review checklist before DED approval and construction tendering.		
3	Legacy environmental, social, health, safety, utility, and heritage risks from completed demolition activities	Previous demolition works completed before the current project phase, including building removal, utility disconnection, waste handling, site clearance, and asset removal.	Moderate	High. Patients, staff, visitors, nearby residents, hospital utility users, and adjacent buildings.	High	• Conduct a post-demolition environmental and social audit before construction mobilisation. • Verify that demolition waste, including hazardous and B3 waste, was properly managed and disposed of at licensed facilities. • Review demolition records, permits, waste manifests, and contractor documentation where available. • Inspect the site for residual contamination, buried waste, unstable ground conditions, exposed utilities, asbestos-containing materials, or other hazardous materials. • Verify that utility disconnections and diversions were completed safely and that critical hospital services are not affected. • Assess potential impacts on adjacent buildings, including	Pre-construction / PMU, PIU, RSGP Management, DED Consultant, Procurement Team	IDR 10,000,000–20,000,000

No	E&S Risks and Impacts	Project Activities that Cause Risks/ Impacts	Impact Magnitude	Receptor Sensitivity	Impact Significance	Proposed Mitigation Measures	Project Stage/ Responsibility	Estimated Cost (IDR) Actual Cost Will Be Determined by The Consultant/ Contractor
						structural damage resulting from demolition activities. • Confirm whether any cultural heritage or historically significant structures were affected and document findings. • Implement corrective actions for any identified deficiencies before construction begins. • Maintain communication with hospital users and nearby communities regarding any remaining demolition-related concerns through the Project GRM.		
B	**SOCIAL**							
4	Exclusion of vulnerable groups from consultation and project planning	Stakeholder consultation during project design, including consultation with patients, staff, local community, informal access users near IPAL, tenants, vendors, women, elderly, persons with	Moderate	High. Female staff, female patients, respiratory/TB patients, elderly patients, persons with disabilities, carers, nearby dense settlement residents, tenants, vendors, and local access users.	High	• Stakeholder Engagement Plan (annex C) are developed before consultation and construction mobilisation. • Identify vulnerable groups, including female staff, female patients, elderly patients, persons with disabilities, TB/MDR-TB patients, carers, local vendors, tenants, and residents affected by access changes. • Conduct consultation at accessible locations and times that do not	Pre-construction / PIU, RSGP Humas, Social Specialist, Gender Specialist	IDR 10,000,000 once before construction mobilization

No	E&S Risks and Impacts	Project Activities that Cause Risks/ Impacts	Impact Magnitude	Receptor Sensitivity	Impact Significance	Proposed Mitigation Measures	Project Stage/ Responsibility	Estimated Cost (IDR) Actual Cost Will Be Determined by The Consultant/ Contractor
		disabilities, and nearby residents.				disrupt hospital services. • Provide plain-language information on project activities, access changes, traffic risks, service continuity, GRM channels, and construction safety. • Conduct targeted discussions with Desa Cibeureum, RT/RW, local access users around the IPAL area, women, persons with disabilities, and tenant/service-provider representatives. • Provide separate consultation sessions where women or vulnerable groups may not speak freely in mixed meetings. • Record attendance and feedback disaggregated by gender and vulnerable group where feasible.		
5	Failure to incorporate cultural heritage considerations into the DED	Preparation of DED, site layout, foundation design, utility routing, access roads, temporary works, excavation, and construction near older RSGP	High	High. RSGP older buildings and heritage-sensitive hospital fabric, including buildings understood to date from 1914, 1928, and the current "Heritage Eksekutif" wing, pending formal authority confirmation.	High	• RSGP Management shall supervise and coordinate its preparation, consultation, approval, and implementation while consultant shall prepare the Cultural Heritage Management Plan (CHMP) • Conduct Cultural Heritage Impact Screening before DED finalisation. • Confirm cultural heritage status of older RSGP buildings with the	Pre-construction / PIU, RSGP Management, Cultural Heritage Specialist, Supervision Consultant, BPCB/BPK	IDR 15,000,000 (CH specialist)

No	E&S Risks and Impacts	Project Activities that Cause Risks/ Impacts	Impact Magnitude	Receptor Sensitivity	Impact Significance	Proposed Mitigation Measures	Project Stage/ Responsibility	Estimated Cost (IDR) Actual Cost Will Be Determined by The Consultant/ Contractor
		structures.				relevant cultural heritage authority, including BPCB/BPK West Java as applicable. • Prepare a Cultural Heritage Management Plan before works near older structures. • Conduct archival recording, photographic documentation, dimensional survey, and condition assessment of heritage-sensitive buildings. • Establish no-go zones and buffer areas around heritage-sensitive structures. • Integrate CHMP requirements into DED and contractor specifications, including vibration limits, construction method restrictions, protection barriers, and chance-find procedures. • Prohibit demolition, alteration, material storage, heavy equipment movement, or vibration-intensive work near heritage-sensitive structures until authority guidance and mitigation measures are confirmed.		

No	E&S Risks and Impacts	Project Activities that Cause Risks/ Impacts	Impact Magnitude	Receptor Sensitivity	Impact Significance	Proposed Mitigation Measures	Project Stage/ Responsibility	Estimated Cost (IDR) Actual Cost Will Be Determined by The Consultant/ Contractor
6	Failure to incorporate GBV/SEAH prevention and gender-responsive design into the DED	Design of access control, lighting, CCTV coverage, toilets, changing rooms, parking, waiting areas, staff areas, patient circulation, construction interface, and public spaces.	High	High. Female patients, female staff, carers, visitors, students/trainees, workers, persons with disabilities, and nearby community users.	High	• Require the DED consultant to apply a GBV/SEAH risk screening checklist during design. • Identify design risks such as poor lighting, blind spots, isolated corridors, unsafe parking areas, weak access control, mixed sanitation facilities, and poor visibility in public-facing areas. • Incorporate adequate lighting, clear sightlines, CCTV where appropriate, controlled access to sensitive areas, safe waiting areas, and gender-segregated toilets/changing facilities. • Ensure safe and accessible routes for women, elderly people, persons with disabilities, patients, and carers. • Include lactation rooms, separate toilets, privacy in consultation/examination areas, and safe staff rest areas where applicable. • Include construction-phase GBV/SEAH prevention requirements in contractor specifications, including worker Code of Conduct, restricted worker	Pre-construction / PIU, RSGP Management, Gender Specialist, K3RS, Security	IDR 15,000,000 (Gender Specialist)

No	E&S Risks and Impacts	Project Activities that Cause Risks/ Impacts	Impact Magnitude	Receptor Sensitivity	Impact Significance	Proposed Mitigation Measures	Project Stage/ Responsibility	Estimated Cost (IDR) Actual Cost Will Be Determined by The Consultant/ Contractor
						access to clinical areas, lighting of temporary routes, and confidential reporting channels. • Link design measures to the Gender Action Plan and Project GRM.		
	CONSTRUCTION							
A	**ENVIRONMENTAL**							
1	Dust, PM10, PM2.5 generation during demolition of existing buildings and facilities	Demolition and site clearing activities, loading and transportation of demolition debris.	Moderate	Moderate. Patients, healthcare workers, visitors, nearby residents, elderly individuals, children and other vulnerable groups.	Moderate	Minimize, ▪ Install temporary dust barriers, safety netting or construction screening around active demolition areas to minimize dust dispersion outside the Project site. ▪ Conduct regular water spraying during demolition, debris handling and material loading/unloading, particularly during dry weather. ▪ Immediately collect, remove and properly manage demolition debris and loose materials to minimize windblown dust. ▪ Cover demolition debris, stockpiled materials and transport trucks carrying loose materials. ▪ Restrict demolition areas to	Construction / PMU, Contractor engaged for demolition, Supervision Consultant, RSGP Kesling-K3RS	Rp. 30,000,000

No	E&S Risks and Impacts	Project Activities that Cause Risks/ Impacts	Impact Magnitude	Receptor Sensitivity	Impact Significance	Proposed Mitigation Measures	Project Stage/ Responsibility	Estimated Cost (IDR) Actual Cost Will Be Determined by The Consultant/ Contractor
						authorized personnel only and apply controlled access around active demolition zones. ▪ Schedule demolition activities to avoid sensitive hospital operational periods where practicable. ▪ Install and maintain a vehicle washing bay at the construction site exit and require all construction vehicles to pass through the facility before leaving the project site without exception.		
2	Degraded of ambient air quality from exhaust gas emissions of diesel-powered machinery during construction	Earthworks, excavation, foundation works, material handling, movement of heavy equipment and construction activities.	Moderate	Moderate. Patients, hospital staff, visitors, nearby residents, elderly, children, surrounding community and other vulnerable groups.	Moderate	Minimize, Install temporary dust barriers, safety netting or construction screening around active construction areas to minimize dust dispersion outside the Project site. Cover stockpiled materials and transport trucks carrying loose materials. Restrict construction work areas to authorized personnel only and implement controlled access around active construction zones. Conduct water spraying on exposed soil, haul roads and dusty work areas where needed. Maintain housekeeping to avoid dust accumulation near hospital operational areas. Install and maintain a vehicle washing bay at the construction site exit and require all construction vehicles to pass through	Construction / PMU, Contractor engaged for construction, Supervision Consultant, RSGP Kesling-K3RS	Rp. 15,000,000

No	E&S Risks and Impacts	Project Activities that Cause Risks/ Impacts	Impact Magnitude	Receptor Sensitivity	Impact Significance	Proposed Mitigation Measures	Project Stage/ Responsibility	Estimated Cost (IDR) Actual Cost Will Be Determined by The Consultant/ Contractor
						the facility before leaving the project site without exception.		
3	Greenhouse gas emissions from construction and operation	Fuel combustion from construction equipment, generators and transportation vehicles, electricity consumption during construction and operational activities.	Negligible	Low	Negligible	Minimize, ▪ Record fuel and electricity consumption during construction and operation as part of the GHG inventory. ▪ Maintain construction equipment and generators to improve fuel efficiency. ▪ Avoid unnecessary engine idling. ▪ Use grid electricity instead of diesel generators where feasible and safe. ▪ Apply energy-efficient lighting, HVAC and equipment in the final design and operation. ▪ Include energy efficiency and Green Hospital measures in operational procedures.	Construction and operation / PMU, Contractor, RSGP IPSRS, RSGP Kesling.	5,000,000
4	Increased noise and vibration	Demolition, piling/foundation works, excavation, compaction, concrete works, heavy equipment, generators,	Moderate	High. In-patients, ICU/HCU areas, TB/MDR-TB patients, staff, visitors, nearby residents and older/heritage buildings.	High	Key mitigation measures include, ▪ Prepare Construction Noise and Vibration Management Plan. ▪ Use low-noise and low-vibration methods where feasible, including bored piles rather than driven piles if geotechnically suitable. ▪ Install temporary acoustic barriers	Construction / Contractor, PIU, Supervision Consultant, RSGP Kesling, IPRS Kesling	IDR 102,000,000 higher if continuous vibration monitoring is required

No	E&S Risks and Impacts	Project Activities that Cause Risks/ Impacts	Impact Magnitude	Receptor Sensitivity	Impact Significance	Proposed Mitigation Measures	Project Stage/ Responsibility	Estimated Cost (IDR) Actual Cost Will Be Determined by The Consultant/ Contractor
		loading/unloading and truck movement.				near sensitive clinical areas. ▪ Restrict high-noise works near wards, ICU, operating theatre and consultation rooms. ▪ Notify hospital units before high-noise activities. ▪ Maintain silencers/mufflers on equipment. ▪ Locate generators and compressors away from sensitive receptors. ▪ Conduct vibration monitoring near heritage/older buildings and sensitive equipment. ▪ Stop work and investigate if vibration thresholds are exceeded or complaints are received.		
5	Water Quality	Runoff from excavation and stockpiles, sediment-laden stormwater, concrete washout, fuel/oil/chemical spills, poor housekeeping, and worker domestic wastewater.	Moderate	Moderate. Hospital drainage system, downstream drainage/water receptors, Ciliwung headwater setting, patients, staff and nearby communities.	Moderate	Key mitigation measures include, ▪ Prepare Erosion, Sediment and Water Pollution Control Plan. ▪ Install silt fences, sediment traps, temporary drainage channels and sediment basins. ▪ Cover or stabilise stockpiles. ▪ Provide designated concrete washout areas with lined containment. ▪ Store fuel, oil and chemicals in	Construction / Contractor, PIU, Supervision Consultant, RSGP Kesling, IPRS Kesling	IDR 5,000,000-15,000,000, depends on drainage and sediment basin design

No	E&S Risks and Impacts	Project Activities that Cause Risks/ Impacts	Impact Magnitude	Receptor Sensitivity	Impact Significance	Proposed Mitigation Measures	Project Stage/ Responsibility	Estimated Cost (IDR) Actual Cost Will Be Determined by The Consultant/ Contractor
						bunded areas. ▪ Provide spill kits and train workers in spill response. ▪ Prohibit discharge of untreated contaminated water into drains. ▪ Provide adequate worker toilets and connect to approved wastewater system or septic/holding tanks. ▪ Conduct regular inspection before and after heavy rainfall. ▪ Monitor TSS, pH, oil and grease where runoff discharge is likely.		
6	Hydrology and drainage disruption	Drainage blockage, increased runoff from cleared/compacted areas, basement excavation, temporary diversion of drains, and stormwater overflow during heavy rain.	Minor	Low. Hospital operations, ambulance access, patients, workers, visitors, internal roads and downstream drainage receptors.	Low	Key mitigation measures include, ▪ Prepare temporary drainage design before earthworks. ▪ Maintain existing hospital drains operational during each construction phase. ▪ Provide temporary diversion channels, pumps and emergency drainage capacity for basement works. ▪ Keep drains free from sediment, debris and construction waste. ▪ Sequence earthworks to reduce exposed areas during rainy periods. ▪ Provide rain-event work stoppage	Construction / Contractor, PIU, Supervision Consultant, RSGP IPSRS	Budget under Internal Maintenance staff of RSGP (to be confirmed by temporary works design)

No	E&S Risks and Impacts	Project Activities that Cause Risks/ Impacts	Impact Magnitude	Receptor Sensitivity	Impact Significance	Proposed Mitigation Measures	Project Stage/ Responsibility	Estimated Cost (IDR) Actual Cost Will Be Determined by The Consultant/ Contractor
						criteria. ▪ Inspect drainage before forecast heavy rain and after rainfall events. ▪ Coordinate drainage changes with RSGP IPSRS and emergency access planning.		
7	Geomorphology, erosion and local ground instability	Cut-and-fill, basement excavation, stockpiling, slope trimming, temporary earthworks, erosion and local ground instability.	Moderate	Moderate. Workers, hospital structures, internal access roads, slopes, drainage assets and adjacent infrastructure.	Moderate	Key mitigation measures include, ▪ Complete geotechnical review before basement excavation and slope works. ▪ Prepare excavation and slope stability method statements. ▪ Install shoring, retaining, benching or temporary support where required. ▪ Avoid uncontrolled stockpiling near slopes, drains or building edges. ▪ Stabilise exposed soil with cover, compaction, hydroseeding or erosion mats. ▪ Inspect slopes after heavy rain. ▪ Prohibit excavation beyond approved limits. ▪ Stop work if cracks, slumping, unexpected groundwater seepage or instability are observed.	Construction / Contractor, PIU, Supervision Consultant, Geotechnical Specialist, RSGP IPSRS	IDR 10,000,000 major shoring/retaining works to be covered under civil works BOQ

No	E&S Risks and Impacts	Project Activities that Cause Risks/ Impacts	Impact Magnitude	Receptor Sensitivity	Impact Significance	Proposed Mitigation Measures	Project Stage/ Responsibility	Estimated Cost (IDR) Actual Cost Will Be Determined by The Consultant/ Contractor
8	Natural Hazard - Flood and Landslide	Heavy rainfall during excavation, blocked drains, uncontrolled runoff, erosion, sedimentation, slope instability, and ponding in basement or low-lying work areas.	Minor	Low. Patients, workers, hospital emergency access, hospital assets, nearby communities and drainage/slope receptors.	Low	Key mitigation measures include, ▪ Integrate flood and landslide risk controls into C-ESMP and Emergency Response Plan. ▪ Avoid major excavation where possible during peak rainfall unless drainage and pumping are ready. ▪ Provide standby pumps for basement and low-lying works. ▪ Maintain safe emergency access during storm events. ▪ Install slope protection and erosion controls early. ▪ Monitor BMKG weather warnings and apply rain-triggered work controls. ▪ Prepare emergency response procedure for flooding, landslide signs, blocked drains and basement inundation. ▪ Conduct drills with contractor, security, K3RS, IPSRS and hospital emergency team.	Construction / Contractor, PIU, Supervision Consultant, RSGP K3RS, IPSRS, Security, Emergency Response Team	IDR 15,000,000-20,000,000 Budget under staff of Contractor, partly shared with drainage and emergency preparedness budget
9	Spatial Plan and permit compliance	Potential construction outside approved footprint,	Minor	Low. RSGP, Ministry of Health, regulators, hospital users and surrounding land users.	Low	Key mitigation measures include, ▪ Confirm final DED, site layout, temporary facilities and access arrangements against approved	Pre-construction and construction / PIU, RSGP Management, Contractor,	IDR 5,000,000 per month Budget under staff of RSGP, , mainly review

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		temporary use of land for stockpiles, laydown areas, parking, contractor facilities, and non-compliance with masterplan/PBG /PKKPR.				masterplan, PBG and PKKPR. ▪ Mark approved construction boundary, laydown areas and no-go zones. ▪ Prohibit temporary facilities outside approved hospital land unless permitted. ▪ Keep permit register updated, including AMDAL, Pertek BMAL/BMUE, Rintek B3 and ANDALALIN. ▪ Conduct monthly compliance audit. Record any design or footprint changes and seek approval before implementation.	Supervision Consultant, Permitting Consultant	and compliance audit cost
10	Land-Based Transportation and access disruption	Construction truck movement, material delivery, worker commuting, temporary parking demand, road crossing, loading/unloading, and possible disruption to ambulance and patient access.	Moderate to High	High. Ambulance users, patients, visitors, staff, pedestrians, road users, nearby residents and businesses along Jl. Raya Puncak.	High	Key mitigation measures include, ▪ Implement Construction Traffic Management Plan covering traffic separation, emergency access, scheduling, haul routes, safety controls, coordination, and monitoring. Align with Annex G ▪ Schedule deliveries outside peak hospital hours, weekends and Puncak tourism/holiday congestion periods. ▪ Define haul routes, entry/exit points and loading/unloading areas. ▪ Provide flagmen/traffic marshals at	Construction / Contractor, PIU, Supervision Consultant, Transportation Specialist, RSGP Security, Dishub/ Polantas coordination	IDR 10,000,000 per month (traffic control staff and flagman) Under Contractor to be refined after ANDALALIN

No	E&S Risks and Impacts	Project Activities that Cause Risks/ Impacts	Impact Magnitude	Receptor Sensitivity	Impact Significance	Proposed Mitigation Measures	Project Stage/ Responsibility	Estimated Cost (IDR) Actual Cost Will Be Determined by The Consultant/ Contractor
						gates and internal crossings. ▪ Maintain uninterrupted ambulance and emergency access. ▪ Provide temporary parking plan for staff, patients, visitors and contractors. ▪ Separate pedestrian routes from truck routes. ▪ Coordinate with Dishub and Polantas as needed. ▪ Install clear signage, speed limits and lighting. ▪ Monitor traffic complaints and incidents through GRM.		
11	Biodiversity	Vegetation clearing, tree pruning, dust deposition, noise, waste management, lighting, accidental spills, worker disturbance and long-term landscaping/human activity.	Low to Moderate	Moderate. Modified hospital habitat, retained trees, planted green areas, common fauna and potential nearby landscape sensitivity.	Moderate	Key mitigation measures for biodiversity protection and conservation management include, ▪ Develop and implement a Biodiversity Protection and Conservation Policy for all personnel. ▪ Provide biodiversity awareness and conservation training for all workers. ▪ Conduct pre-clearing surveys for vegetation, fauna, sensitive habitats, nests, and roosting sites. ▪ Minimize vegetation clearing and unnecessary tree removal, protect	Construction / Contractor, PIU, Supervision Consultant, Biodiversity Specialist, RSGP Facility/Landscape Unit	IDR 25,000,000 excluding major landscape redesign

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						retained trees with barriers. ▪ Clearly demarcate and protect green areas, retained vegetation, and sensitive habitats. ▪ Prohibit hunting, trapping, collecting, feeding, harming, or disturbing wildlife by project personnel. ▪ Use shielded, downward-facing temporary lighting to minimize light spill. ▪ Cover, fence, or provide escape ramps for excavations, trenches, and pits. ▪ Restore disturbed areas promptly using native or non-invasive plant species. ▪ Prohibit open waste disposal and ensure waste is stored in wildlife-proof containers. ▪ Prevent the introduction and spread of invasive species through proper site and material management. ▪ Consult biodiversity specialists and area management if interactions with TNGGP KBA edge habitats or habitat patches are identified. ▪ Apply species-specific protection measures and establish exclusion		

No	E&S Risks and Impacts	Project Activities that Cause Risks/ Impacts	Impact Magnitude	Receptor Sensitivity	Impact Significance	Proposed Mitigation Measures	Project Stage/ Responsibility	Estimated Cost (IDR) Actual Cost Will Be Determined by The Consultant/ Contractor
						zones when species of conservation significance are encountered.		
B	**SOCIAL**							
	Socio-Economy and Demography	Local recruitment, non-local labour influx, worker accommodation, local procurement, increased demand for food/lodging/transport, and temporary disruption to access or small businesses.	Moderate	Moderate. Local job seekers, small businesses, informal vendors, transport providers, workers and nearby residents.	Moderate	Key mitigation measures include, ▪ Prioritise local recruitment for suitable positions, with transparent criteria. (20 percent of total workforce) ▪ Disclose recruitment process to surrounding communities. ▪ Avoid informal broker practices and recruitment fees. ▪ Encourage local procurement where quality, safety and price are acceptable. ▪ Manage worker accommodation to avoid nuisance and pressure on nearby communities. ▪ Maintain access to nearby businesses and hospital services. ▪ Record local employment and procurement data. ▪ Use GRM for employment, access and local business complaints.	Construction / Contractor, PIU, RSGP Humas, RSGP HR/SDM, Village Government coordination	IDR 10,000,000 mainly outreach, administration and monitoring

No	E&S Risks and Impacts	Project Activities that Cause Risks/ Impacts	Impact Magnitude	Receptor Sensitivity	Impact Significance	Proposed Mitigation Measures	Project Stage/ Responsibility	Estimated Cost (IDR) Actual Cost Will Be Determined by The Consultant/ Contractor
	Affected Livelihood	Temporary disruption to on-site tenants and service providers due to access changes, delivery restrictions, parking adjustments, utility works, dust, noise, and safety controls during construction.	Low to Moderate	Moderate. On-site tenants provide banking, retail, and food services for hospital staff, patients, visitors, patients' families, and nearby users.	Minor to Moderate	• Prepare a tenant/service-provider register before mobilisation. • Provide prior notice and consultation for any access, parking, delivery, utility, or relocation changes. • Maintain safe pedestrian access, clear signage, and delivery windows for operating tenants. • Provide an agreed temporary location or access arrangement if relocation is unavoidable. • Record and resolve tenant-related complaints through the project GRM. • Review tenant access and service continuity in weekly construction coordination meetings.	Construction / RSGP PIU, Hospital Management, Humas, IPSRS, Security, Contractor Social Safeguards Officer, Tenant PICs	Rp 10,000,000 for tenant register, consultation, signage, access management, temporary utility/access adjustment, GRM administration, and contingency for temporary service relocation if required.
		Presence of construction workforce, contractor procurement, material delivery, worker meal arrangements, increased movement of suppliers, and demand for daily	Minor Positive	Moderate. Local MSMEs, food sellers, transport providers, women-led businesses, and existing service providers may benefit if procurement is managed fairly and safely.	Positive	• Use registered local vendors for food, water, cleaning supplies, transport, and minor services where feasible. • Prioritise safe, legal, hygiene-compliant MSMEs, including women-led businesses where available. • Coordinate delivery times to avoid	Construction / Contractor Procurement Team, Contractor Social Safeguards Officer, RSGP PIU, Humas, Security	Included in contractor procurement cost, Rp 10,000,000 for communication, signage, vendor briefing, and monitoring administration.

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		support services during construction.				congestion and disruption to hospital operations. • Prohibit unmanaged vendors in construction zones, emergency routes, ambulance routes, and clinical areas. • Inform vendors of access rules, safety requirements, delivery schedules, and GRM channels. • Avoid unnecessary exclusion of existing local providers while applying hospital procurement, safety, hygiene, and security standards. • Report local procurement and vendor engagement monthly.		
	Socio-Culture and heritage-sensitive community disturbance	Worker-community interaction, construction disturbance, changes to access and visiting comfort, disruption to hospital social routines, complaints, and	Moderate	High. Patients, carers, staff, nearby community, visitors, heritage-sensitive hospital areas and local authorities.	High	Key mitigation measures include, ▪ Prepare Stakeholder Engagement Plan implementation schedule before mobilisation. ▪ Notify patients, staff, visitors and nearby communities about construction schedule and access changes. ▪ Provide clear signage and patient-friendly communication.	Pre-construction and construction / PIU, Contractor, RSGP Humas, Cultural Heritage Specialist, BPCB/ coordination	IDR 5,000,000 Per month

No	E&S Risks and Impacts	Project Activities that Cause Risks/ Impacts	Impact Magnitude	Receptor Sensitivity	Impact Significance	Proposed Mitigation Measures	Project Stage/ Responsibility	Estimated Cost (IDR) Actual Cost Will Be Determined by The Consultant/ Contractor
		works near heritage buildings.				▪ Maintain respectful worker behaviour through Code of Conduct. ▪ Prepare Cultural Heritage Management Plan and chance-find procedure before works near old buildings. ▪ Install protective barriers near heritage structures. ▪ Conduct photographic archival record before works near heritage fabric. ▪ Apply stop-work procedure for chance finds or damage to old structures.		
	Labour and Working Conditions	Recruitment, mobilisation, wage/payment practices, working hours, worker accommodation, subcontractor control, worker GRM, Code of Conduct, and GBV/SEAH risk, transmission of HIV and infectious diseases.	Moderaste	Low. Construction workers, subcontractor workers, female workers, local job seekers and vulnerable workers.	Moderate	Key mitigation measures include, ▪ Require Contractor Labour Management Plan before mobilisation. ▪ Use written contracts for all workers including subcontractor workers. ▪ Prohibit child labour, forced labour, recruitment fees and document retention. ▪ Ensure wages, overtime and working hours comply with Indonesian labour law. ▪ Provide worker induction and monthly refreshers.	Construction / Contractor, Subcontractors, PIU, Supervision Consultant, RSGP HR/SDM, Social/Gender Specialist	IDR 1,500,000 montly under RSGP team, excluding normal payroll and accommodation costs

No	E&S Risks and Impacts	Project Activities that Cause Risks/ Impacts	Impact Magnitude	Receptor Sensitivity	Impact Significance	Proposed Mitigation Measures	Project Stage/ Responsibility	Estimated Cost (IDR) Actual Cost Will Be Determined by The Consultant/ Contractor
						▪ Establish confidential worker GRM including anonymous reporting. ▪ Require Worker Code of Conduct covering harassment, GBV/SEAH, discrimination, intimidation, retaliation, drugs and alcohol. ▪ Facilitate voluntary and confidential HIV/STI counselling, testing and treatment referrals through RSGP, Puskesmas or other authorised health facilities. ▪ Provide worker induction and monthly refresher training covering HIV/STI transmission and prevention, safer sexual behaviour, available health services, confidentiality and prevention of stigma. ▪ Inspect worker accommodation, WASH, food safety and security conditions. ▪ Maintain labour records disaggregated by gender, local/non-local and subcontractor.		
	Occupational Health and Safety	Work at height, lifting, excavation, electrical works, hot works, confined/restricted areas, moving equipment, dust,	High	High. Contractor workers, subcontractors, supervisors, security, IPSRS/maintenance staff and nearby hospital staff.	Very High	Key mitigation measures include, ▪ Prepare and implement Contractor OHS Plan aligned with SMK3 and WBG EHS Guidelines. ▪ CESMP to be developed by the contractor and align with the UKL-	Construction / Contractor, PIU, Supervision Consultant, RSGP K3RS, IPSRS, Emergency	IDR 7,000,000 monthly under Contractor, embedded in contractor HSE and civil works contract

No	E&S Risks and Impacts	Project Activities that Cause Risks/ Impacts	Impact Magnitude	Receptor Sensitivity	Impact Significance	Proposed Mitigation Measures	Project Stage/ Responsibility	Estimated Cost (IDR) Actual Cost Will Be Determined by The Consultant/ Contractor
		noise, vibration, hazardous materials, and interface with hospital utilities.				UPL and ESIA ESMP ▪ Require task-specific method statements and Job Safety Analysis. ▪ Implement permit-to-work for excavation, lifting, hot works, electrical works, confined spaces and utility interface. ▪ Permit to work screening prior to work for general and high risk activities ▪ Provide PPE and enforce use. Install fall protection, guardrails, lifelines and safe scaffolding. ▪ Hard barricade for excavations and lifting zones. ▪ Apply lock-out/tag-out for utilities. ▪ Conduct toolbox meetings and safety induction before site entry. ▪ Provide first aid, emergency response team and incident reporting. ▪ Investigate all incidents, near misses and unsafe conditions. ▪ Provide Sexual Infectious Diseases Socialization and Education	Response Team	
	Community and workers Health	Dust, emissions, noise, vibration, worker influx,	Moderate	High. Respiratory/TB patients, MDR-TB patients, elderly,	High	Key mitigation measures include, ▪ Prepare Community Health and	Construction / Contractor, PIU, RSGP PPI, K3RS,	IDR 1,500,000 monthly under RSGP team,

No	E&S Risks and Impacts	Project Activities that Cause Risks/ Impacts	Impact Magnitude	Receptor Sensitivity	Impact Significance	Proposed Mitigation Measures	Project Stage/ Responsibility	Estimated Cost (IDR) Actual Cost Will Be Determined by The Consultant/ Contractor
		poor sanitation, stagnant water, infectious disease interface, and disruption to patient circulation or clinical access.		children, carers, visitors, staff and nearby residents.		Safety Plan. ▪ Maintain strict separation between construction and clinical zones. ▪ Install dust isolation barriers and negative/controlled airflow protection where works are near clinical areas. ▪ Coordinate works near wards, TB/MDR-TB services, IGD, laboratory and pharmacy with PPI and K3RS. ▪ Conduct communicable disease screening and health induction for workers. ▪ Provide worker WASH facilities and vector control. ▪ Prevent stagnant water in construction areas. ▪ Maintain continuity of TB/MDR-TB services and confidential patient pathways. ▪ Communicate access changes to patients and carers. ▪ Track community health and service complaints through GRM.	Kesling, Humas, Security, Supervision Consultant	higher if additional temporary clinical protection is required
	Community Safety and Security	Construction traffic, open excavations, falling objects,	Moderate	High. Patients, carers, visitors, pedestrians, local residents, women/girls, children,	High	Key mitigation measures include, ▪ Install secure hoarding, barricades, warning signs and controlled entry	Construction / Contractor, PIU, RSGP Security, RSGP Humas,	IDR 1,500,000 under Contractor partly shared

No	E&S Risks and Impacts	Project Activities that Cause Risks/ Impacts	Impact Magnitude	Receptor Sensitivity	Impact Significance	Proposed Mitigation Measures	Project Stage/ Responsibility	Estimated Cost (IDR) Actual Cost Will Be Determined by The Consultant/ Contractor
		unsafe pedestrian routes, unauthorised access to work zones, emergency access disruption, security conduct, and GBV/SEAH risk.		elderly, persons with disabilities and hospital staff.		points. ▪ Separate public, patient and worker routes. ▪ Keep ambulance and emergency access clear at all times. ▪ Provide safe temporary pedestrian routes, ramps and lighting. ▪ Prevent unauthorised access to excavations, lifting zones and material storage areas. ▪ Train security personnel on respectful conduct, non-discrimination, GBV/SEAH prevention and de-escalation. ▪ Provide incident and accident reporting system. ▪ Ensure GRM accepts anonymous complaints on safety, harassment, intimidation and GBV/SEAH.	K3RS, Social/Gender Specialist	with traffic and CHS budgets
	Cultural Heritage - potential physical damage to older structures and heritage-sensitive hospital fabric	Excavation, foundation works, piling or compaction if used, heavy equipment movement, construction traffic, material storage,	Moderate	High. Potential heritage structures may have historical, institutional, architectural, and medical heritage value. Formal designation is pending, so a precautionary approach is required.	High	Key mitigation measures include, ▪ Confirm cultural heritage status of older RSGP buildings with BPCB West Java and/or Kabupaten Bogor before demolition, alteration, piling, vibration-intensive works, or works near older structures. ▪ Prepare and implement a Cultural Heritage Management Plan (CHMP)	Pre-construction and construction / PIU, RSGP Management, Contractor, Supervision Consultant, Cultural Heritage	Under RSGP Building Maintenance, for vibration use the vibration budget, excludes major conservation works if required by

No	E&S Risks and Impacts	Project Activities that Cause Risks/ Impacts	Impact Magnitude	Receptor Sensitivity	Impact Significance	Proposed Mitigation Measures	Project Stage/ Responsibility	Estimated Cost (IDR) Actual Cost Will Be Determined by The Consultant/ Contractor
		temporary works, and contractor activity near older structures.				before construction. ▪ Conduct pre-construction heritage screening, building condition survey, photographic documentation, and mapping of older structures, including the “Heritage Eksekutif” wing and other buildings identified by RSGP. ▪ Establish heritage buffer/no-go zones around older structures and prohibit storage, parking, waste placement, heavy equipment movement, or vibration-intensive works within the buffer unless approved. ▪ Avoid demolition or alteration of older buildings until formal status and authority requirements are clarified. ▪ Use low-vibration construction methods where feasible near heritage-sensitive structures. ▪ Conduct vibration monitoring near older structures during piling, compaction, demolition and heavy equipment movement. ▪ Install protective barriers, signage and access control around heritage-sensitive structures. ▪ Require contractor induction on cultural heritage protection, no	Specialist,Provinsi West Java and/orKabupaten Bogor	authority

No	E&S Risks and Impacts	Project Activities that Cause Risks/ Impacts	Impact Magnitude	Receptor Sensitivity	Impact Significance	Proposed Mitigation Measures	Project Stage/ Responsibility	Estimated Cost (IDR) Actual Cost Will Be Determined by The Consultant/ Contractor
						unauthorised removal of building elements, and reporting obligations. ▪ Apply stop-work and expert review if cracks, settlement, vibration exceedance, or accidental damage occurs.		
	OPERATION							
A	**ENVIRONMENTAL**							
	Air Quality & Greenhouse Gases	Operation of emergency generators, boilers/stack sources if applicable, HVAC and energy use, ambulance/vehicle movement, medical equipment, and increased electricity demand.	Moderate	High. Respiratory patients, staff, visitors, nearby residents and climate-sensitive hospital operations.	High	Key mitigation measures include, ▪ Implement operational air emission management under Pertek BMUE. ▪ Maintain gensets, boilers and stacks according to manufacturer and regulatory requirements. ▪ Conduct stack emission testing as required. ▪ Locate exhaust outlets away from air intakes, waiting areas and wards. ▪ Use energy-efficient HVAC, lighting and equipment. ▪ Monitor electricity and fuel consumption for GHG inventory. ▪ Implement Green Hospital measures, including energy management and preventive maintenance.	Operation / RSGP Management, RSGP IPSRS, Kesling, K3RS, PIU during defects liability, licensed laboratory	IDR 10,000,000–/year

No	E&S Risks and Impacts	Project Activities that Cause Risks/ Impacts	Impact Magnitude	Receptor Sensitivity	Impact Significance	Proposed Mitigation Measures	Project Stage/ Responsibility	Estimated Cost (IDR) Actual Cost Will Be Determined by The Consultant/ Contractor
						▪ Avoid unnecessary generator operation except testing and emergency use.		
	Operational noise	Operation of HVAC, pumps, generators, service vehicles, ambulances, loading/unloading, parking circulation and increased patient/visitor activity.	Minor	Low. In-patients, respiratory patients, staff, visitors and nearby residents.	Low	Key mitigation measures include, ▪ Select low-noise HVAC, pumps and generators during procurement. ▪ Install acoustic enclosures for gensets and noisy equipment. ▪ Place noisy equipment away from wards and community receptors where feasible. ▪ Maintain equipment to prevent abnormal noise. ▪ Manage ambulance siren use inside campus except where needed for safety. ▪ Monitor complaints and conduct noise measurement if complaints are repeated. ▪ Apply corrective actions such as barriers, enclosure repair or operational scheduling.	Operation / RSGP IPSRS, Kesling, K3RS, Security, equipment suppliers	IDR 10,000,000–15,000,000/year, equipment acoustic controls to be included in DED/BOQ
	Water Quality	Expanded hospital wastewater from wards, laboratories, diagnostic	Moderate	Moderate. Downstream water environment, public health, regulators, hospital users and nearby communities.	Moderate	Key mitigation measures include, ▪ Confirm IPAL capacity against future bed numbers and new clinical functions. ▪ Upgrade IPAL if hydraulic or	Operation / RSGP Kesling, IPSRS, PIU, DED Consultant, IPAL	IDR 1,000,000,000 – 2,000,000,000 provisional for IPAL construction

No	E&S Risks and Impacts	Project Activities that Cause Risks/ Impacts	Impact Magnitude	Receptor Sensitivity	Impact Significance	Proposed Mitigation Measures	Project Stage/ Responsibility	Estimated Cost (IDR) Actual Cost Will Be Determined by The Consultant/ Contractor
		services, sputum/infectious handling areas, laundry, kitchens and domestic use, risk of IPAL overload or non-compliance.				pollutant load exceeds design capacity. ▪ Separate domestic and clinical wastewater channels before treatment as required. ▪ Update the SOP of WWTP aligned with the future system and capacity ▪ Operate IPAL 24 hours/day. ▪ Conduct daily self-monitoring of pH, temperature and relevant basic parameters. ▪ Conduct periodic accredited laboratory testing for BMAL compliance. ▪ Maintain logs, calibration records and sludge management records. ▪ Prepare emergency procedure for IPAL upset, overflow or non-compliant discharge. ▪ Report to DLH according to Pertek BMAL and regulatory requirements.	contractor, accredited laboratory	upgrade, IDR 20,000,000/year for monitoring
	Land-Based Transportation during operation	Increased staff, patients, trainees, visitors, ambulance movement, logistics, waste collection, parking	Moderate	High. Patients, emergency users, road users, pedestrians, nearby residents, businesses and Puncak tourism corridor traffic.	High	Key mitigation measures include, ▪ Implement operational traffic and parking management plan based on ANDALALIN. ▪ Maintain separate ambulance, logistics, waste collection, staff and	Operation / RSGP Management, Security, IPSRS, Traffic/Parking Operator, Dishub/Polantas	IDR 50,000,000/year excludes major parking structure cost if required

No	E&S Risks and Impacts	Project Activities that Cause Risks/ Impacts	Impact Magnitude	Receptor Sensitivity	Impact Significance	Proposed Mitigation Measures	Project Stage/ Responsibility	Estimated Cost (IDR) Actual Cost Will Be Determined by The Consultant/ Contractor
		circulation and service vehicle access after expanded capacity.				visitor circulation where feasible. ▪ Provide clear wayfinding, pedestrian crossings, drop-off areas and accessible routes. ▪ Manage peak-hour queueing to avoid spillback to Jl. Raya Puncak. ▪ Coordinate with local traffic authorities for special events or peak periods. ▪ Provide parking management and security support. ▪ Monitor traffic complaints, access delay, ambulance access time and incidents.	coordination	
B	**SOCIAL**							
	Socio-Economy and Demography	Expanded hospital services, increased workforce, trainees, procurement, visitor spending, transport demand and local service demand.	Moderate beneficial, Low to Moderate adverse	Moderate. Local workers, businesses, patients, trainees, suppliers and nearby communities.	Moderate Positive, adverse risks Moderate	Key mitigation measures include, ▪ Maintain transparent local employment and supplier opportunities where feasible. ▪ Provide fair procurement information and avoid informal payment practices. ▪ Manage increased visitor and worker demand so it does not disturb nearby communities. ▪ Support community health outreach	Operation / RSGP Management, HR/SDM, Procurement, Humas, PIU during transition	IDR 10,000,000/year , mainly engagement, monitoring and reporting

No	E&S Risks and Impacts	Project Activities that Cause Risks/ Impacts	Impact Magnitude	Receptor Sensitivity	Impact Significance	Proposed Mitigation Measures	Project Stage/ Responsibility	Estimated Cost (IDR) Actual Cost Will Be Determined by The Consultant/ Contractor
						linked to RSGP role. ▪ Monitor community feedback on access, parking, employment and local business impacts through GRM. ▪ Include local benefit data in annual sustainability or safeguards reporting.		
	Socio-Culture, patient dignity and heritage identity	Transformation into teaching hospital, increased patient/visitor flows, TB stigma and privacy issues, hospital routines, heritage identity and public complaints.	Moderate	High – TB/respiratory patients, PWD, ODHA/people living with HIV, elderly patients, low-income/JKN patients, women, children, caregivers, staff, students, nearby residents, heritage-sensitive receptors, and other stigma-sensitive patient groups including substance-use/drug-dependency patients where relevant.	High	Key mitigation measures include, ▪ Protect patient privacy and confidentiality, especially for TB/MDR-TB and other stigmatized conditions. ▪ Train staff and trainees on respectful communication, confidentiality, disability inclusion and gender sensitivity. ▪ Maintain culturally appropriate public information and signage. ▪ Preserve heritage values through CHMP, building interpretation or documentation where appropriate. ▪ Maintain complaint channels for patients, carers, staff and communities. ▪ Ensure teaching activities do not compromise patient consent, dignity or service quality.	Operation / RSGP Management, Medical Services, Education/Training Unit, Humas, PPI, Cultural Heritage focal point	IDR 10,000,000/year, heritage conservation cost to be confirmed separately

No	E&S Risks and Impacts	Project Activities that Cause Risks/ Impacts	Impact Magnitude	Receptor Sensitivity	Impact Significance	Proposed Mitigation Measures	Project Stage/ Responsibility	Estimated Cost (IDR) Actual Cost Will Be Determined by The Consultant/ Contractor
	Labour and Working Conditions during operation	Expanded hospital workforce, shift work, recruitment, trainee integration, cleaning/security /outsourced labour, worker GRM, harassment prevention and equal opportunity.	Moderate	Moderate to High. Health workers, female workers, cleaners, security, outsourced staff, trainees and vulnerable workers.	High	Key mitigation measures include, ▪ Implement fair recruitment, equal opportunity and non-discrimination procedures. ▪ Provide written contracts or formal appointment documents. ▪ **Labour management plan to be developed** ▪ Manage working hours, shifts, overtime and rest periods. ▪ Ensure outsourced workers receive minimum labour protections. ▪ Maintain worker GRM that is accessible, confidential and non-retaliatory. ▪ Implement harassment, GBV/SEAH and workplace violence prevention policy. ▪ Provide gender-responsive facilities such as separate toilets, safe rest areas and lactation room where required. ▪ Monitor training, complaints, turnover and incident trends.	Operation / RSGP HR/SDM, K3RS, PPI, Unit Heads, Outsourced service providers	IDR 1,500,000 Monthly excludes normal payroll
	Occupational Health and Safety during operation	Healthcare work involving TB/MDR-TB exposure,	High	High. Healthcare workers, cleaners, laboratory staff, waste handlers, security and	Very High	Key mitigation measures include, ▪ Strengthen K3RS and PPI programmes for expanded services.	Operation / RSGP K3RS, PPI, Kesling, Laboratory,	100,000,000

No	E&S Risks and Impacts	Project Activities that Cause Risks/ Impacts	Impact Magnitude	Receptor Sensitivity	Impact Significance	Proposed Mitigation Measures	Project Stage/ Responsibility	Estimated Cost (IDR) Actual Cost Will Be Determined by The Consultant/ Contractor
		infectious waste, sputum handling, sharps, chemicals, radiation/diagnostics, laboratories, lifting, shift work, emergency response and psychosocial stress.		maintenance staff.		▪ Maintain TB/MDR-TB infection prevention controls, including ventilation, isolation, respiratory protection and patient flow management. ▪ Provide vaccination, health surveillance and fit testing where applicable. ▪ Manage sharps, chemicals, cytotoxic materials, sputum and infectious waste safely. ▪ Provide PPE and training for all relevant workers, including cleaners and waste handlers. ▪ Implement radiation safety and laboratory biosafety controls. ▪ Provide incident reporting, exposure response and post-exposure management. ▪ Manage fatigue, shift work and psychosocial risks. ▪ Conduct regular audits and drills.	Radiology, Nursing, HR/SDM, Unit Heads	
	Radiation Safety and Protection during Hospital Operation	Operation of diagnostic/interventional radiology and other ionizing-radiation equipment.	Medium	High, radiation workers and patients, especially children, pregnant patients and those requiring repeated/high-dose procedures.		• Maintain BAPETEN licences and Radiation Protection Plan • Appoint qualified PPR/personnel; maintain shielding, controlled areas and warning signs	Operation / RSGP Management; Radiology Unit; PPR; Medical Physicist where applicable;	50,000,000/ Year

No	E&S Risks and Impacts	Project Activities that Cause Risks/ Impacts	Impact Magnitude	Receptor Sensitivity	Impact Significance	Proposed Mitigation Measures	Project Stage/ Responsibility	Estimated Cost (IDR) Actual Cost Will Be Determined by The Consultant/ Contractor
						• Provide worker dosimetry and workplace radiation monitoring • Conduct equipment acceptance/QC • Apply patient dose justification and optimization; maintain emergency procedures • Investigate abnormal exposure • Provide periodic training and maintain records.	K3RS; Quality and Patient Safety; IPSRS; HR/SDM.	
	Community Health during operation	Improved pulmonary, emergency, inpatient, diagnostic and teaching hospital services, residual risks from TB/MDR-TB transmission, HAI, indoor air, wastewater, B3 waste, crowding and patient flow.	High beneficial, Moderate to High adverse	High. TB/MDR-TB patients, respiratory patients, children, elderly, carers, visitors, staff and surrounding communities.	High Positive, adverse risks High to Very High	Key mitigation measures include, ▪ Maintain strong infection prevention and control in all clinical areas. ▪ Provide adequate isolation rooms, ventilation, HEPA/negative pressure where required by design and clinical risk. ▪ Maintain safe sputum handling, laboratory biosafety, infectious waste management and wastewater treatment. ▪ Manage patient flow to reduce crowding and cross-infection. ▪ Provide clear information for patients and carers on infection prevention. ▪ Maintain community health	Operation / RSGP Management, PPI, K3RS, Medical Services, Nursing, Laboratory, Kesling, IPSRS	Budget under RSGP provisional for infection-control upgrades, annual PPI monitoring embedded in hospital OPEX

No	E&S Risks and Impacts	Project Activities that Cause Risks/ Impacts	Impact Magnitude	Receptor Sensitivity	Impact Significance	Proposed Mitigation Measures	Project Stage/ Responsibility	Estimated Cost (IDR) Actual Cost Will Be Determined by The Consultant/ Contractor
						outreach and referral coordination. ▪ Monitor HAIs, TB/MDR-TB pathways, complaints, indoor air issues and environmental compliance.		
	Community Safety and Security during operation	Increased patient/visitor circulation, parking and ambulance movement, emergency evacuation, security services, public access control, lighting, GBV/SEAH and infectious disease transmission (such as HIV) prevention and grievance handling.	Moderate	High. Patients, visitors, carers, women/girls, children, elderly, persons with disabilities, staff and nearby residents.	High	Key mitigation measures include, ▪ Maintain safe and accessible pedestrian routes, ramps, lighting and wayfinding. ▪ Manage parking, drop-off and ambulance routes to reduce conflict. ▪ Train security personnel on respectful conduct, patient-sensitive response, GBV/SEAH prevention and non-discrimination. ▪ Maintain emergency evacuation routes and conduct drills. ▪ Control access to restricted clinical, laboratory, waste and utility areas. ▪ Maintain CCTV/lighting where appropriate while respecting privacy. • Keep GRM accessible for safety, security, harassment and service complaints. • HIV prevention program for workers and community (Socialization, VCT, and condoms distribution)	HIV Prevention Program by HIV Expert. Operation / RSGP Security, Humas, K3RS, Facility Management, Medical/Nursing Units	5,000,000

7 CLIMATE CHANGE ASSESSMENT

7.1 Summary of Climate Risk Analysis

The climate risk assessment for The Project was conducted to identify climate-related hazards potentially relevant to the Project during both construction and long-term operational phases. The assessment considered baseline environmental conditions, Project characteristics, future climate projections under multiple SSP climate scenarios, and Project sensitivity to identified climate hazards.

Based on the assessment, the main climate-related hazards considered relevant to the Project include heat wave and heat stress, drought conditions, extreme precipitation, and earthquake hazard. Increasing temperature conditions and prolonged dry periods are projected to become the most relevant long-term climate-related exposures for the Project, particularly in relation to cooling demand, operational energy consumption, water availability, and operational continuity of healthcare services. In contrast, major coastal hazards and large-scale flooding are generally considered less relevant due to the Project's inland mountainous location and current hazard screening results.

A summary of the current and projected future climate exposure relevant to the Project is presented in Table below. Detailed climate risk assessment, hazard screening methodology, future climate projections, and adaptation analysis are provided in Annex E.

Table 72 Summary of Climate Hazard, Impacts, and Adaptation Analysis

Hazard	Current Exposure	Future Exposure
Climate Risk		
Heat Wave	Moderate	Significant to Extreme
Heat Stress	Negligible	Negligible
Drought	Moderate	Significant to Extreme
Extreme Precipitation	Negligible	Negligible to Minor
Natural Hazard		
Earthquake	High	High

7.2 Summary of Adaptation Analysis

The adaptation analysis was conducted to identify potential adaptation measures that may support long-term climate resilience, infrastructure reliability, operational continuity, and emergency preparedness for the RS Goenawan development project. The analysis considered the potential influence of identified climate hazards on demolition and construction activities, hospital buildings and healthcare facilities, utility systems, and long-term hospital operations. Potential adaptation measures were identified based on the Project characteristics, future climate exposure conditions, and general climate-resilient design and operational practices relevant to healthcare facilities. The analysis primarily focuses on adaptation considerations related to heat wave and heat stress conditions, drought and water availability, extreme precipitation, and earthquake hazards.

A summary of the climate hazards, potential impacts, and adaptation measures relevant to the Project is presented in Table below, while detailed climate adaptation and mitigation measures are provided in Annex E.

Table 73 Summary of Climate Hazard, Impacts, and Adaptation Analysis

Components / Work Package	Climate Hazards, Impacts, And Adaptation Measures							
	Heat Wave / Heat Stress		Drought		Extreme Precipitation		Earthquake	
	Key Climate impacts	Adaptation Measures	Key Climate impacts	Adaptation Measures	Key Climate impacts	Adaptation Measures	Key climate impacts	Adaptation Measures
Demolition and Construction Activities	Prolonged hot weather conditions may increase worker heat exposure, fatigue, and reduced productivity during outdoor construction activities.	Implement work-rest arrangements, shaded rest areas, hydration facilities, and heat exposure management procedures during hot weather conditions.	Prolonged dry periods may reduce temporary water availability for construction activities, dust suppression, and sanitation needs.	Maintain temporary water storage, monitor water usage, and prepare contingency water supply arrangements during prolonged dry conditions.	Heavy rainfall may contribute to temporary runoff, localized flooding, drainage congestion, and disruption to construction access and earthwork activities.	Maintain temporary drainage systems, runoff control measures, erosion protection, and rainfall emergency response procedures during construction activities.	Earthquake events may affect temporary structures, construction safety, and construction access within the Project Area.	Implement construction safety procedures, emergency evacuation plans, equipment securing measures, and emergency response drills during construction activities.

Components / Work Package	Climate Hazards, Impacts, And Adaptation Measures							
	Heat Wave / Heat Stress		Drought		Extreme Precipitation		Earthquake	
	Key Climate impacts	Adaptation Measures	Key Climate impacts	Adaptation Measures	Key Climate impacts	Adaptation Measures	Key climate impacts	Adaptation Measures
Hospital Buildings and Healthcare Facilities	Increasing temperature conditions and prolonged hot days may increase cooling demand, indoor thermal stress, and operational pressure on critical healthcare facilities.	Apply energy-efficient HVAC systems, passive cooling strategies, thermal insulation, shading systems, and backup power supply for cooling systems.	Increasing drought conditions may affect long-term water availability required to support sanitation systems, cooling demand, and healthcare services.	Incorporate rainwater harvesting systems, water storage facilities, water reuse systems for non-clinical purposes, and water efficiency measures.	Heavy rainfall may contribute to temporary drainage congestion, localized runoff, and disruption to internal circulation and emergency access.	Incorporate climate-resilient drainage systems, runoff retention facilities, rainwater harvesting systems, and emergency access protection measures.	Earthquake events may affect structural integrity, critical equipment, utility systems, and operational continuity of hospital facilities.	Ensure hospital buildings and critical infrastructure are designed in accordance with applicable seismic standards and emergency operational requirements.

Components / Work Package	Climate Hazards, Impacts, And Adaptation Measures							
	Heat Wave / Heat Stress		Drought		Extreme Precipitation		Earthquake	
	Key Climate impacts	Adaptation Measures	Key Climate impacts	Adaptation Measures	Key Climate impacts	Adaptation Measures	Key climate impacts	Adaptation Measures
Utility Systems and Supporting Infrastructure	Increasing temperature conditions may increase operational stress on cooling systems and electricity demand.	Consider energy-efficient utility systems, renewable energy integration, and preventive maintenance programs for cooling infrastructure.	Reduced long-term water availability may affect utility systems and supporting operational infrastructure requiring continuous water supply.	Maintain backup water storage capacity, monitor operational water demand, and establish contingency water supply procedures.	Extreme rainfall events may affect utility systems, stormwater management performance, and temporary site accessibility.	Design stormwater systems considering future climate projections and maintain routine inspection and maintenance programs.	Earthquake events may disrupt power supply, water systems, communication systems, and other critical utilities.	Provide backup utility systems, emergency communication systems, and operational continuity procedures for critical infrastructure.
Hospital Operations	Heat wave conditions may increase heat-related discomfort and operational stress for patients, healthcare workers, and visitors.	Establish heat emergency preparedness procedures and maintain thermal comfort management measures for patients and staff.	Drought conditions may affect long-term operational water demand and continuity of healthcare services requiring stable water supply.	Implement water conservation measures, monitor operational water use, and maintain emergency water supply planning for critical hospital operations.	Temporary heavy rainfall events may affect operational access, circulation, and emergency response activities.	Maintain emergency preparedness procedures and operational response plans during heavy rainfall conditions.	Earthquake events may disrupt hospital operations, emergency services, and healthcare response activities.	Maintain emergency preparedness plans, evacuation procedures, routine emergency drills, and post-earthquake operational recovery procedures.

7.3 Project Existing Plan on Climate Change and Energy Efficiency

Based on the available Project masterplan, several design approaches have been identified that may support climate adaptation, environmental quality improvement, and operational energy efficiency within the Project Area, as presented in Figure 1. The Project masterplan applies a relatively low building coverage ratio (KDB) of approximately 21% and a green open space ratio (KDH) of approximately 52% of the total Project area. As illustrated in Figure 1, the relatively high proportion of green open space may support rainwater infiltration, surface runoff reduction, microclimate improvement, and enhancement of environmental quality within the hospital area.



Figure 50 Master plan project

The landscape and vegetation concept incorporated within the masterplan includes green belt areas, heritage plaza, central garden, and entrance garden areas, as shown in Figure 2. These landscape elements may contribute to shading effects, localized temperature reduction, improvement of outdoor comfort, and support for surface water absorption during rainfall events. The Project also incorporates street furniture and outdoor landscape elements utilizing wood-based materials, as illustrated in Figure 2, which may reduce dependence on plastic-based materials within outdoor public areas and support environmentally responsive landscape design.

In addition, the building design concept incorporates extensive glass elements intended to optimize natural lighting within building areas and potentially reduce daytime electricity demand for lighting purposes, as presented in Figure 2. Further consideration of thermal-responsive façade design and energy-efficient building systems during the Detailed Engineering Design (DED) stage may further support long-term operational energy efficiency and climate-responsive building performance.

Key climate-responsive and energy efficiency considerations identified from the current Project masterplan include,

- Relatively high green open space allocation to support rainwater infiltration, surface runoff reduction, and localized microclimate improvement,
- Landscape and vegetation design to support shading effects and outdoor thermal comfort,
- Potential use of environmentally responsive landscape materials within outdoor public areas,
- Building design intended to optimize natural lighting and reduce daytime electricity demand,
- Opportunity for incorporation of thermal-responsive façade systems, passive cooling strategies, energy-efficient HVAC systems, and renewable energy utilization during the DED stage,
- Potential integration of rainwater harvesting and stormwater management systems to support long-term climate resilience and operational water efficiency.



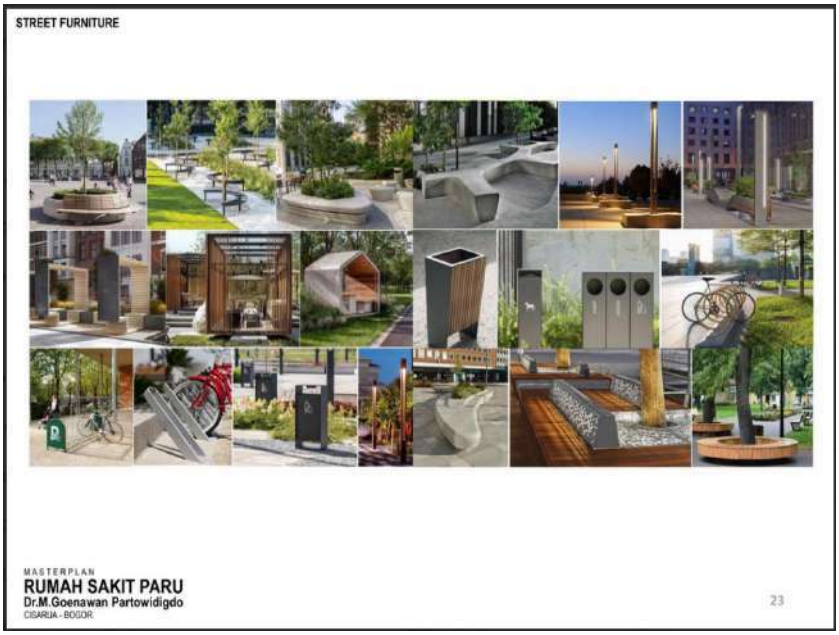




Figure 51 Vegetation plan, street furniture, and building concept.

7.4 Greenhouse Gases Calculation and Reduction Program

The GHG assessment was undertaken to estimate the Project's potential contribution to climate change and to evaluate opportunities for emission reduction throughout the Project lifetime. The assessment considers the existing GHG baseline, projected future emissions under a business-as-usual scenario, and projected future emissions after implementation of selected energy efficiency and emission reduction measures. The results provide an indication of the potential effectiveness of the proposed mitigation measures in reducing the Project's overall carbon footprint.

7.4.1 GHG Baseline

The existing GHG baseline was developed based on operational data provided by RS Goenawan for the 2024 reporting year. The assessment was undertaken to establish a reference condition representing current operational greenhouse gas emissions prior to implementation of the proposed hospital redevelopment project.

The baseline inventory considered the main energy consumption sources currently operated within the hospital, including diesel fuel consumption for backup generators, liquefied petroleum gas (LPG) consumption for kitchen and nutrition service facilities, and purchased electricity consumed across hospital buildings and supporting facilities. GHG emissions associated with these energy sources were estimated using applicable emission factors and converted into carbon dioxide equivalent (CO_2-eq) emissions.

The detailed calculation of GHG emissions from diesel fuel consumption, LPG consumption, and purchased electricity is presented in the following tables. The results provide the baseline emissions profile used for comparison with future operational emission projections under both business-as-usual and emission reduction scenarios.

Table 74 Scope 1 – Diesel Fuel GHG Emissions

Parameter	Unit	Value
Diesel Fuel Consumption	L/year	2,393
CO_2 Emission Factor	kg CO_2/gallon	10.21
CH_4 Emission Factor	g CH_4/gallon	0.41
N_2O Emission Factor	g N_2O/gallon	0.08
CO_2 Emissions	tons CO_2/year	6.45
CH_4 Emissions	tons CH_4/year	<0.01
N_2O Emissions	tons N_2O/year	<0.01
Total GHG Emissions	**tons CO_2-eq/year**	**6.48**

Data Source: Goenawan Hospital Fuel Diesel Consumption 2024

Emission Factor Sources: Emission Factors for Greenhouse Gas Inventories US EPA, 2025

Global Warming Potential (GWP) value: CO2 = 1, CH4: 29.8, and N2O=273 (IPCC AR6)

Table 75 Scope 1 – LPG GHG Emissions

Parameter	Unit	Value
LPG Consumption	kg/year	876
CO_2 Emission Factor	kg CO_2/scf	0.05444
CH_4 Emission Factor	g CH_4/scf	0.00103
N_2O Emission Factor	g N_2O/scf	0.00010
CO_2 Emissions	tons CO_2/year	2.55
CH_4 Emissions	tons CH_4/year	<0.01
N_2O Emissions	tons N_2O/year	<0.01
Total GHG Emissions	**tons CO_2-eq/year**	**2.55**

Data Source: Goenawan Hospital LPG Consumption 2024

Emission Factor Sources: Emission Factors for Greenhouse Gas Inventories US EPA, 2025
Global Warming Potential (GWP) value: CO2 = 1, CH4: 29.8, and N2O=273 (IPCC AR6)

Table 76 Scope 2 – Electricity GHG Emissions

Parameter	Unit	Value
Electricity Consumption	MWh/year	1,058.12
Grid Emission Factor (CM Ex-Post, OM=0.5, BM=0.5)	tons CO_2/MWh	0.87
Total GHG Emissions	**tons CO_2-eq/year**	**920.55**

Data Source: Goenawan Hospital Purchase Electricity Consumption 2024
Emission Factor Sources: Emission Factors for Greenhouse Gas Inventories from Electricity, Ministry of Energy and Mineral Resources (2019)
Global Warming Potential (GWP) value: CO2 = 1, CH4: 29.8, and N2O=273 (IPCC AR6)

Based on the assessment, the total existing GHG emissions associated with current RS Goenawan operations are estimated at approximately 929.58 tCO_2-eq/year, consisting of emissions from diesel fuel consumption for backup generators, LPG consumption for kitchen and nutrition facilities, and purchased electricity consumption. Purchased electricity represents the dominant source of emissions, accounting for the majority of the hospital's overall GHG footprint, while diesel fuel and LPG contribute only a relatively small proportion of total emissions.

The estimated baseline emissions are substantially below the World Bank Group reporting threshold of 25,000 tCO_2-eq/year for projects with significant GHG emissions. The total emissions represent less than 4% of this threshold, indicating that the current operational GHG footprint of the hospital is relatively low. Nevertheless, opportunities remain to further reduce emissions through energy efficiency measures and integration of renewable energy systems as part of the proposed hospital redevelopment project.

7.4.2 GHG Projected under a Business-as- usual

Future GHG emissions under the business-as-usual (BAU) scenario were estimated based on the existing operational GHG baseline and the projected increase in healthcare service capacity following the proposed redevelopment of RS Goenawan. As detailed in the Project Description, the redevelopment will substantially expand hospital services through an increase in bed capacity, specialized healthcare facilities, diagnostic services, laboratory facilities, and supporting infrastructure. Consequently, future operational energy demand is expected to increase compared to existing conditions.

The future BAU GHG emissions forecast was developed based on the following assumptions:

- The existing operational GHG baseline for RS Goenawan is estimated at approximately 929.58 tCO_2-eq/year, based on 2024 operational data.
- Existing hospital bed capacity is approximately 38 beds, while the proposed redevelopment will increase total bed capacity to approximately 125 beds.

- A bed capacity expansion factor of 3.29 was applied, representing the increase from existing to future hospital capacity (125 beds / 38 beds).
- An additional service complexity factor of 1.2 was applied to account for the planned expansion of specialized and energy-intensive healthcare facilities, including ICU, ICCU, NICU, radiology facilities, operating theatres, catheterization laboratory (cathlab), laboratory facilities, and supporting medical infrastructure.
- Future operational energy demand is assumed to increase proportionally with the increase in healthcare service capacity and facility complexity.
- The BAU scenario assumes no specific energy efficiency measures, renewable energy systems, or dedicated GHG reduction initiatives beyond standard operational practices.

Based on the above assumptions, the future operational GHG emissions under the BAU scenario are estimated as follows:

$$\text{Future GHG Emissions} = \text{Existing GHG Baseline} \times \text{Capacity Expansion Factor} \times \text{Service Complexity Factor} = 929.58 \times 3.29 \times 1.2 = 3{,}670 \text{ tons } CO_2\text{-eq/year}$$

Based on the assessment, future operational GHG emissions under the BAU scenario are estimated at approximately 3,670 tons CO_2-eq/year, reflecting the planned expansion of hospital capacity and healthcare services, while remaining substantially below the World Bank Group reporting threshold of 25,000 tons CO_2-eq/year.

7.4.3 GHG Projected With Reduction Program

A future GHG emissions scenario incorporating emission reduction measures was developed to evaluate the potential reduction in operational greenhouse gas emissions associated with the implementation of the proposed Green Building concept and rooftop solar photovoltaic (PV) systems as part of the Project's sustainability strategy.

7.4.3.1 Green Building Program

The GHG reduction assessment associated with the proposed Green Building Program was developed with reference to the Green Buildings for the Health Care Sector: Cost-effective Measures for Sustainable Design published by the Inter-American Development Bank (IDB, 2020). The guideline presents several energy performance simulations based on the EDGE methodology to evaluate the potential operational energy savings that can be achieved through different combinations of passive design strategies and energy-efficient building systems for hospital developments.

For the purpose of this assessment, Simulation B was adopted as the most representative scenario because it most closely reflects the climate-responsive and energy efficiency measures currently identified in the RS Goenawan Project Masterplan. The simulation incorporates the minimum energy efficiency measures recommended under the EDGE methodology, together with efficient lighting,

high-performance glazing, and a Variable Refrigerant Flow (VRF) air-conditioning system with a coefficient of performance (COP) of 3.5. These measures are generally consistent with the Project's planned Green Building concept, which includes optimization of natural lighting, incorporation of thermal-responsive façade systems, and adoption of energy-efficient HVAC systems during the DED stage.

Based on the IDB (2020) assessment, Simulation B demonstrates an estimated 29.36% reduction in operational energy consumption compared with the reference building. Accordingly, the projected energy saving was adopted as the basis for estimating the potential reduction in electricity consumption and the associated GHG emissions under the Green Building Program.

The assessment was developed based on the following assumptions:

- The existing annual electricity consumption is 1,058.12 MWh/year, based on the 2024 operational electricity consumption of RS Goenawan.
- Under the BAU scenario, future electricity demand is assumed to increase proportionally with the projected expansion of hospital capacity and service complexity, consistent with the BAU GHG assessment.
- Applying the hospital capacity expansion factor (3.29) and service complexity factor (1.20), the projected future electricity demand under the BAU scenario is estimated at approximately 4,177 MWh/year.
- Implementation of the proposed Green Building measures is assumed to achieve an operational energy saving of 29.36%, based on the energy performance of Simulation B.
- Accordingly, the annual electricity demand is projected to decrease from approximately 4,177 MWh/year to 2,951 MWh/year, representing an annual electricity saving of approximately 1,226 MWh/year.
- The reduction in purchased grid electricity consumption is converted into GHG emission reductions using the same grid electricity emission factor adopted in the baseline GHG assessment

Based on the above assumptions, the projected GHG emissions under the Green Building Program are estimated as follows:

Table 77 Reduction of Electricity GHG Emissions

Parameter	Unit	Value
Electricity Reduction	MWh/year	1,226.0
Grid Emission Factor (CM Ex-Post, OM=0.5, BM=0.5)	tons CO_2/MWh	0.87
Total Reduction GHG Emissions	**tons CO_2-eq/year**	**1,066.62**

Emission Factor Sources: Emission Factors for Greenhouse Gas Inventories from Electricity, Ministry of Energy and Mineral Resources (2019)

Global Warming Potential (GWP) value: CO2 = 1, CH4: 29.8, and N2O=273 (IPCC AR6)

Based on the assessment, implementation of the proposed Green Building Program is projected to reduce future operational GHG emissions approximately from 3670 tons CO2-eq/year to 2,603 tons CO_2-eq/year.

7.4.3.2 Solar PV Program

In addition to the Green Building Program, further GHG emission reductions were assessed through the potential installation of rooftop solar photovoltaic (PV) systems as part of the Project's Green Building concept. The proposed PV system is intended to offset a portion of the hospital's purchased grid electricity consumption, thereby further reducing operational GHG emissions.

As the final PV system capacity has not yet been determined and will be confirmed during the Detailed Engineering Design (DED) stage, a preliminary assessment was undertaken based on the available rooftop area and conservative assumptions regarding rooftop utilization and solar energy generation. The resulting GHG reduction represents an indicative estimate of the potential contribution of rooftop PV systems and is assessed separately from the Green Building Program to avoid double counting of emission reductions.

The assessment was developed based on the following assumptions:

- Projected operational GHG emissions following implementation of the Green Building Program are estimated at approximately 2,603 tCO_2-eq/year, which serves as the starting point for the Solar PV assessment.
- Rooftop solar PV systems may be installed on available building rooftops within the Project Area.
- Approximately 60% of the available rooftop area is assumed to be suitable for solar PV installation, considering space requirements for mechanical equipment, access pathways, maintenance areas, and other building services.
- Based on the available design information, the rooftop area was conservatively estimated from Building C, which has a total gross floor area of approximately 6,840 m² distributed over four above-ground floors, resulting in an estimated rooftop area of approximately 1,710 m² and an effective PV installation area of approximately 1,026 m².
- A typical solar PV installation density of approximately 5 m² per kWp of installed capacity is assumed.
- Annual electricity generation is estimated using a conservative solar yield of approximately 1,400 kWh/kWp/year.
- Electricity generated by the solar PV system is assumed to directly offset grid electricity consumption.
- GHG emission reductions are calculated using the applicable PLN grid emission factor adopted in this assessment.

Based on these assumptions, the potential GHG reduction associated with the proposed rooftop solar PV system was estimated, and the resulting operational GHG emissions under the emission reduction scenario are presented in the following table.

Table 78 Scope 2 – Electricity GHG Emissions

Parameter	Unit	Value
Building Area	m^2	6,840
Estimated Rooftop Area	m^2	1,710
Rooftop Utilization Factor		60%
PV Installation Area	m^2	1,026
Estimated PV Capacity	kWp	205
Annual Electricity Generation	MWh/year	287
Estimated GHG Reduction	tons CO_2-eq/year	**250**

Based on the assessment, the proposed rooftop solar PV installation could reduce future operational GHG emissions by approximately 250 tons CO_2-eq/year (approximately 7% of the projected BAU emissions), demonstrating the potential contribution of the Smart and Green Hospital strategy.

Collectively, implementation of the proposed Green Building Program and rooftop solar PV system is estimated to reduce future operational GHG emissions by approximately 1,317 tons CO_2-eq/year, resulting in projected operational emissions of approximately 2,353 tons CO_2-eq/year, representing an overall reduction of approximately 36% compared with the Business-as-Usual (BAU) scenario

8 STAKEHOLDER ENGAGEMENT

This chapter sets out the stakeholder engagement framework for the RSGP redevelopment, including stakeholder identification and analysis, consultation activities during ESIA preparation and disclosure, and arrangements for ongoing engagement during pre-construction, construction, and early operation. The detailed stakeholder register, engagement methods, consultation schedule, disclosure materials, and feedback-tracking arrangements are provided in Annex C, Stakeholder Engagement Plan.

8.1 Stakeholder Identification and Analysis

Stakeholders are identified and characterised across institutional, community, professional, and academic dimensions, and prioritised through an interest × influence matrix consistent with AIIB ESS1. Stakeholder identification has so far been preliminary and desk-based, Phase 1 of the formal SEP (Annex C) will operationalise systematic engagement once is disclosed for review.

Table 79 Stakeholder Identification and Analysis

Category	Examples / Specific Entities	Engagement Phase
National executive	Kemenkes, PIU TRUST, Bappenas, relevant technical ministries	Throughout
Provincial government	Pemprov West Java, DLH West Java, Bappeda West Java, relevant cultural and tourism authorities	Phase 1 + Phase 2
Kabupaten Bogor government	Bappeda, DLH, DPMPTSP, Dinas Kesehatan, Dinas Perhubungan, Dinas PUPR, Disparbud, Camat Cisarua	Phase 1 + Phase 2
Desa Cibeureum	Kepala Desa, BPD, RT/RW, tokoh masyarakat, kader kesehatan, women's groups, youth groups	Phase 1 + Phase 2
Nearby affected community	Residents, small businesses, road users, and local service providers near RSGP and construction access routes	Phase 1, Phase 2, construction
Hospital users	Patients, caregivers, visitors, emergency users, ambulance users, outpatients, inpatients	Phase 1, Phase 2, construction
Vulnerable hospital users	TB/MDR-TB patients, elderly patients, persons with disabilities, pregnant women, children, low-income BPJS patients, and caregivers	Targeted consultation
Workforce	RSGP staff, medical and non-medical workers, cleaners, security, parking workers,	Phase 1, pre-construction, construction

Category	Examples / Specific Entities	Engagement Phase
	contractors, subcontractors, and outsourced workers	
Cultural heritage authorities	Relevant Balai Pelestarian Kebudayaan / cultural heritage authority, West Java,	Phase 1, heritage confirmation
Biodiversity conservation stakeholders	BBTNGGP in Cibodas, where consultation is required, and BBTNGGP is welcoming further collaboration, including: • Participating in future National Park conservation and protection programmes, including the revegetation of degraded areas contributing to landscape-level conservation beyond the Project footprint. Providing technical advice on enhancement planting using native species within the RSGP green spaces.	Phase 1 and Phase 2
Road and transport stakeholders	Dinas Perhubungan, traffic police, ambulance operators, public transport operators, parking operators, road users	Phase 1 + construction
Professional associations	IDI, PDPI, PPNI, IAI/PAFI for pharmacy, IFI for physiotherapy where relevant	Phase 1
Academic partners	UI, UIN Syarif Hidayatullah, Unpad, FK-Unisba, Poltekkes Bandung, Universitas Djuanda Bogor, and other confirmed teaching/research partners	Phase 1
Operational partners	PMI, BPJS Kesehatan, referral hospitals, emergency service partners	Phase 1 , service continuity
Media and civil society	Local media, health NGOs, environmental NGOs, Stop TB-related organisations, disability organisations, women's organisations, and traffic/community forums where relevant	Phase 1 + Phase 2
Provincial government	Pemprov West Java, DLH West Java, Bappeda West Java, relevant cultural and tourism authorities	Phase 1 + Phase 2
Vulnerable access groups	Persons with disabilities, wheelchair users, visually/hearing-impaired	Targeted consultation

Category	Examples / Specific Entities	Engagement Phase
	persons, elderly patients, patients without private transport	
Vulnerable workers	Persons with disabilities, wheelchair users, visually/hearing-impaired persons, elderly patients, patients without private transport	Targeted consultation
Road and access users	Pedestrians, motorcyclists, public transport users, ambulance users, school/community road users, informal access users	Phase 1, Phase 2, construction
Women and GBV/SEAH-sensitive groups	Female patients, female caregivers, female staff, female students, pregnant/lactating women, night-shift workers, GBV/SEAH survivors	Targeted and confidential engagement
On-site tenants and vendors	Kantin Dharma Wanita, food vendors, Indomaret/retail tenants, parking operators, suppliers, delivery workers	Phase 1, Phase 2, construction
HIV/AIDS and STI health HIV-affected and confidentiality-sensitive groups	People living with HIV (ODHIV), people accessing HIV/STI testing or treatment, affected partners and families, hospital users and workers concerned about HIV-related stigma or discrimination, and representatives of relevant community organisations.	Targeted and confidential engagement throughout
Refugee and asylum-seeker protection and service organisations	UNHCR Indonesia, IOM Indonesia where applicable, JRS Indonesia and SUAKA, subject to confirmation of current local coverage	Targeted consultation during Phase 1 + Phase 2

8.2 Consultation Programme

The consultation programme is structured in two phases consistent with the AIIB ESF expectation of meaningful, ongoing, two-way engagement.

- Phase 1 outputs will include a stakeholder engagement log, preliminary issues register, attendance records, meeting minutes, and a summary of how stakeholder feedback has been reflected in the draft ESIA/ESMP.
- Phase 2 outputs will include disclosure records, public consultation minutes, written feedback summary, response register, and version updates to the ESIA/ESMP.

The consultation programme will be implemented through targeted engagement activities for each stakeholder group. The programme will be adjusted as the DED, construction schedule, service-

continuity arrangements, traffic management plan, and ESMP measures are updated. All consultations will be documented through attendance lists, minutes, photographs where appropriate, issue logs, response registers, and follow-up action records.

Consultation programme / stakeholder group	Minimum frequency / timing	Key issues and information to focus on	Communication method
ESIA preparation and disclosure consultation	Phase 1 during ESIA preparation, Phase 2 during draft ESIA/ESMP disclosure, additional consultation if there are material design or schedule changes	Project scope, construction schedule, key E&S risks, mitigation measures, ESMP commitments, consultation results, GRM channels, and feedback process	Public consultation meeting, stakeholder workshop, disclosure of non-technical summary, written feedback forms, RSGP/EGI website, hospital notice boards, and local government notice points
Nearby affected community, RT/RW, local leaders, women's groups, youth groups, and kader kesehatan	At least once in Phase 1 and Phase 2, monthly or as needed during construction near community access routes	Dust, noise, vibration, construction traffic, access changes, safety around construction areas, local job opportunities, community health, STI/HIV awareness, GBV/SEAH prevention, and GRM use	Community meetings, small-group FGDs, village/RT/RW coordination, WhatsApp information through local representatives, posters, and grievance/helpdesk channels
Hospital users: patients, caregivers, visitors, outpatients, inpatients, ambulance users	Phase 1 and Phase 2, before any service relocation, access change, parking change, or noisy/high-risk construction activity, continuous information during construction	Service continuity, patient routes, emergency access, temporary relocation of units, infection control, noise and dust protection, parking/access changes, safety signage, complaint channels	Hospital information boards, registration counters, ward-level announcements, patient helpdesk, directional signage, leaflets, website/social media, and direct explanation by hospital units
Vulnerable hospital users: TB/MDR-TB	Targeted consultation in Phase 1 and Phase 2,	Safe and accessible routes, disability access,	Small-group or one-on-one consultation,

Consultation programme / stakeholder group	Minimum frequency / timing	Key issues and information to focus on	Communication method
patients, elderly patients, persons with disabilities, pregnant women, children, low-income BPJS patients, and caregivers	additional consultation before access or service changes affecting these groups	waiting areas, privacy, infection-control protection, service disruption, ambulance/emergency access, low-literacy information needs, and confidential complaint options	assisted feedback forms, verbal explanation, accessible signage, helpdesk support, caregiver briefings, and coordination with relevant hospital units
RSGP staff and existing hospital workforce	Phase 1, pre-construction, monthly during construction, additional briefing before changes to work areas, service routes, or shift arrangements	Service continuity, staff access routes, OHS risks, infection control, emergency procedures, work-area restrictions, interface with contractors, security, GBV/SEAH prevention, and staff grievance channels	Internal staff meetings, unit briefings, email/WhatsApp circulars, notice boards, toolbox-style briefings for support workers, and worker GRM
Contractor, subcontractor, outsourced workers, cleaners, security, parking workers	Induction before starting work, weekly toolbox talks, monthly worker consultation meeting, ad hoc consultation after incidents or major work changes	Employment terms, wages and working hours, accommodation where relevant, OHS, PPE, high-risk works, worker Code of Conduct, GBV/SEAH, STI/HIV prevention, community interaction, cultural heritage chance finds, emergency response, and worker GRM	Worker induction, toolbox talks, worker committee meetings, posters at site camp, anonymous complaint box, WhatsApp/GRM hotline, supervisors' briefings, and signed Code of Conduct
Tenants, canteen operators, Indomaret, food vendors, parking	Before any relocation/access disruption, monthly during construction until	Access to business areas, temporary relocation, customer flow, delivery access, waste	Direct meetings, written notices, livelihood/tenant consultation, WhatsApp

Consultation programme / stakeholder group	Minimum frequency / timing	Key issues and information to focus on	Communication method
operators, and nearby traders	impacts are stable, consultation before operational handover	management, hygiene, construction safety, income disruption, reinstatement, and complaint handling	coordination, site walk-throughs, and grievance recording
Road users, public transport operators, ambulance operators, Dinas Perhubungan, and traffic police	Before construction traffic starts, before any traffic/access change, monthly during peak construction or as required by ANDALALIN	Construction vehicle routes, delivery windows, traffic safety, pedestrian separation, ambulance priority, parking changes, weekend/holiday traffic in Puncak corridor, and access-related complaints	Technical coordination meetings, traffic notices, road signage, flagman briefings, coordination letters, and monitoring of traffic/GRM records
Local government and public agencies: Kecamatan, Desa Cibeureum, DLH, Dinas Kesehatan, DPMPTSP, PUPR, BPBD, and other relevant agencies	Phase 1 and Phase 2, quarterly during construction, additional coordination for permit, emergency, traffic, health, and environmental issues	Regulatory compliance, AMDAL/UKL-UPL and ESMP commitments, community issues, health surveillance, emergency preparedness, environmental monitoring results, and grievance trends	Formal coordination meetings, official letters, technical workshops, monitoring reports, and quarterly E&S progress updates
Cultural heritage authorities and cultural/community resource persons	Before works near heritage-sensitive buildings, during CHMP preparation, monthly or trigger-based during vibration-generating works	Heritage screening, design protection, vibration/noise risk, chance-find procedure, documentation, community memory/history, and stop-work protocol	Technical consultation, site walk-through, written review, photographic documentation, and heritage monitoring reports

Consultation programme / stakeholder group	Minimum frequency / timing	Key issues and information to focus on	Communication method
Conservation and biodiversity stakeholders, including BBTNGGP if relevant	Phase 1 where drainage, biodiversity, buffer-zone, or indirect ecological issues require confirmation, additional consultation if design changes may affect these issues	Drainage, vegetation removal, wildlife disturbance, invasive species, runoff, sediment control, and biodiversity-sensitive mitigation	Technical meeting, written clarification, field verification where needed, and sharing of ESMP/biodiversity mitigation measures
GRM and information-disclosure outreach for all stakeholders	At every major consultation, repeated before construction mobilisation, refreshed quarterly during construction	How to submit complaints, response time, confidentiality, non-retaliation, worker GRM, community GRM, patient/family complaints, and GBV/SEAH/HIV-sensitive referral	Posters, leaflets, QR code, WhatsApp/hotline, website, helpdesk, induction materials, community meetings, and hospital notice boards
Operational-phase stakeholder engagement	Before commissioning and during early operation, at least semi-annually during the first year of operation, then integrated into routine hospital engagement	Operational traffic, service quality, patient access, waste and wastewater management, infection control, community health, including continuous consultation on HIV awareness, prevention, transmission risks, testing and referral services, confidentiality, and non-discrimination, unresolved construction issues, and remaining ESMP commitments	Public information update, hospital-user feedback channels, routine DUMAS/project GRM review, community liaison, and operational monitoring reports

Consultation programme / stakeholder group	Minimum frequency / timing	Key issues and information to focus on	Communication method
ESIA preparation and disclosure consultation	Phase 1 during ESIA preparation, Phase 2 during draft ESIA/ESMP disclosure, additional consultation if there are material design or schedule changes	Project scope, construction schedule, key E&S risks, mitigation measures, ESMP commitments, consultation results, GRM channels, and feedback process	Public consultation meeting, stakeholder workshop, disclosure of non-technical summary, written feedback forms, RSGP/EGI website, hospital notice boards, and local government notice points

8.3 Information Disclosure

Information disclosure will follow AIIB ESF requirements for timely, accessible, and understandable disclosure of environmental and social information. Disclosure materials will include the draft ESIA/ESMP, non-technical summary, project layout and construction schedule, key environmental and social risks, proposed mitigation measures, traffic and access arrangements, hospital service-continuity measures, GRM channels, and consultation schedule.

Documents will be disclosed in English for AIIB and international stakeholders, and in Bahasa Indonesia for affected and interested stakeholders. A plain-language Bahasa Indonesia executive summary and key chapter summaries will be prepared. Sundanese oral explanation will be provided during community-level FGDs were preferred by participants.

Disclosure channels will include the RSGP website, EGI website, hospital information boards, RSGP Bagian Humas, Camat Cisarua office, Kades Cibeureum office, and other relevant local access points. The project will provide a minimum 30-day feedback period before formal submission of the final ESIA/ESMP version to AIIB. Targeted disclosure and consultation support will be provided for vulnerable groups, including elderly patients, persons with disabilities, women caregivers, low-income patients, TB/MDR-TB patients, and other groups that may face barriers to accessing project information or raising concerns.

9 GRIEVANCE REDRESS MECHANISM

This chapter establishes the grievance handling arrangements for the RSGP redevelopment. It distinguishes between the existing hospital-level complaint mechanism, DUMAS, and the Project Grievance Redress Mechanism, which will address environmental, social, labour, community health and safety, and construction-related grievances under the TRUST Project. The chapter also sets out complaint channels, handling stages, institutional roles, worker grievance arrangements, GBV/SEAH-sensitive handling, disclosure, reporting, and hospital-specific adaptations.

9.1 Objectives and Principles

The Project Grievance Redress Mechanism provides a project-specific channel for receiving, recording, evaluating, resolving, and reporting grievances raised by stakeholders regarding the redevelopment project's environmental and social performance. The mechanism operates alongside, and does not replace, other available remedies, including the RSGP DUMAS mechanism, complaints to hospital management, formal regulatory complaints to relevant authorities, judicial recourse, and applicable AIIB grievance mechanisms.

The Project GRM is designed to be accessible, responsive, transparent, fair, predictable, confidential, safe, and free of charge. It will provide multiple complaint channels, clear response timelines, transparent procedures, impartial review, appeal options, protection from retaliation, and anonymous reporting options for sensitive complaints, including harassment and GBV/SEAH-related cases.

9.2 Existing Baseline at RSGP DUMAS

RSGP operates pre-existing complaint mechanisms that the project GRM will integrate with rather than duplicate. The Hospital's Bagian Humas operates a complaint WhatsApp number (+62 812-8000-3605 per Profile 2024 page 9), the Hospital website provides feedback channels, and Marketing division handles patient feedback. Project-specific grievances will be triaged into the existing mechanism with EGI safeguards oversight.

RSGP already operates an internal hospital complaint mechanism through the Public Complaint Report / Laporan Pengaduan Masyarakat, known as DUMAS. This mechanism is managed primarily by Bagian Humas and relevant hospital units. DUMAS receives, records, classifies, routes, follows up, and monitors public complaints, suggestions, and appreciation related to hospital services.

DUMAS covers routine hospital matters, including service quality, staff behaviour, waiting time, patient administration, BPJS/payment issues, pharmacy queues, doctor schedule delays, inpatient services, cleanliness, parking, accessibility, facility comfort, and clinical service coordination. Existing DUMAS channels include direct reporting, telephone, WhatsApp, suggestion boxes, email, hospital website, QR code/Google Form, social media, Google Review, and customer satisfaction surveys.

Based on the available 2025 quarterly DUMAS reports, most complaints relate to routine hospital service issues rather than wider environmental and social impacts. The reports show that complaints are generally routed by Humas or the relevant coordination unit to responsible departments, including Medical Services, Nursing, Pharmacy, Finance/BMN, Security, Kesling/K3RS, and inpatient or outpatient units. Follow-up actions commonly include clarification to complainants, staff briefing, internal coordination, service improvement, and monitoring until case closure.

The existing DUMAS mechanism provides a useful baseline because RSGP already has multiple complaint channels, urgency classification, internal routing, and follow-up procedures. However, DUMAS is mainly designed for patient service and internal hospital operational complaints. It does not specifically address construction impacts, contractor behaviour, worker grievances, dust, noise, vibration, traffic disruption, community safety, environmental incidents, GBV/SEAH-sensitive handling, or AIIB safeguards reporting. These matters will be handled through the separate Project GRM.

9.3 Project Grievance Redress Mechanism

A separate Project Grievance Redress Mechanism will be established for the TRUST Project. The Project GRM will be managed by the Project Management / PIU Safeguards Team, supported by the Project Liaison Officer, EGI safeguards team, RSGP technical units, supervision consultant, and contractors.

The Project GRM will receive, record, evaluate, resolve, and report grievances related to the environmental and social performance of the redevelopment project. It will cover construction-related impacts, dust, noise, vibration, traffic and access disruption, temporary changes to hospital circulation, community health and safety, worker behaviour, contractor labour issues, security concerns, environmental incidents, waste management, project-related service disruption, and GBV/SEAH-sensitive complaints.

The Project GRM will operate alongside the existing DUMAS mechanism and will not replace it. The two mechanisms will remain separate in terms of responsibility, grievance register, reporting line, and escalation pathway. This separation is important to avoid mixing routine hospital service complaints with project-related environmental, social, labour, and community health and safety grievances.

To ensure that grievances reported to AIIB are relevant, accurate, and not mixed with routine hospital service complaints, all complaints received through DUMAS, Humas, WhatsApp, website, complaint boxes, project liaison channels, contractor channels, or community meetings will be screened at intake using a simple triage checklist.

The first screening question will be whether the complaint is linked to the TRUST Project or the RSGP redevelopment works. Complaints will be classified as project-related if they concern construction disturbance, dust, noise, vibration, traffic, parking, temporary access changes, ambulance access, service relocation caused by works, contractor behaviour, worker conduct, labour and working conditions, occupational health and safety, community health and safety, security, waste, wastewater, drainage, environmental incidents, information disclosure, stakeholder engagement, or

GBV/SEAH/HIV linked to project workers, contractors, project activities, or construction-related changes in the hospital environment.

Complaints that concern routine hospital services and are not caused by the redevelopment works will remain under the DUMAS / internal hospital complaint mechanism. These include general service quality, staff attitude, waiting time, patient administration, BPJS/payment issues, pharmacy queues, doctor schedule delays, inpatient services, cleanliness, facility comfort, parking management not related to construction, and clinical service coordination.

Where a complaint contains both hospital-service and project-related elements, it will be treated as a mixed complaint. One lead unit will be assigned to avoid duplication. The hospital-service part will be referred to DUMAS or the relevant clinical/operational unit, while the project-related part will be recorded in the Project GRM Register and included in safeguards monitoring. For example, a complaint about long patient waiting time caused by temporary relocation of a service area during construction would be recorded as both a service issue and a project-related service continuity issue.

The Project Liaison Officer / on-site GRM Officer, RSGP Humas / DUMAS Team, PIU Safeguards Officer, , supervision consultant, and contractor GRM focal point will be trained before construction mobilization on grievance intake, route separation, use of the triage checklist, classification of project-related versus general hospital complaints, urgency rating, evidence recording, response timelines, escalation, non-retaliation, confidentiality, and AIIB safeguards reporting requirements. Refresher training will be provided at least every six months, and additional toolbox briefings will be provided to contractor workers, security personnel, drivers, and supervisors during construction.

For AIIB reporting, the Project GRM dashboard will include only project-related and mixed safeguards complaints. Routine DUMAS complaints will not be reported as project grievances unless they are linked to construction, project-induced service disruption, contractor behaviour, community health and safety, labour, environment, security, or GBV/SEAH/HIV risks. The dashboard will summarize the number of complaints received, category, location, responsible unit, status, response time, overdue cases, corrective actions, repeated issues, and escalation status. Personal data, patient medical information, and sensitive complainant details will not be disclosed in AIIB reports.

9.4 AIIB Project-affected People's Mechanism (PPM)

In addition to the Project-level GRM, Project-affected people will be informed of the availability of AIIB's independent accountability mechanism, the **Project-affected People's Mechanism (PPM)**.

Independent Accountability Mechanism: The Project-affected People's Mechanism (PPM) has been established by the AIIB to provide an opportunity for an independent and impartial review of submissions from Project-affected people who believe they have been or are likely to be adversely affected by AIIB's failure to implement its Environmental and Social Policy in situations when their concerns cannot be addressed satisfactorily through Project-level Grievance Redress Mechanisms or AIIB Management's processes.

The PPM is separate from, and does not replace, the Project-level GRM. Under the AIIB PPM Policy, Project-affected people are ordinarily expected to make good-faith efforts to resolve their environmental and social concerns through the Project-level GRM and AIIB Management processes before seeking review by the PPM. Where these avenues do not exist, are not functioning effectively, have not meaningfully addressed the concerns within a reasonable period, or where there is a risk of retaliation, the Requestors may explain these circumstances in their submission to the PPM.

The PPM provides three principal functions:

Early Problem Solving, for rapid resolution of relatively simple concerns arising during AIIB environmental and social due diligence;

Dispute Resolution, to facilitate dialogue among Project-affected people, AIIB and/or the Client with the objective of agreeing measures to address material adverse environmental or social impacts; and

Compliance Review, to examine allegations that AIIB has failed to comply with its obligations under the Environmental and Social Policy and that this failure has caused or is likely to cause material adverse environmental or social impacts.

RSGP/PIU will disclose information regarding the availability and purpose of the PPM in a clear, accessible, and understandable form. Information will be made available in Bahasa Indonesia through the Project website, information boards, consultation materials, GRM information sheets, community engagement activities, and other appropriate communication channels. Disclosure of the PPM will make clear that using the Project GRM does not remove or restrict access to the PPM or to other available judicial or administrative remedies.

9.5 Separation of Routes and Referral Arrangement

The grievance system will apply two distinct routes: the DUMAS / Internal Hospital Route and the Project GRM / Redevelopment Safeguards Route.

Table 80 Separation of Grievance Routes

Route	Scope of Complaints	Main Responsible Party	Supporting Parties	Register and Reporting
Route 1: DUMAS / Internal Hospital Complaint Mechanism	Hospital service quality, staff attitude, patient administration, BPJS/payment issues, cleanliness, parking, facilities, patient experience, clinical service coordination, and routine hospital operations.	Bagian Humas RSGP	Relevant hospital units, including Medical Services, Nursing, Pharmacy, Finance/BMN, Security, Kesling/K3RS, inpatient/outpatient units, and Marketing/Customer Care.	Recorded in DUMAS register and reported through RSGP internal reporting system.
Route 2: Project GRM /	Construction-related impacts, dust, noise,	Project Management	Project Liaison Officer, , contractor,	Recorded in Project GRM Register and reported

Route	Scope of Complaints	Main Responsible Party	Supporting Parties	Register and Reporting
Redevelopment Safeguards Mechanism	vibration, traffic disruption, temporary access changes, community safety, contractor behaviour, worker grievances, labour conditions, waste, environmental incidents, security concerns, project-related service disruption, and GBV/SEAH/HIV-sensitive complaints.	/ PIU Safeguards Team	supervising consultant, RSGP technical units, Humas, Security, Kesling/K3RS, and relevant local stakeholders where needed.	through ESMP monitoring and AIIB safeguards reporting.

All complaints received by either route will be screened at intake to determine whether they are hospital-service related, project-related, or mixed. Mixed complaints will be coordinated between Humas and Project Management, but one lead unit will be assigned to avoid duplication and unclear responsibility. The complainant will be informed which route is handling the case, expected response time, and available escalation pathway.

The existing DUMAS urgency classification will be adopted for both routes: Red complaints require response within 1 × 24 hours, yellow complaints within 3 days, and green complaints within 7 days. For Project GRM purposes, additional safeguards categories will be added, including construction nuisance, access disruption, traffic and safety, environmental incident, labour and working conditions, security, GBV/SEAH, and stakeholder engagement.

Table 81 RSGP Grievance Channel

Channel	Detail	Where the Public Can Find the Information	Availability
In-person	RSGP Bagian Humas + Project Liaison Officer, RSGP Information Desk, on-site GRM Officer at construction site		
In person	RSGP Bagian Humas and Project Liaison Officer, RSGP Information Desk, on-site GRM Officer at the construction site	Main entrance, information desk, registration area, public waiting areas, construction gate and project information boards	Humas and Information Desk available, Project Liaison Officer and site GRM Officer to be activated before mobilisation
Telephone and WhatsApp	RSGP main line: (0251) 8253630, DUMAS WhatsApp: +62 812-8000-3605	Posters, hospital information boards, website, QR materials, complaint	Existing RSGP channels available

Channel	Detail	Where the Public Can Find the Information	Availability
		boxes and consultation notices	
Digital	Email: humas.RSGPcisarua@gmail.com, info@RSGP-cisarua.co.id, pemasaranRSGPcisarua@gmail.com, website form at www.RSGP-cisarua.co.id, planned Project webpage	RSGP website, Project webpage, posters, leaflets, QR codes and electronic disclosure materials	Existing email and website channels available, Project webpage planned
Written	Complaint boxes at RSGP entrance and proposed boxes at Camat Cisarua and Kepala Desa Cibeureum offices	Signs beside each complaint box and information provided during community consultation	RSGP complaint box available, external Project boxes to be installed before mobilisation
Anonymous and confidential	Locked complaint box, anonymous web form, confidential contact with trained focal point or female intake officer	Public posters and GRM materials in discreet but accessible locations, confidential information provided during targeted consultations	Anonymous box available or to be verified, web anonymity and trained focal point to be confirmed before mobilisation

9.6 Worker Grievance Mechanism

Worker grievances will be managed through the applicable worker GRM. The Contractor's worker GRM will cover contractor, subcontractor and contracted security personnel. Workers employed directly by RSGP or the PIU will use their respective institutional worker or HR grievance mechanism. Complaints may concern recruitment, wages, working hours, OHS, accommodation, discrimination, harassment, GBV/SEAH, HIV-related privacy or discrimination, retaliation, and subcontractor labour practices. The Contractor will submit anonymised summary data to the supervision consultant and PIU Safeguards Team for monitoring. If EGI is formally retained for safeguards implementation support or independent monitoring, the PIU may provide EGI with aggregated, non-identifying information. EGI will not receive individual case files or personal, medical, GBV/SEAH, or HIV-related details. Confidential Handling of GBV/SEAH-Sensitive Complaints.

GBV/SEAH-related complaints will be handled through a confidential and survivor-centred pathway. Such complaints may be submitted anonymously or through a trusted channel, including the Project Liaison Officer, Humas/DUMAS, a trained female focal point, WhatsApp, complaint box, worker GRM, or direct referral to designated hospital personnel. The complainant or survivor will be allowed to choose the preferred contact person where practical, including a female officer.

Only designated trained personnel will receive and manage GBV/SEAH complaints. The complaint will not be discussed in public meetings, routine coordination forums, toolbox meetings, or open mediation. The identity of the survivor, complainant, witnesses, alleged perpetrator, and any health or personal information will be kept confidential and shared only on a strict need-to-know basis, with the survivor's informed consent, unless there is an immediate life-safety or legal reporting requirement.

The first response will prioritize the safety, dignity, and wishes of the survivor. The GRM officer will not pressure the survivor to provide detailed testimony, confront the alleged perpetrator, or accept mediation. The officer will record only the minimum information needed for case tracking, such as date received, broad type of concern, whether it is project-related, immediate safety needs, referral offered, and case status. Detailed personal narratives and medical information will not be included in the general GRM register or AIIB reporting dashboard.

Where support is requested or needed, the survivor will be referred to appropriate medical, psychosocial, protection, legal, or social support services through agreed referral pathways. If the alleged perpetrator is a contractor worker, subcontractor, driver, security personnel, or project staff, the case will be escalated confidentially to the PIU Safeguards Officer and contractor management for protective measures and disciplinary action, without disclosing the survivor's identity beyond what is necessary for safe handling.

GBV/SEAH cases reported to PIU or AIIB will be anonymized. Reporting will be limited to non-identifying information such as the type of incident, whether it is linked to the project, actions taken to protect the survivor, referral status, and whether corrective or disciplinary measures were implemented. The Project will apply a zero-retaliation rule. Any intimidation, threat, pressure, or retaliation against a complainant, survivor, witness, or staff member handling the case will be treated as a serious grievance requiring immediate escalation.

9.7 Disclosure of Grievance Channels

Information on both complaint routes will be disclosed through hospital information boards, construction site signage, QR-code posters, project communication materials, community meetings, and worker inductions. Public communication materials will clearly explain the difference between DUMAS and Project GRM so that patients, caregivers, staff, workers, vendors, and nearby communities understand where and how to submit complaints.

Information on how and where to submit a complaint will be made publicly accessible before construction mobilisation and maintained throughout construction and early operation. Existing RSGP complaint channels—including direct reporting, telephone, WhatsApp, suggestion boxes, email, website, QR code, social media and satisfaction surveys—are already used by patients and the public through the hospital's DUMAS system. Project-specific channels, including the Project Liaison Officer, on-site GRM Officer, project webpage, community complaint boxes and worker GRM, will be activated and disclosed before the relevant construction activities begin.

The complete list of channels, contact details, operating hours and complaint-handling steps will be displayed or distributed through:

- information boards at the main hospital entrance, registration area and RSGP Information Desk,
- outpatient, inpatient, emergency, pharmacy and public waiting areas,
- construction hoarding, site gates and temporary pedestrian routes,
- RSGP's website and planned Project webpage,
- posters, leaflets, QR codes and WhatsApp information,
- the offices of Camat Cisarua and Kepala Desa Cibeureum,
- stakeholder meetings and advance notices concerning construction or service changes, and
- contractor notice boards, worker induction, toolbox meetings and worker accommodation, where applicable.

The information will be provided in simple Bahasa Indonesia using readable print, pictorial guidance and large-font formats where appropriate. RSGP staff will provide oral assistance for elderly persons, persons with disabilities and people with limited literacy. The GAP also requires grievance and construction information to be available through posters, help desks, WhatsApp/QR codes and oral explanations in public areas.

Members of the public do not need to determine the correct internal unit before submitting a complaint. A grievance received through any listed public channel must be recorded and forwarded internally to the appropriate hospital, Project, contractor or safeguards unit. The public may select a channel according to the nature of the concern:

- routine hospital-service complaints may be submitted through RSGP DUMAS,
- construction, traffic, dust, noise, access or service-relocation complaints may be submitted to the Project Liaison Officer or on-site GRM Officer,
- workers may use the separate worker grievance procedure, and
- GBV/SEAH, harassment or other sensitive complaints may use an anonymous or confidential channel, including a trained female intake option.

9.8 Complaint Handling Stages

Complaint handling progresses 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 (Excel template in Annex D).

Table 82 Complaint Handling Analysis

Stage	Action	Timeline (Target)
1. Receipt and registration	Record complaint in GRM/DUMAS register	Same day or within 1 working day
2. Acknowledgement / initial response	Confirm receipt and issue reference number where contact details are available	Red, within 24 hours, Yellow/Green, within 3 working days
3. Triage and routing	Classify by urgency and issue type, assign responsible unit	Red, same day, Yellow, within 2 working days, Green, within 5 working days
4. Investigation	Review facts, consult relevant units, conduct site visit where needed	Tier 1, within 14 working days, complex, up to 30 working days
5. Resolution and response	Provide corrective action and response to complainant	Tier 1, within 21 working days, complex, within 30 working days or with extension notice
6. Appeal/escalation	Escalate unresolved cases to RSGP Direksi/PIU, disclose external remedies including DLH, judicial channels, and AIIB mechanisms where applicable	Within 14 working days after complainant dissatisfaction is recorded
7. Reporting and learning	Monthly dashboard during construction, quarterly trend analysis	Monthly and quarterly

9.9 Roles and KPIs

GRM implementation will be coordinated through the existing RSGP DUMAS structure and strengthened with project-specific safeguards roles. The DUMAS records show that complaints are already routed by Humas to relevant hospital units for follow-up, including medical services, nursing, pharmacy, finance, security, Kesling/K3RS, and facility-related units. The existing system also requires units receiving complaints to respond and provide supporting evidence of follow-up, such as documentation, attendance records, minutes of meeting, photos, or other proof of corrective action.

Table 83 Distribution of GRM Unit

Role / Unit	Key Responsibility
RSGP Bagian Humas / DUMAS Team	Main intake points for public complaints, registers grievances, issues acknowledgement, liaises with complainants, forwards cases to responsible units, maintains DUMAS/GRM records.
Project Liaison Officer / On-site GRM Officer	First point of contact for construction-related community complaints, supports site-level

Role / Unit	Key Responsibility
	communication, records grievances from surrounding communities, visitors, and hospital users affected by works.
RSGP Bagian Kesling / K3 / PPI	Investigates grievances related to environmental hygiene, waste, sanitation, OHS, infection prevention, and hospital-specific health risks.
Relevant RSGP Operational Units	Investigate and resolve complaints within their mandate, including IGD, outpatient, inpatient, pharmacy, radiology, security, parking, finance, facilities, and nursing services.
Civil Works Contractor	Maintains worker grievance channels, receives and reports construction-related complaints, implements corrective actions for dust, noise, traffic, access, labour, OHS, and community safety issues.
CMC / PMSC	Supervises contractor GRM performance, verifies corrective actions, reports unresolved or repeated complaints to PIU and RSGP.
GBV/SEAH Focal Point / trained female officer	receives sensitive complaints, ensures confidential intake, supports referral, protects survivor identity, and reports only anonymized data to PIU
EGI Safeguards Team (only if formally retained)	Provides technical support to the PIU by reviewing anonymised grievance trends, advising on grievance classification and corrective actions, and supporting quarterly safeguards analysis. It does not receive or decide complaints and does not access confidential case details.
PIU Safeguards Officer	Consolidates monthly GRM dashboard, monitors open and overdue cases, escalates unresolved safeguards complaints to the PIU management and AIIB where required.
AIIB Safeguards Team	Provides lender oversight, reviews grievance reporting as part of project monitoring and implementation support.

The existing RSGP DUMAS classification system will be retained for urgency-based response, red complaints require response within 1 × 24 hours, Yellow within 3 days, and Green within 7 days. The Project GRM will add safeguards tracking so that construction, labour, environmental, community health and safety, and sensitive complaints are monitored separately from routine hospital service complaints.

Table 84 The following KPIs

KPI	Target
Complaints registered in GRM/DUMAS log	100% of complaints received through all channels
Acknowledgement issued to complainant	Within 3 working days where contact details are available
Red category complaints responded to	Within 1 × 24 hours
Yellow category complaints responded to	Within 3 days
Green category complaints responded to	Within 7 days
Tier 1 / routine complaints closed	≥90% within 21 working days
Complex complaints with extension notice	100% informed before timeline extension
Supporting evidence of follow-up attached	100% for safeguards-related complaints
GBV/SEAH or sensitive complaints handled confidentially	100%, zero confidentiality breaches
Retaliation against complainants	Zero cases
Contractor-related complaints reported to PIU	Monthly
Repeated complaints on same issue	Trend reviewed monthly and corrective action assigned
Monthly GRM dashboard prepared	100% during construction
Quarterly grievance trend analysis	100% submitted to PIU and included in safeguards reporting

If a complaint cannot be resolved at the responsible unit level, it will be escalated to RSGP Direksi and the PIU Safeguards Officer. Safeguards-related complaints that remain unresolved, repeated, or high-risk will be included in the project safeguards report and escalated to AIIB where required.

9.10 RS-Specific Adaptations

The Project GRM will be adapted to the hospital setting because grievances at RSGP may involve sensitive patient information, urgent health needs, infectious disease stigma, family distress, and service continuity risks during redevelopment. The DUMAS records show that complaints are not limited to general service issues, but also include sensitive matters such as IGD response, DOTS waiting time, CT-scan scheduling, inpatient care, paediatric needs, obstetric concerns, pharmacy delays, accessibility, and bereavement-related situations.

The following adaptations will be applied,

- **Separation between clinical and project-related grievances.** Complaints related to diagnosis, treatment decisions, medical ethics, clinical negligence, or patient safety will continue to be managed through RSGP's clinical governance and patient safety procedures. Project-related grievances, such as construction disturbance, temporary access disruption, dust, noise, traffic, service disruption caused by works, or contractor behaviour, will be managed through the Project GRM. Where a complaint contains both clinical and project-related elements, it will be registered in the GRM and referred to the appropriate clinical unit with anonymised safeguards tracking.

- **Patient confidentiality.** All complaints involving patient identity, diagnosis, medical records, TB/MDR-TB status, HIV/ODHA status where relevant, pregnancy, paediatric care, oncology care, or end-of-life situations will be handled confidentially. The safeguards register will record only the minimum information required for tracking and reporting, without disclosing personal health information.

- **Stigma-sensitive handling.** Complaints from TB, MDR-TB, HIV/ODHA, oncology, and other potentially stigmatised patient groups will be handled with additional privacy safeguards. Intake and follow-up should avoid public discussion of the patient's condition and should use respectful, non-judgemental communication.

- **Priority response for sensitive hospital functions.** Complaints affecting emergency access, IGD, DOTS, inpatient wards, ICU, paediatric areas, obstetric services, chemotherapy/ODC, laboratories, and pharmacy should be prioritised because disruption may affect vulnerable patients or urgent care. DUMAS records show recurring complaints related to DOTS waiting time, IGD response, pharmacy delays, and CT-scan or service scheduling, these are directly relevant to service continuity during redevelopment.

- **Vulnerable group access.** The GRM will remain accessible to elderly patients, persons with disabilities, pregnant women, children, low-literacy complainants, economically vulnerable patients, and caregivers. Support may include verbal complaint intake, assistance in filling forms, accessible complaint locations, gender-sensitive handling, and referral to a trained female officer for GBV/SEAH/HIV-related complaints where preferred.

- **Bereavement and serious harm pathway.** Complaints involving death, serious deterioration, serious injury, or family distress will be handled through a dedicated family liaison approach. The response should include respectful communication, clear explanation of the process, documentation of family concerns, and referral to clinical governance where the complaint relates to medical care.

- **Anonymous and sensitive reporting.** Anonymous reporting will be allowed for complaints involving harassment, intimidation, discrimination, GBV/SEAH/HIV, corruption, staff misconduct, or fear of retaliation. Such complaints will be handled only by designated personnel and disclosed internally on a need-to-know basis.

These adaptations are intended to ensure that the Project GRM strengthens the existing DUMAS system while reflecting the specific risks of a pulmonary hospital, where patient vulnerability, confidentiality, and continuity of care are central to grievance management.

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 agencies set out in Section 3.1, with day-to-day execution led by the PIU and RSGP with EGI safeguards oversight.

Table 85 Summarize of the Principal Entities and Their Roles.

Entity	Role
Ministry of Health (Kemenkes)	Executing Agency, PIU host, budget and procurement
Directorate General of Tertiary Health Services	Implementing Agency, supervises PIU
Project Implementation Unit (PIU)	Day-to-day implementation, safeguards reporting to AIIB
RSGP Direksi (Direktur Utama DR. dr. Zulvayanti, Sp.OG(K), M.Kes, per SK SOTK KP.01.05/MENKES/88/2026)	On-site implementation, operational decision-making, staff coordination
RSGP Bagian Kesling / K3 / PPI	Operational safeguards execution, baseline / monitoring
AIIB Safeguards Team	Lender oversight, mission visits, review of v1.x updates
DEDC (to be procured)	DED finalisation, technical specifications
CMC / PMSC (to be procured)	Construction supervision, C-ESMP enforcement
EQC (to be procured)	Medical equipment specification and procurement support
Civil works contractor (to be procured)	Construction execution under C-ESMP / SMK3
Komisi Penilai Amdal Kabupaten Bogor	ANDAL assessment and approval
DLH Kabupaten Bogor	Pertek BMAL, Pertek BMUE, Rintek B3 review and approval
DPMPTSP Kabupaten Bogor	KKPR / PKKPR, Perizinan Berusaha integration
Komisi Penangulangan AIDS	Multisector coordination, HIV awareness, stigma and discrimination prevention, and links with communities and relevant civil-society organisations
Puskesmas Cisarua and designated HIV referral facility	Local health education, confidential counselling, testing or referral, and coordination of worker and community health cases.

10.2 Capacity Building

Implementation will be supported by a capacity-building programme at three tiers, institutional (PIU and RSGP management), operational (RSGP safeguards staff), and external (contractor and supplier). The targets and indicative coverage are summarised below, full schedule in Annex G.

Table 86 Targets and Indicatives of Capacity Building

Target Audience	Topics	Indicative Coverage
PIU + RSGP Direksi	AIIB ESF, ESS1 application, Living Document discipline, AMDAL interface	2-day workshop, repeated annually
RSGP Bagian Kesling / K3 / PPI	BMAL/BMUE/B3 updated regulations, IPAL operations, emission test protocols, PPI for TB/MDR-TB	Half-day briefings quarterly
RSGP Bagian Humas	GRM operating procedures, trauma-informed intake, escalation criteria	1-day training, repeated annually
RSGP SDM + Diklat	Workforce planning, gender-disaggregated metrics, vulnerable group integration	Half-day briefings semester
Contractor management	C-ESMP, SMK3, chance-find protocol, GBV/SEAH prevention and Code of Conduct, worker GRM, HIV/STI awareness, confidentiality, non-discrimination, and voluntary referral arrangements	Mandatory on mobilisation, quarterly refreshers
Contractor workforce	OHS and environmental induction, respectful community interaction, GBV/SEAH Code of Conduct, HIV/STI awareness and voluntary referral information	Before site entry, toolbox refreshers quarterly, HIV/STI refresher every six months
Local community (Desa Cibeureum)	Project briefing, GRM access, safety during construction	Pre-mobilisation + ongoing

11 MONITORING ARRANGEMENTS

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 Monitoring Plan

11.1 Construction Phase Monitoring

Construction-phase monitoring covers air quality, noise, vibration (including at heritage receptors), water quality, waste management, traffic, and OHS performance. Frequencies are tuned to the risk profile of each parameter. Full parameter sheet in Monitoring Plan.

Table 87 Monitoring Frequencies During Construction Phase

Parameter	Frequency	Reference Standard
Ambient PM10 / PM2.5 at site boundary near in-patient wards	Continuous (real-time monitor) + monthly verification grab	PP 22/2021 Lampiran VII
Ambient PM10 / PM2.5 at TNGGP-facing boundary	Monthly grab	PP 22/2021
Noise (Leq, L10, L90, Lmax)	Weekly during heavy works, monthly otherwise	KepMen LH 48/1996
Vibration at heritage receptors	Continuous during piling/compaction, weekly otherwise	DIN 4150-3 (or equivalent)
Surface water quality at sediment basin discharge	Monthly + post-storm-event	PermenLHK 68/2016 / BMAL
Waste manifest reconciliation	Monthly	PermenLHK 6/2021
Construction traffic, truck count and route compliance	Daily log, weekly review	ANDALALIN commitments
OHS leading indicators (toolbox attendance, near-miss reports, PPE compliance)	Weekly	SMK3 / WBG EHS
OHS lagging indicators (LTIFR, severity)	Monthly	SMK3
GRM, receipt and resolution KPIs	Monthly	Project-specific KPIs
GBV/SEA/SH and HIV/STI safeguards: worker Code of Conduct, training coverage, confidential reporting channels, anonymised incident data, referral availability, and non-discrimination compliance	Before mobilisation, monthly review, immediate confidential response to incidents	AIIB ESS1, Gender Action Plan, C-ESMP, Contractor Code of Conduct

Parameter	Frequency	Reference Standard
HIV/STI prevention: worker awareness, voluntary referral access, confidentiality, and non-discrimination compliance	At induction, six-monthly refresher, monthly review	AIIB ESS1, C-ESMP, Contractor OHS Plan
Aggregated community HIV/STI trends from authorised health agencies, no collection of individual medical data	Six-monthly or annually, subject to data availability	Puskesmas/Dinas Kesehatan surveillance system

11.2 Operational Phase Monitoring

Operational-phase monitoring covers wastewater quality (BMAL parameters), stack emissions (BMUE parameters), B3 manifest tracking, ambient air, indoor air for isolation rooms, energy and water consumption, and operational OHS / PPI indicators.

Table 88 Monitoring Frequencies During Operational Phase

Parameter	Frequency	Reference Standard
IPAL inflow / outflow, BOD, COD, TSS, NH3-N, total coliform, fecal coliform, pH, fosfat	Monthly	Pertek BMAL
Stack emissions, incinerator (NO2, SO2, CO, PM, opasitas, HCl, dioxin/furan)	Annual + after major maintenance	Pertek BMUE
Stack emissions, boiler and genset	Annual + after major maintenance	Pertek BMUE
Ambient PM2.5 / PM10 at hospital boundary	Quarterly	PP 22/2021
Indoor pressure differential, TB isolation rooms	Continuous (control panel) + monthly verification	WHO 2019 + CDC 2005
B3 generation, storage, and disposal manifest	Monthly	PermenLHK 6/2021
Hazardous waste storage TPS B3 inspection	Weekly	PermenLHK 6/2021
Energy intensity (kWh per bed-day)	Monthly	Green Hospital target
Water intensity (litre per bed-day)	Monthly	Permenkes 7/2019
Patient HAI rate (incl. TB nosocomial transmission)	Monthly	PPI / KARS standard
GRM dashboard	Monthly	Project-specific KPIs
GBV/SEA/SH operational safeguards: staff training, confidential reporting channels, anonymised cases, referral actions, and non-retaliation compliance	Quarterly, immediate confidential response to reported cases	AIIB ESS1, Hospital GRM, Gender Action Plan, Code of Conduct

Parameter	Frequency	Reference Standard
Aggregated HIV/STI trends from RSGP, Puskesmas, or Dinas Kesehatan, awareness, voluntary referral, confidentiality, and non-discrimination compliance	Six-monthly or annually	Ministry of Health surveillance system, AIIB ESS1, Hospital OHS and infection-prevention procedures

11.3 Monitoring Plan During Construction and Operation Phase

Table 89 Monitoring Plan During Construction and Operation Phase

No	E&S Risks and Impacts	Monitoring Parameters	Locations	Measurements	Frequency	Responsibility	Estimated Cost (IDR) Actual Cost Will Be Determined by the Consultant/Contractor
	PRE CONSTRUCTION						*All of this are estimated
A	**ENVIRONMENTAL**						
	Structural and operational vulnerability due to failure to incorporate climate change risks into engineering design	Completion of Climate Risk and Vulnerability Assessment (CRVA), drainage capacity, flood and stormwater design, slope stability consideration, backup water and power design, emergency access during heavy rainfall	▪ DED documents, engineering drawings, drainage plan, utility plan, emergency access plan, RSGP site layout	▪ Review CRVA recommendations against final DED, check drainage calculations, rainwater management, basement protection, slope protection, utility redundancy, and emergency access continuity, obtain sign-off from climate/drainage specialist	At concept design, preliminary design, final DED, and before PBG submission	PMU, PIU, DED Consultant, Climate/Drainage Specialist, ESIA Consultant, RSGP IPSRS	50,000,000–75,000,000 (Climate change & enviro specialist + Building Specialist)
	Failure to incorporate environmental and social considerations into the DED and bidding documents	ESIA/ESMP recommendations included in DED, E&S design checklist completion, green hospital design measures, accessibility provisions, IPAL capacity, B3/medical waste storage,	▪ DED drawings, BOQ, technical specifications, contractor tender documents, ESMP matrix	▪ Design review checklist, cross-check ESIA mitigation measures against DED and bidding documents, confirm	At each design milestone and before bid document finalisation	PMU, PIU, DED Consultant, ESIA Consultant, Procurement Team, RSGP Management	50,000,000–75,000,000 (Enviro & Social Consultant)

No	E&S Risks and Impacts	Monitoring Parameters	Locations	Measurements	Frequency	Responsibility	Estimated Cost (IDR) Actual Cost Will Be Determined by the Consultant/Contractor
		dust, noise, traffic, and worker welfare requirements included in bid documents		inclusion of AIIB ESF, Indonesian regulatory, hospital safety, and operational requirements			
	Legacy E&S, health, safety, utility, and heritage risks from completed demolition activities	Post-demolition audit completed, demolition waste records, B3/hazardous waste manifests, residual debris or contamination, exposed utilities, unstable ground, damage to adjacent buildings, heritage-related findings	▪ Completed demolition areas, former building footprints, waste storage areas, utility corridors, nearby older buildings, adjacent active hospital areas	▪ Site inspection, review demolition records, permits, waste manifests, photos, and contractor reports, interview RSGP IPSRS/K3RS/Kesling, identify corrective actions before construction mobilisation	Once before construction mobilisation, follow-up until corrective actions are closed	PIU, RSGP Management, Environmental Specialist, Supervision Consultant, RSGP IPSRS, K3RS, Kesling, Contractor	10,000,000–20,000,000 (Enviro and Safety specialist)
	Exclusion of vulnerable groups from consultation and project planning	SEP prepared, vulnerable groups identified, number and type of consultations, participation of women, elderly, persons with disabilities, TB/MDR-TB patient representatives, carers, tenants, vendors, and local access users, feedback recorded and addressed	▪ RSGP campus, Desa Cibeureum, nearby dense settlement areas, tenant/vendor locations, IPAL access area	▪ Review SEP, check stakeholder list, review attendance records disaggregated by gender and vulnerable group where feasible, verify consultation minutes and response matrix	Before construction mobilisation and before major access/service changes	PIU, RSGP Humas, Social Specialist, Gender Specialist, Desa Cibeureum representatives, Contractor Social Safeguards Officer	10,000,000 (Social specialist)

No	E&S Risks and Impacts	Monitoring Parameters	Locations	Measurements	Frequency	Responsibility	Estimated Cost (IDR) Actual Cost Will Be Determined by the Consultant/Contractor
	Failure to incorporate cultural heritage considerations into the DED	Cultural heritage screening completed, status of older RSGP buildings verified, CHMP prepared, heritage buffer/no-go zones identified, vibration limits included in DED, chance-find procedure included in contractor documents	▪ Older RSGP buildings, including 1914/1928 buildings and "Heritage Eksekutif" wing, proposed construction footprint, access roads, temporary work areas	▪ Review CH screening report, CHMP, DED, authority correspondence, photographic records, building condition survey, and contractor specifications	Before DED finalisation, before works near older structures, update if design changes affect heritage-sensitive areas	PIU, RSGP Management, Cultural Heritage Specialist, DED Consultant, Supervision Consultant, BPCB/BPK	15,000,000 (CH specialist)
	Failure to incorporate GBV/SEAH prevention and gender-responsive design into the DED	GBV/SEAH design checklist completed, lighting design, CCTV/access control, separate toilets and changing areas, privacy in consultation/examination areas, lactation room, safe staff areas, safe routes for women and persons with disabilities	▪ DED drawings, public areas, parking areas, waiting areas, toilets, staff areas, patient circulation routes, contractor interface areas	▪ Review DED against GBV/SEAH and gender-responsive design checklist, verify inclusion in technical specifications and contractor requirements, check linkage to Gender Action Plan and GRM	At each design milestone and before final DED approval	PIU, DED Consultant, Gender Specialist, RSGP Management, K3RS, Security, ESIA Consultant	15,000,000 (Gender specialist)
	Temporary access disruption and community concern around the existing IPAL access route	Existing access pattern verified, affected users identified, alternative route agreed, consultation completed, signage and traffic marshal plan prepared, access-related grievance channel disclosed	▪ Existing IPAL area, informal community access route, nearby settlement, Desa Cibeureum, project access points	▪ Site walkover, access user mapping, consultation records with Desa Cibeureum/RT/RW, review temporary access plan, verify signage and rerouting plan before restriction	Before any restriction or use of IPAL area, weekly during early mobilisation if access is affected	PIU, RSGP Humas, Contractor, Supervision Consultant, Security, Desa Cibeureum, Traffic Specialist	15,000,000 (Community Relation specialist)

No	E&S Risks and Impacts	Monitoring Parameters	Locations	Measurements	Frequency	Responsibility	Estimated Cost (IDR) Actual Cost Will Be Determined by the Consultant/Contractor
	Design introduces health, safety, security, infection prevention, or emergency response risks	HSS risk assessment completed, ambulance routes maintained, pedestrian-vehicle separation, fire safety design, emergency routes, IPC design for pulmonary/TB services, ventilation, clean/dirty flow, accessible design	▪ DED drawings, hospital circulation plan, emergency access plan, clinical zoning plan, fire safety plan, ventilation/HVAC design	▪ Multi-disciplinary DED review, checklist against hospital safety, PPI, K3RS, accessibility, fire safety, traffic safety, and AIIB ESF requirements, documented sign-off by RSGP technical units	At concept, preliminary, and final DED stages, before PBG submission	PIU, RSGP Management, DED Consultant, Medical Services, PPI, K3RS, IPSRS, Security, Supervision Consultant	20,000,000 (Health and Safety specialist)
	Hospital service continuity risk during transition to construction	Hospital Service Continuity Plan prepared, affected services mapped, temporary service locations confirmed, utility backup plan, patient flow plan, emergency access plan, communication plan for patients/staff	▪ Active hospital departments, emergency access, TB/MDR-TB services, wards, diagnostic areas, laboratory, pharmacy, utility rooms, temporary patient routes	▪ Review service continuity plan, verify department-level coordination minutes, check temporary signage and patient flow arrangements, confirm no critical services are disrupted without approved alternatives	Before construction mobilisation, before each major service relocation or access change	RSGP Management, PIU, Medical Services, Nursing, IPSRS, PPI, K3RS, Humas, Contractor	10,000,000 (Health Facility Specialist)
	Construction mobilisation starts before site safety, security, and emergency controls are ready	Contractor OHS Plan approved, Emergency Response Plan approved, Construction Traffic Management Plan approved, Community Health and Safety Plan approved, hoarding installed, safe pedestrian routes, emergency access preserved, worker induction completed	▪ Construction boundary, site gates, pedestrian routes, ambulance routes, internal roads, temporary facilities, nearby active clinical areas	▪ Document review, pre-mobilisation site inspection, induction attendance check, emergency access test, verification of hoarding, signage, lighting, and restricted zones	Before contractor mobilisation, weekly during initial mobilisation until controls are stable	Contractor, PIU, Supervision Consultant, RSGP K3RS, IPSRS, Security, Emergency Response Team	10,000,000 (Safety specialist)

No	E&S Risks and Impacts	Monitoring Parameters	Locations	Measurements	Frequency	Responsibility	Estimated Cost (IDR) Actual Cost Will Be Determined by the Consultant/Contractor
	Local vendor opportunities and unmanaged vending risks	Local vendor list prepared, hygiene and safety requirements communicated, women-led MSMEs identified where available, vendor briefing completed, delivery timing agreed, unmanaged vending restrictions communicated	▪ RSGP procurement interface, food/water/cleaning/transport vendor locations, site gates, delivery areas, hospital circulation routes	▪ Review vendor register, verify briefing attendance, check procurement records, inspect delivery arrangements, confirm vendors understand access, safety, hygiene, and GRM requirements	Before mobilisation and monthly during early construction procurement	Contractor Procurement Team, Contractor Social Safeguards Officer, PIU, RSGP Humas, Security	*Budget under internal team member of RSGP
	CONSTRUCTION		▪	▪			*All of this are estimated
A	**ENVIRONMENTAL**		▪	▪			
	Elevated dust, PM10, PM2.5 and degraded ambient air during demolition of existing buildings and facilities	TSP, PM10, PM2.5	• Active demolition area (1 location) ▪ Nearest hospital operational area (1 location) • Nearest residential/ community area (1 location)	▪ TSP 24-hour measurement ▪ PM10 24-hour measurement ▪ PM2.5 24-hour measurement ▪ Ambient air quality measurement by accredited laboratory	Periodically during demolition phase, quarterly monitoring	PMU, engaged for demolition, RSGP Kesling-K3RS	IDR 30,000,000

No	E&S Risks and Impacts	Monitoring Parameters	Locations	Measurements	Frequency	Responsibility	Estimated Cost (IDR) Actual Cost Will Be Determined by the Consultant/Contractor
	Exhaust gas emissions from diesel-powered machinery	Ambient air parameters referring to Government Regulation No. 22 of 2021 Appendix VII, including relevant parameters such as CO, NO2, SO2, particulate matter and other applicable ambient air quality parameters.	• Active construction area (1 location) • Nearest hospital operational area (1 location) • Nearest residential/ community area (1 location)	Ambient air quality measurement by accredited laboratory, using parameters referring to Government Regulation No. 22 of 2021 Appendix VII.	Periodically during construction phase – quarterly monitoring	PMU, Contractor engaged for construction, Supervision Consultant, accredited laboratory, RSGP IPSRS/Kesling	IDR 15,000,000
	Greenhouse gas emissions from construction and operation	Fuel consumption, Electricity consumption, Generator operation hours, Vehicle/equipment operation records, Estimated CO2e emissions	• Contractor office • Construction site • Generator area • RSGP electricity and fuel records during operation	• Monthly fuel and electricity record review • Calculation of indicative Scope 1 and Scope 2 GHG emissions • Review of equipment maintenance and idling records	Quarterly during construction, annually during operation	Construction, PMU, . Operation, Finance/Utility Management	IDR 10,000,000
	Increased noise level	Leq, L10, L90, Lmax, complaint records, high-noise activity log	• Near wards, ICU/HCU, IGD (1 location) • outpatient areas, heritage/older buildings (1 location) • site boundary and nearby community receptors (1 location)	Portable sound level meter monitoring, comparison with KepMen LH 48/1996, complaint trend review	Weekly during heavy works, monthly otherwise, additional monitoring after complaints	Contractor, PIU, Supervision Consultant, RSGP K3RS/Kesling, accredited laboratory if needed	IDR 2,000,000
	Vibration risk to sensitive buildings and receptors	Peak particle velocity, vibration frequency, visible cracks, structural condition, complaint records	• Heritage/older buildings (1 location) ▪ Residential Area (An-Nur Mosque- 1 location)	Vibration meter, crack survey, pre- and post-condition photo documentation, structural inspection if trigger level is exceeded	Before and continuous during piling/compaction, weekly otherwise,	Contractor, PIU, Supervision Consultant, Cultural Heritage Specialist, structural engineer if needed	IDR 100,000,000

No	E&S Risks and Impacts	Monitoring Parameters	Locations	Measurements	Frequency	Responsibility	Estimated Cost (IDR) Actual Cost Will Be Determined by the Consultant/Contractor
	Water Quality	Sediment-laden runoff, TSS, pH, oil and grease, COD/BOD where relevant, concrete washout condition, spill records	Sediment basin discharge, temporary drains, stockpile areas, concrete washout area, downstream drainage outlet	Water sampling by KAN-accredited laboratory, visual inspection of sediment traps and drains, spill log review	Monthly and after major storm events, daily visual inspection during rainy periods	Contractor, PIU, Supervision Consultant, RSGP Kesling, accredited laboratory	IDR 5,000,000
	Hydrology and drainage disruption	Drain blockage, ponding, stormwater overflow, basement dewatering, temporary drainage condition, sediment accumulation	Temporary drains, hospital drainage connection, basement excavation, internal roads, ambulance route, discharge points	Site inspection checklist, rainfall-event inspection, pump operation log, photo record, drainage maintenance log	Daily during rainy season, before and after heavy rain, weekly during dry period	Contractor, PIU, Supervision Consultant, RSGP IPSRS/Kesling	*Budget under internal maintenance staff of RSGP (Drainage works cost separate)
	Geomorphology, erosion and local ground instability	Slope condition, erosion rills, cracks, soil movement, stockpile stability, excavation wall stability	Excavation areas, basement works, cut-and-fill areas, stockpiles, slopes, retaining structures	Visual geotechnical inspection, survey markers if needed, photo record, review of excavation method statement	Weekly, daily during active excavation, after heavy rain or instability signs	Contractor, PIU, Supervision Consultant, Geotechnical Specialist, RSGP IPSRS	IDR 10,000,000
	Natural Hazard - Flood and Landslide	Rainfall warning, blocked drainage, slope instability signs, basement flooding, emergency access obstruction, incident/near-miss records	Site drainage, slopes, basement works, hospital entrance, ambulance route, low-lying construction areas	Weather alert review, site inspection, pump readiness check, emergency access inspection, incident log review	Daily during rainy season, before/after heavy rain, during BMKG extreme weather alerts	Contractor, PIU, Supervision Consultant, RSGP K3RS, IPSRS, Emergency Response Team	*Budget under safety staff of Contractor
	Spatial Plan and permit compliance	Approved footprint compliance, temporary facility location, no-go zone compliance, permit register, PBG/PKKPR/AMDAL/Pertek/ANDALALIN obligations	Construction boundary, laydown area, stockpile area, contractor facilities, hospital land boundary	Document review, site layout verification, GPS/photo documentation, permit compliance checklist	Monthly, before opening new work fronts or temporary facilities	PIU, Contractor, Supervision Consultant, RSGP Management/TU, Permitting Consultant	*Budget under safety staff of Contractor
	Land-Based Transportation and access disruption	Truck count, route compliance, delivery time, queuing, parking loss, ambulance delay, traffic incidents, pedestrian safety, complaints	Jl. Raya Puncak access, hospital gate, internal roads, loading/unloading areas, ambulance route, pedestrian	Weekly traffic log, CCTV/security log, traffic marshal checklist, incident record, complaint review	Weekly log, weekly review, additional monitoring during peak delivery or holiday	Contractor, PIU, Supervision Consultant, RSGP Security, Transportation Specialist,	*Budget under safety staff of Contractor

No	E&S Risks and Impacts	Monitoring Parameters	Locations	Measurements	Frequency	Responsibility	Estimated Cost (IDR) Actual Cost Will Be Determined by the Consultant/Contractor
			crossings		periods	Dishub/Polantas coordination	
	Terrestrial Biodiversity	Tree removal, the presence of flora and fauna species of conservation significance, vegetation stress, replanting survival, fauna disturbance and incident, lighting spill, runoff impact on green areas	Hospital green areas, tree protection zones, site boundary, surrounding modified vegetation within a 200-500 m radius.	Species inventory and historical condition, trend analysis, visual inspection, photo record, replanting survival count, wildlife incident log	One time before clearing Weekly during land clearing and preparation Quarterly for biodiversity monitoring and onsite Replanting check	Weekly: Contractor, PIU, Supervision. RSGP Facility/Landscape Unit Quarterly: Consultant, Biodiversity Specialist, RSGP Facility/Landscape Unit	IDR 60,000,000 – 80,000,000 per year
	Freshwater Aquatic Biodiversity	Water Quality, the presence of aquatic plants, fish, and macroinvertebrates	100 - 200 m upstream and 100 -200 m downstream of the WWTP outfall	Species inventory and historical condition, trend analysis, SingScore, visual inspection, photo record, freshwater habitat incident log	One time before clearing Weekly during land clearing and preparation (following water quality monitoring) Quarterly for freshwater biodiversity monitoring.	Weekly: Contractor, PIU, Supervision, RSGP Facility/Landscape Unit One time before clearing and Quarterly: Consultant, Biodiversity Specialist, RSGP Facility/Landscape Unit	IDR 40,000,000 – 60,000,000 per year
	Construction waste and B3 waste interface	Waste segregation, domestic waste volume, construction waste volume, B3 waste storage, medical waste interface, waste manifest, licensed transporter records	Construction site, waste storage area, TPS B3 interface, loading area, disposal contractor documentation	Visual inspection, waste log review, manifest reconciliation, transporter/disposal permit check	Weekly inspection, monthly manifest reconciliation	Contractor, PIU, Supervision Consultant, RSGP Kesling, licensed waste contractor	IDR 3,000,000
B	**SOCIAL**						
	Socio-Economy and Demography	Local workers hired, non-local worker number, local procurement value, worker accommodation condition, access disruption to local businesses,	Construction site, contractor office, accommodation if any, Desa Cibeureum, hospital entrance, nearby business	Employment and procurement records, accommodation inspection, stakeholder	Monthly	Contractor, PIU, RSGP Humas, RSGP HR/SDM, Social Specialist	IDR 5,000,000

No	E&S Risks and Impacts	Monitoring Parameters	Locations	Measurements	Frequency	Responsibility	Estimated Cost (IDR) Actual Cost Will Be Determined by the Consultant/Contractor
		complaints	areas	log, GRM review			
	Socio-Culture and heritage-sensitive community disturbance	Community complaints, patient/visitor access information, worker behaviour, heritage protection compliance, chance-find record, communication materials	Hospital public areas, nearby community receptors, heritage/older buildings, construction boundary	GRM dashboard, stakeholder engagement log, site inspection, chance-find register, photo documentation	Monthly, per construction milestone near heritage buildings, immediate reporting for chance finds	PIU, Contractor, RSGP Humas, Cultural Heritage Specialist, Supervision Consultant	IDR 5,000,000
	Labour and Working Conditions	Written contracts, wage payment, working hours and overtime, worker accommodation, worker GRM, Code of Conduct signing, GBV/SEAH and harassment-prevention training, HIV/STI awareness, non-discrimination and voluntary referral information, subcontractor compliance	Contractor office, worksite, worker accommodation, subcontractor records	Payroll and contract review, attendance records, worker interview, GRM log, training attendance, accommodation inspection	Monthly, quarterly labour audit, immediate review after complaints	Contractor, Subcontractors, PIU, Supervision Consultant, RSGP HR/SDM, Social/Gender Specialist	IDR 1,500,000
	Occupational Health and Safety	Toolbox attendance, PPE compliance, permit-to-work, near-miss reports, LTIFR, severity rate, first-aid cases, unsafe acts/conditions, emergency drill record STI/HIV exposure risk linked to labour influx and worker–community interaction.	All construction work fronts, excavation, lifting areas, work-at-height areas, electrical/hot work areas, site clinic/first aid post	Site safety inspection, OHS dashboard, incident investigation, PPE audit, permit-to-work review, drill evaluation mandatory HIV/STI awareness training.	Weekly leading indicator review, monthly lagging indicator review, daily toolbox monitoring	Contractor, PIU, Supervision Consultant, RSGP K3RS, Emergency Response Team	IDR 1,500,000, OHS implementation cost embedded in C-ESMP
	Community Health	Patient access disruption, dust/noise complaints, worker sanitation, stagnant water, vector breeding, infection prevention interface, construction-clinical separation	Wards near construction, TB/MDR-TB service areas, IGD, outpatient routes, worker facilities, construction boundary	PPI/K3RS inspection, sanitation checklist, vector breeding inspection, GRM review, patient circulation audit	Weekly, monthly summary, immediate review after health/safety complaint	Contractor, PIU, RSGP PPI, K3RS, Kesling, Humas, Supervision Consultant	IDR 1,500,000

No	E&S Risks and Impacts	Monitoring Parameters	Locations	Measurements	Frequency	Responsibility	Estimated Cost (IDR) Actual Cost Will Be Determined by the Consultant/Contractor
	Community Safety and Security	Construction fencing, access control, pedestrian safety, emergency-route clearance, traffic-marshal performance, security conduct, GBV/SEAH and harassment complaints,,,,,,	Construction boundary, hospital entrance, pedestrian routes, ambulance route, parking/drop-off areas, public waiting areas	Safety inspection, security log, incident register, GRM dashboard, access route audit	Weekly inspection, daily emergency access check, monthly GRM review	Contractor, PIU, RSGP Security, K3RS, Humas, Social/Gender Specialist	IDR 1,500,000
	HIV/STI Awareness, Referral and Non-Discrimination	Percentage of workers receiving HIV/STI awareness, availability of voluntary referral information, coordination with Puskesmas/Dinas Kesehatan, complaints concerning HIV-related stigma, discrimination or breach of confidentiality	Worker induction area, occupational-health facility, worker accommodation if applicable, hospital staff areas, GRM channels	Training records, awareness materials, referral-directory review, coordination records, restricted and anonymised complaint review	Before site entry, refresher every six months, monthly complaint review, immediate follow-up where required	Contractor HSE/occupational health, RSGP K3RS and PPI, PIU, Puskesmas Cisarua/Dinas Kesehatan liaison, Social/Gender Specialist	IDR 5,000,000–10,000,000/year
	Hospital service continuity	Operational beds/services affected, access to IGD, wards, pharmacy, laboratory and radiology, patient waiting time, service complaints, temporary relocation effectiveness	IGD, outpatient department, wards, pharmacy, laboratory, radiology, temporary service routes	Service continuity dashboard, patient flow observation, complaint log, coordination meeting minutes	Weekly during major interface works, monthly dashboard	PIU, RSGP Management, Contractor, RSGP Unit Heads, Supervision Consultant	IDR 1,500,000
	Cultural Heritage - potential physical damage to older structures and heritage-sensitive hospital fabric	Confirmation of heritage status, CHMP approval, pre-construction building condition record, heritage buffer compliance, vibration levels, cracks/settlement, contractor compliance, incident records	Older RSGP buildings, “Heritage Eksekutif” wing, buildings near excavation, piling, compaction, demolition, material storage, haul routes and temporary works, heritage buffer/no-go zones	Document review, photographic and video record, building condition survey, vibration monitoring, crack monitoring, weekly site inspection, review of contractor method statements, incident and corrective action log	Before construction, continuous or daily during piling/compaction/heavy vibration works, weekly during nearby construction, after any complaint, exceedance, crack, settlement, or accidental damage	PIU, RSGP Management, Contractor, Supervision Consultant, Cultural Heritage Specialist, BPCB Banten, Disbudpar Provinsi West Java and/or Disparbud Kabupaten Bogor where required	IDR 25,000,000, higher if continuous vibration monitoring is required
	OPERATION						

No	E&S Risks and Impacts	Monitoring Parameters	Locations	Measurements	Frequency	Responsibility	Estimated Cost (IDR) Actual Cost Will Be Determined by the Consultant/Contractor
A	**ENVIRONMENTAL**						
	Air Quality & Greenhouse Gases	Generator/boiler emissions, fuel consumption, electricity consumption, GHG inventory, stack maintenance, visible smoke	Genset room, boiler/stack locations if applicable, hospital boundary, energy meter points	Stack emission test, fuel/electricity records, maintenance log, GHG calculation	Annual stack test and after major maintenance, monthly fuel/electricity record	RSGP IPSRS, Kesling, K3RS, accredited laboratory, PIU during handover	IDR 10,000,000/year
	Operational ambient air quality	PM10, PM2.5, complaints, odour/smoke from stationary sources or traffic	Hospital boundary, near wards, parking/loading areas, nearest sensitive receptors	Ambient air sampling by KAN-accredited laboratory, complaint review	Quarterly	RSGP Kesling, IPSRS, accredited laboratory	IDR 60,000,000/year
	Operational noise	Leq, Lmax, complaints, generator/HVAC/pump noise, ambulance/parking noise	Generator area, pump room, HVAC plant, wards, site boundary, nearby receptors	Noise meter monitoring, maintenance log review, complaint trend review	Semi-annual, additional monitoring after repeated complaints	RSGP IPSRS, Kesling, K3RS, accredited laboratory if required	IDR 5,000,000/year
	Water Quality and wastewater compliance	IPAL inflow/outflow, BOD, COD, TSS, NH3-N, total coliform, faecal coliform, pH, phosphate, flow rate, sludge records	IPAL inlet and outlet, final discharge point, sludge storage/handling area	Laboratory sampling, daily operator log, flow meter record, sludge manifest review	Monthly laboratory monitoring, daily operator check	RSGP Kesling, IPSRS, IPAL operator, accredited laboratory	IDR 60,000,000/year, excludes IPAL upgrade
	Biodiversity	The presence of flora and fauna species, vegetation stress, replanting activities & survival, fauna disturbance & incident, and the presence of alien invasive species.	• Hospital green areas, site boundary, surrounding modified habitat within a 200-500 m radius. • 100 - 200 m upstream and 100 -200 m downstream of the WWTP outlet	Species inventory and historical condition, trend analysis, SingScore, visual inspection, photo record, incident log	Biannually representing wet season and dry season	RSGP Facility/Landscape Unit: Consultant, Biodiversity Specialist	IDR 40,000,000 – IDR 60,000,000
	Land-Based Transportation during operation	• Traffic queue, parking occupancy, ambulance access time, pedestrian safety, service vehicle movement, incidents, complaints	Hospital gate, Jl. Raya Puncak interface, parking areas, ambulance route, drop-off areas, internal roads	Traffic count, parking log, security incident log, ambulance delay log, GRM review	Monthly, additional monitoring during holiday/peak periods	RSGP Security, Facility/Parking Operator, IPSRS, Humas, Dishub/Polantas coordination	IDR 50,000,000/year

No	E&S Risks and Impacts	Monitoring Parameters	Locations	Measurements	Frequency	Responsibility	Estimated Cost (IDR) Actual Cost Will Be Determined by the Consultant/Contractor
B	**SOCIAL**						
	Access to hospital services and service continuity	• Changes in service location, waiting time, bed availability, emergency access, unplanned service interruption, referral delays, complaints related to access or service disruption	Registration area, outpatient clinics, inpatient wards, emergency department, pharmacy, temporary or relocated service areas	Hospital operational records, service-continuity log, patient-flow review, complaint trend analysis, interviews with responsible units	Monthly, immediate review after major service disruption	RSGP Medical Services, Nursing, Humas, IPSRS, Quality Unit	IDR 15,000,000/year
	Accessibility and inclusion of vulnerable groups	• Functionality of ramps, lifts, accessible toilets, handrails, priority seating, signage and accessible routes, assistance provided to PWD, elderly and pregnant patients, accessibility complaints	Main entrances, outpatient and inpatient areas, parking and drop-off areas, toilets, lifts, internal routes	Accessibility inspection checklist, photo records, patient feedback, GRM review	Quarterly, additional inspection following layout or service changes	RSGP Facilities, Humas, Security, Quality Unit, PWD representative where applicable	IDR 10,000,000/year
	Patient and caregiver experience, privacy and respectful care	• Patient/caregiver satisfaction, privacy complaints, availability of screens or private consultation spaces, waiting-area conditions, staff communication, complaints concerning discriminatory or disrespectful treatment	Outpatient clinics, inpatient wards, diagnostic areas, pharmacy, registration, waiting areas	Patient satisfaction survey, observation checklist, focus-group or short interviews, complaint analysis	Semi-annual survey, monthly complaint review	RSGP Quality Unit, Humas/DUMAS, Medical Services, Nursing	IDR 20,000,000/year
	Gender Action Plan implementation	• Completion of GAP actions, sex-disaggregated patient, staff, consultation and complaint data, status of corrective actions, availability of lactation, changing, rest and separate sanitation	Hospital-wide, including staff and patient facilities	GAP dashboard, facility inspection, HR and complaint-data review, corrective-action tracking	Monthly dashboard, quarterly reporting, GAP review every six months	RSGP Humas, HR, K3RS, PPI, PIU Safeguards during handover	IDR 12,000,000/year

No	E&S Risks and Impacts	Monitoring Parameters	Locations	Measurements	Frequency	Responsibility	Estimated Cost (IDR) Actual Cost Will Be Determined by the Consultant/Contractor
		facilities					
	GBV/SEAH and harassment prevention	• Staff and security training, availability of confidential reporting channels, restricted handling of sensitive complaints, referral arrangements, non-retaliation measures, anonymised case status	Hospital service areas, staff areas, security posts, complaint-handling unit	Training records, confidential GRM review, referral-directory check, anonymised trend review, staff awareness checks	Training annually and at induction, confidential channel review quarterly, immediate case response	RSGP HR, Humas/DUMAS, K3RS, Security, designated trained focal point	IDR 15,000,000/year
	HIV/STI awareness, non-discrimination and confidentiality	• Awareness activities, referral information, complaints concerning stigma, discrimination or disclosure of health information, coordination with Puskesmas/Dinas Kesehatan, no individual HIV information in routine reports	Staff areas, occupational-health services, patient information points, relevant clinical and counselling units	Training and awareness records, referral-material review, anonymised complaint review, coordination records	Awareness annually and during staff induction, complaint review monthly, coordination semi-annually	RSGP K3RS, PPI, HR, HIV/TB-HIV clinical focal point, Puskesmas Cisarua/Dinas Kesehatan liaison	IDR 10,000,000/year
	Grievance redress and stakeholder engagement	• Number and category of complaints, response time, unresolved complaints, repeated issues, complaints from women, PWD, patients, caregivers, workers and nearby communities, disclosure and consultation activities	Hospital complaint channels, surrounding community, service areas, online and physical complaint points	GRM register, DUMAS reports, complaint trend analysis, consultation records, satisfaction follow-up	Monthly monitoring, quarterly trend review, stakeholder consultation at least annually and following major operational changes	RSGP Humas/DUMAS, Hospital Management, relevant service units	IDR 15,000,000/year
	Workforce and working conditions	• Workforce by sex and employment status, working hours, OHS incidents, staff	Hospital departments, staff rest and changing areas, occupational-health unit,	HR records, staff grievance review, K3RS inspection, staff survey,	Monthly HR/OHS review, staff safety assessment every six	RSGP HR, K3RS, Security, Department	IDR 12,000,000/year

No	E&S Risks and Impacts	Monitoring Parameters	Locations	Measurements	Frequency	Responsibility	Estimated Cost (IDR) Actual Cost Will Be Determined by the Consultant/Contractor
		grievances, training, equal opportunity, night-shift safety, sanitation and welfare facilities	security and support-service areas	training records	months	Heads	
	Local employment, procurement and vendor inclusion	• Number and proportion of local workers, local suppliers, women-led businesses where identified, payment or contract complaints, procurement transparency, vendor performance	Hospital procurement unit, service vendors, food, cleaning, laundry, parking and other support services	Procurement records, vendor register, contract review, interviews, grievance records	Quarterly	RSGP HR, Procurement Unit, Finance, Humas	IDR 5,000,000/year
	On-site tenant and vendor access	• Continued access to kiosks, canteens and other tenant facilities, customer access, utility interruption, relocation or operational complaints, safety and sanitation conditions	On-site canteens, cooperative, retail and other vendor areas	Tenant consultation, access inspection, utility and incident log, GRM review	Quarterly and before any operational layout change	RSGP Humas, Facilities, Procurement/Contract Management, Security	IDR 5,000,000/year
	Community health, safety and security	• Security incidents, unauthorised access, pedestrian safety, emergency access, communicable-disease information, interaction between security personnel, patients and visitors, community complaints	Hospital gates, public areas, nearby community interface, emergency and ambulance routes	Security log, incident review, emergency drill records, complaint review, coordination with local authorities	Monthly, emergency drills at least annually	RSGP Security, K3RS, Humas, Medical Services, local emergency authorities	IDR 15,000,000/year
	Cultural heritage and historic-building condition	• Physical condition of retained historic buildings and landscape elements, maintenance activities, alterations, water leakage, cracking or deterioration, heritage-related complaints,	Retained historic buildings and associated landscape areas within RSGP	Visual condition survey, fixed-point photographs, maintenance records, specialist inspection where deterioration is	Annual, additional inspection after earthquake, major repair or significant damage	RSGP IPSRS/Facilities, Hospital Management, heritage specialist, competent cultural heritage authority	IDR 15,000,000–25,000,000/year

No	E&S Risks and Impacts	Monitoring Parameters	Locations	Measurements	Frequency	Responsibility	Estimated Cost (IDR) Actual Cost Will Be Determined by the Consultant/Contractor
		authority recommendations		identified		where required	

Social monitoring costs are preliminary annual allowances. Activities undertaken through routine hospital systems, including HR records, DUMAS, patient satisfaction surveys, K3RS inspections and operational reporting. It should be integrated into existing RSGP budgets. Additional costs apply where specialist surveys, targeted consultation, training, accessibility audits or cultural heritage inspections are required. Sensitive GBV/SEAH and HIV-related information shall only be reported in anonymised and aggregated form. Individual HIV status and survivor-identifying information shall not be included in routine ESMP reports.

12 REPORTING AND ESMP BUDGET

This Chapter establishes the reporting and budget framework for implementation of the Environmental and Social Management Plan (ESMP) throughout pre-construction, construction, commissioning, and operation of the RSGP Project. It defines the main reporting lines, responsible parties, reporting frequencies, escalation requirements, and the approach for allocating environmental and social management costs.

The reporting arrangements in this Chapter consolidate requirements contained elsewhere in the ESIA-ESMP. Detailed mitigation measures and responsibilities are provided in the impact mitigation matrix; monitoring parameters, frequencies, responsibilities, and indicative monitoring costs are provided in Chapter 11 – Monitoring Arrangements; labour and workforce reporting requirements are provided in Annex B – Labour Management Plan; stakeholder engagement and grievance reporting are addressed in Annexes C and D; gender monitoring is addressed in Annex E – Gender Action Plan; heritage monitoring and reporting are addressed in Annex F – Heritage Impact Assessment and Cultural Heritage Management Plan (CHMP); asbestos-related monitoring and records are addressed in Annex H – Asbestos Management Plan; service-relocation reporting is addressed in Annex I; and HIV/STI-related monitoring is addressed in Annex J.

The reporting system follows a cascading approach. Contractors and subcontractors generate site-level records and monthly reports; the Construction Management/Supervision Consultant verifies performance and corrective actions; RSGP and the PIU consolidate environmental and social performance into the Project safeguards reporting system; and relevant information is subsequently reported to AIIB, environmental authorities, RSGP management, and stakeholders as applicable. This structure is intended to minimise duplication while ensuring that significant incidents, non-compliances, grievances, and corrective actions remain traceable from site level through Project management.

12.1 Reporting Schedule

Environmental and social reporting obligations cover lender requirements, Indonesian regulatory requirements, Contractor performance, hospital management, workforce safeguards, grievance management, gender and vulnerable-group measures, cultural heritage, and public disclosure.

Routine reporting does not replace immediate incident notification. Serious occupational health and safety incidents, significant environmental events, major service disruption, serious community safety incidents, GBV/SEAH cases requiring escalation, significant labour grievances, uncontrolled ACM disturbance, heritage damage, or other material E&S events shall be notified through the applicable incident-reporting procedure without waiting for the next monthly or quarterly report.

Where the reporting frequency required by the financing agreement, environmental approval, Pertek, applicable regulation, or subsequent AIIB instruction differs from this Chapter, the applicable or more stringent Project requirement shall be followed.

Table 90 The Schedule Summarises of the Full Reporting Architecture

Recipient	Report	Frequency	Lead
Contractor / CMC-PMSC / PIU / RSGP	Contractor C-ESMP Implementation Report	Monthly	Contractor E&S/HSE Manager
PIU / CMC-PMSC / RSGP	Contractor Monthly Labour Management Report	Monthly, submitted by the 5th of the following month	Contractor HR / HSE / Social Safeguards Officer
RSGP Direksi / PIU	Project Safeguards Dashboard	Monthly	RSGP Kesling and PIU Safeguards, supported by Humas/DUMAS, K3RS, PPI and CMC/PMSC
RSGP / PIU	GRM Dashboard	Monthly	RSGP Humas/DUMAS and PIU Safeguards
RSGP / PIU	Grievance Trend Analysis	Quarterly	RSGP Humas/DUMAS and PIU Safeguards
AIIB	Environmental and Social Progress / ESMP Implementation Report	Quarterly during construction, or otherwise as agreed in the financing/project reporting requirements	PIU Safeguards with RSGP and CMC/PMSC
AIIB / PIU / RSGP	Serious E&S Incident Notification and Follow-up Report	Immediate internal notification; formal notification within the applicable Project/AIIB timeframe	Contractor → CMC/PMSC → PIU
Competent Environmental Authority / DLH	RKL-RPL Implementation Report	Semi-annual, or as required by the Environmental Approval	RSGP Kesling / Project Environmental Team
Competent Environmental Authority / DLH	Pertek BMAL, BMUE and B3 Compliance Reporting	According to the approved Pertek / technical approval requirements	RSGP Kesling / IPSRS
RSGP Management / PIU	K3RS, PPI and Workforce Safeguards Summary	Quarterly	RSGP K3RS / PPI / HR with Contractor
RSGP Management / PIU	Gender Action Plan Implementation Review	Monthly dashboard; quarterly reporting; formal review every six months	RSGP Humas, HR, K3RS, PPI and PIU Safeguards
Competent BPCB/BPK Heritage Authority for West Java, where reporting or notification is required	Cultural Heritage / CHMP Report	At agreed construction milestones and following a heritage incident or chance find	RSGP / PIU with Contractor and Heritage Specialist

Recipient	Report	Frequency	Lead
RSGP Direksi / PIU	Annual LMP Review	Annual	PIU Safeguards / RSGP HR
RSGP Direksi / PIU	LMP / Safeguards Phase Completion Report	At completion of each major construction phase	PIU with Contractor and CMC/PMSC
Public / Project Stakeholders	Public Environmental and Social / Sustainability Summary	Annual, or aligned with Project disclosure commitments	RSGP Humas
Balai Besar TNGGP, if a formal Project interaction or reporting requirement is confirmed	Biodiversity / Buffer-Zone Interaction Information	As agreed, or required	RSGP / PIU

12.2 ESMP Budget Estimate

The ESMP budget estimate is sized as approximately 10-12% of total capital expenditure (per Pre-FS Tabel 25 total IDR 817.79 billion), placing the safeguards envelope at approximately IDR 80-100 billion across construction and the first three years of operations.

Table 91 The Principal Cost Categories

Cost Category	Estimated Allocation	Budget Owner / Cost Bearer	Notes
EGI safeguards consultancy – Contract 111-AGB-2026	Per signed contract	RSGP / Project	Covers the contracted safeguards deliverables including ESIA-ESMP, AMDAL, Pertek BMAL, Pertek BMUE, Rintek B3 and ANDALALIN. Costs already covered by the signed contract shall not be counted again as separate ESMP implementation costs.
Contractor C-ESMP preparation and implementation	Embedded in the priced Civil Works Contract / Contractor BOQ	Contractor	Includes Contractor environmental and social staffing; dust suppression; noise and vibration controls; erosion, drainage and sediment controls; waste and B3 management; fencing and access control; traffic management; worker welfare; OHS; emergency response; Code of Conduct; GBV/SEAH and HIV/STI awareness; community health and safety; routine monitoring; GRM support; training and reporting. No fixed 1.5–2.0% assumption is applied.
Asbestos / ACM investigation and management	Minimum provisional ESMP allocation IDR 250 million, plus ACM removal/disposal to	Relevant demolition/enabling works package / Contractor / RSGP according to	Annex H provides indicative allowances for detailed survey and laboratory confirmation, labelling and awareness, air/clearance monitoring and emergency contingency. Removal, packaging, licensed transport and

Cost Category	Estimated Allocation	Budget Owner / Cost Bearer	Notes
	be determined from confirmed quantities	the approved financing scope	disposal shall be priced after ACM quantities and methods are confirmed.
New IPAL / WWTP construction and commissioning	Per final IPAL DED and priced BOQ	Project / RSGP / relevant Civil Works Contractor	Treated as environmental infrastructure CAPEX, not as a separate percentage-based ESMP allowance. The existing WWTP shall remain operational until the new WWTP is constructed, tested, compliant and formally accepted before the existing facility is decommissioned.
IPAL operation, maintenance and wastewater compliance	Annual operational expense based on actual operating requirements	RSGP / BLU	Includes electricity, chemicals, operator requirements, preventive maintenance, sludge management, repairs and compliance monitoring after handover. Laboratory compliance monitoring is budgeted under Chapter 11.
TB / MDR-TB isolation HVAC, negative-pressure and HEPA filtration systems	Embedded in Building A / relevant Building MEP-HVAC BOQ	Project / Contractor during construction; RSGP / BLU after handover	These are technical and infection-control design requirements and should be priced within the relevant HVAC/MEP package rather than duplicated as an ESMP contingency. Operational verification, filter replacement and maintenance become RSGP OPEX.
Cultural Heritage Management Plan implementation	Routine protection included in Contractor BOQ; specialist monitoring/intervention priced where required	Contractor during construction; RSGP for retained assets	Includes condition surveys, photographic records, protection/no-go areas, vibration monitoring, crack monitoring, Contractor training, inspection and post-construction verification. The current monitoring plan provides a basic allowance for heritage monitoring, with higher cost where continuous vibration monitoring or specialist intervention is required.
Chance-find / unexpected heritage contingency	Provisional sum only; activated if a chance find or heritage incident occurs	Project / Contractor contingency	Covers specialist assessment, protection, documentation or other approved measures following a chance find. The amount should be established in the Contractor BOQ rather than included as a large general ESMP reserve.
Construction environmental laboratory monitoring	Per Chapter 11 Monitoring Plan and actual accredited laboratory quotation	Contractor unless otherwise assigned in the Civil Works Contract	Includes air, noise, vibration, water or other testing required during construction. Routine visual inspections and site records performed by Contractor staff should

Cost Category	Estimated Allocation	Budget Owner / Cost Bearer	Notes
			normally be treated as embedded staff duties.
Operational environmental monitoring	Annual operational expense per Chapter 11 Monitoring Plan	RSGP / BLU	Includes wastewater laboratory analysis and IPAL QC, ambient air monitoring, relevant stack/emission testing, operational noise monitoring, B3/medical waste compliance and environmental reporting. Costs should be based on approved monitoring frequencies and current accredited laboratory quotations.
Construction-phase capacity building	Embedded in C-ESMP / Contractor HSE and social management costs	Contractor	Worker induction, toolbox meetings, OHS, emergency response, Code of Conduct, GBV/SEAH, HIV/STI, ACM awareness, community conduct, GRM awareness and other construction safeguards training.
Operational capacity building	Annual RSGP training allocation	RSGP / BLU	Includes Kesling, K3RS, PPI, IPAL operation, GRM, social safeguards, gender, confidentiality, HIV/STI awareness, environmental monitoring and E&S reporting. Broader Human Capital / RSPPU expenditure in the FS should not automatically be classified as ESMP expenditure.
Project GRM and stakeholder engagement during construction	Embedded in Contractor C-ESMP plus existing RSGP/PIU resources; external activities priced where needed	Contractor + RSGP / PIU	Contractor finances site-level liaison, GRM communication and corrective actions associated with Contractor activities. RSGP Humas/DUMAS and PIU provide institutional oversight. Consultation venues, materials or specialist support may be priced separately where incremental costs arise.
Operational GRM, social monitoring and GAP implementation	Annual RSGP operational expense per Chapter 11 Monitoring Plan	RSGP / BLU	Uses existing Humas/DUMAS, HR, K3RS, PPI and operational systems as far as practicable. Incremental costs may include surveys, outreach, training, accessibility checks, GAP monitoring and specialist support. EGI is not assumed to be the long-term budget owner after completion of its contracted scope.
Service continuity, patient transfer and temporary access controls	Embedded in construction phasing / temporary works / hospital transition budget	Contractor + RSGP according to responsibility	Includes temporary routes, signage, barriers, temporary service arrangements, relocation support, emergency-access protection and other measures necessary to maintain hospital operations during construction.

Cost Category	Estimated Allocation	Budget Owner / Cost Bearer	Notes
Total ESMP expenditure – construction and early operational phase	355-475 million IDR Pre-Construction, 586-646 million IDR Construction, and 640,5-675 million IDR in Operation	Project / Contractor / RSGP according to assigned responsibility	The final ESMP total shall include only actual or reasonably estimated incremental safeguards costs and shall avoid double counting costs already incorporated in civil works, MEP, IPAL, project management, consultancy or normal hospital operations.

The ESMP budget shall be updated progressively as the DED, BOQ, construction methodology, Contractor C-ESMP, technical approvals and operational plans are finalised.

Before issuance of the civil works bidding documents, the PIU, RSGP, DED Consultant and procurement team shall reconcile the ESMP mitigation matrix against the BOQ and technical specifications. Each material ESMP commitment shall be assigned to one of the following cost owners: Contractor, Project/PIU, RSGP/BLU, or specialist service provider. This reconciliation shall confirm that required measures are funded while preventing the same item from being counted in more than one budget.

During construction, the Contractor shall maintain sufficient resources to implement the approved C-ESMP. Failure to separately identify a routine environmental, social, health or safety control in the Contractor's internal cost breakdown shall not remove the Contractor's obligation to implement that control where it is required by the contract, ESMP, approved method statement or applicable regulation.

Provisional sums should be used only for activities whose quantity or need cannot reasonably be confirmed before construction, including confirmed ACM removal and disposal, unexpected heritage/chance-find response, specialist corrective investigations or other event-triggered measures.

After commissioning and handover, recurring safeguards costs shall be incorporated into the RSGP/BLU annual operating budget. These include environmental monitoring, wastewater compliance, HVAC/negative-pressure verification and maintenance, IPAL operation, GRM, social and gender monitoring, relevant capacity building, waste-management compliance and other recurring ESMP commitments.

Actual expenditure should be reviewed annually against the approved monitoring programme and operating experience. Where monitoring frequency, Project design, operational capacity, legal requirements, AIIB commitments or risk conditions change materially, the corresponding ESMP budget shall be updated.

This approach provides a more transparent and auditable safeguards budget because each cost is linked to a defined ESMP activity and responsible party rather than being derived from an arbitrary percentage of Project capital expenditure.

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 floor for hospital projects spans health, environmental, spatial, labour, cultural heritage, and traffic disciplines. The principal instruments cited in this ESIA are listed below in roughly hierarchical order.

- Undang-Undang Nomor 17 Tahun 2023 tentang Kesehatan (Health Law)
- Undang-Undang Nomor 32 Tahun 2009 tentang Perlindungan dan Pengelolaan Lingkungan Hidup (UU PPLH)
- Undang-Undang Nomor 6 Tahun 2023 tentang Penetapan Peraturan Pemerintah Pengganti Undang-Undang Nomor 2 Tahun 2022 tentang Cipta Kerja menjadi Undang-Undang
- Undang-Undang Nomor 44 Tahun 2009 tentang Rumah Sakit (Hospital Law , applicable for matters not yet superseded by UU 17/2023)
- Undang-Undang Nomor 26 Tahun 2007 tentang Penataan Ruang (Spatial Planning Law)
- Undang-Undang Nomor 11 Tahun 2010 tentang Cagar Budaya (Cultural Heritage Law)
- Undang-Undang Nomor 13 Tahun 2003 tentang Ketenagakerjaan (Manpower Law)
- Peraturan Pemerintah Nomor 22 Tahun 2021 tentang Penyelenggaraan Perlindungan dan Pengelolaan Lingkungan Hidup
- Peraturan Pemerintah Nomor 28 Tahun 2024 tentang Peraturan Pelaksanaan Undang-Undang Nomor 17 Tahun 2023 tentang Kesehatan
- Peraturan Pemerintah Nomor 21 Tahun 2021 tentang Penyelenggaraan Penataan Ruang
- Peraturan Pemerintah Nomor 50 Tahun 2012 tentang Penerapan Sistem Manajemen Keselamatan dan Kesehatan Kerja (SMK3)
- Peraturan Pemerintah Nomor 16 Tahun 2021 tentang Peraturan Pelaksanaan Undang-Undang Nomor 28 Tahun 2002 tentang Bangunan Gedung
- Peraturan Presiden Nomor 60 Tahun 2020 tentang Rencana Tata Ruang Kawasan Perkotaan Jakarta, Bogor, Depok, Tangerang, Bekasi, Puncak, Cianjur (Bodetabekpunjur)

- PermenLHK Nomor 4 Tahun 2021 tentang Daftar Usaha dan/atau Kegiatan yang Wajib Memiliki AMDAL, UKL-UPL atau SPPL
- PermenLHK Nomor 18 Tahun 2021 tentang Tata Cara Penerbitan Persetujuan Lingkungan
- PermenLHK Nomor 6 Tahun 2021 tentang Tata Cara dan Persyaratan Pengelolaan Limbah Bahan Berbahaya dan Beracun
- PermenLHK Nomor 68 Tahun 2016 tentang Baku Mutu Air Limbah Domestik
- Keputusan Menteri LH Nomor 48 Tahun 1996 tentang Baku Tingkat Kebisingan
- Permenkes Nomor 7 Tahun 2019 tentang Kesehatan Lingkungan Rumah Sakit
- Permenkes Nomor 40 Tahun 2022 tentang Persyaratan Teknis Bangunan, Prasarana, dan Peralatan Kesehatan Rumah Sakit
- Permenkes Nomor 26 Tahun 2022 tentang Organisasi dan Tata Kerja Rumah Sakit di Lingkungan Kementerian Kesehatan
- Permenkes Nomor 67 Tahun 2016 tentang Penanggulangan Tuberkulosis
- Permenkes Nomor 27 Tahun 2017 tentang Pedoman Pencegahan dan Pengendalian Infeksi di Fasilitas Pelayanan Kesehatan
- Permenkes Nomor 66 Tahun 2016 tentang Keselamatan dan Kesehatan Kerja Rumah Sakit
- Permenkes Nomor 11 Tahun 2017 tentang Keselamatan Pasien
- Permenkes Nomor 12 Tahun 2025 tentang Rencana Strategis Kementerian Kesehatan Tahun 2025-2029
- Permenhub Nomor PM 17 Tahun 2021 tentang Penyelenggaraan Analisis Dampak Lalu Lintas
- Keputusan Menteri Kesehatan Nomor HK.01.07/MENKES/1954/2024 tentang Rencana Induk (Master Plan) Pengembangan Bangunan Rumah Sakit Paru Dr. M. Goenawan Partowidigdo Cisarua Bogor
- Keputusan Menteri Kesehatan Nomor HK.02.02/I/3856/2020 tentang Izin Operasional Rumah Sakit Khusus Paru Dr. M. Goenawan Partowidigdo (RSGP) Cisarua Bogor
- Keputusan Direktur Utama RSGP Nomor HK.02.03/D.XLII.2/02560/2024 tanggal 23 Februari 2024 tentang Organisasi dan Tata Kerja Rumah Sakit Paru Goenawan Partowidigdo
- Keputusan Direktur Jenderal Kesehatan Lanjutan Nomor HK.02.02/D/5367/2025 tanggal 10 November 2025 tentang Perubahan Rumah Sakit Khusus di Lingkungan Kementerian Kesehatan menjadi Rumah Sakit Umum dengan Pelayanan Unggulan Paru dan Pernafasan
- Surat Direktur Jenderal Kesehatan Lanjutan Nomor TK.02.04/D/135/2026 tanggal 10 Januari 2026 tentang Persiapan Roadmap RSPPU Tahun 2025-2026

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. (2024). Environmental and Social Framework, Environmental and Social Policy and Standards
- Asian Infrastructure Investment Bank. (2024). Environmental and Social Standard 1, Environmental and Social Assessment and Management
- Asian Infrastructure Investment Bank. (2024). Environmental and Social Standard 2, Involuntary Resettlement
- Asian Infrastructure Investment Bank. (2024). Environmental and Social Standard 3, Indigenous Peoples
- Asian Infrastructure Investment Bank. (2024). 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
- 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 Gedung dan Non Gedung
- DIN 4150-3 (or equivalent national standard), Vibration limits for the protection of buildings, particularly relevant for heritage receptors

Project Documents and Primary Data Sources

The project-specific document corpus comprises the planning documents, the OSS-confirmed permit registry, and the operational and corporate registrations specific to RSGP.

- RSGP Pre-Feasibility Study (Studi Kelayakan Internal). 11 March 2026
- Masterplan RS Paru Dr. M. Goenawan Partowidigdo Cisarua.
- Profil RS Paru Dr. M. Goenawan Partowidigdo 2024 (Profile RSGP 2024)
- Skematik Desain RS Paru Cisarua 260207 R0 (PowerPoint, February 2026)
- Ceklis Kebutuhan Data AMDAL-ESIA RS Goenawan (Excel checklist), May 2026
- NIB RSGP 9120304812536 (terbit 23 Agustus 2019, perubahan ke-18 27 Juni 2022, KBLI 86101, status PMDN)
- KBLI RSGP 86101 , Aktivitas Rumah Sakit Pemerintah
- PKKPR RSGP Cisarua Nomor 14072210213201073 (terbit 14 Juli 2022, luas 6.70 Ha, 17-vertex boundary polygon)
- NPWP RSGP 00.144.706.9-434.000
- IMB RSGP 2014, building permit covering existing built fabric
- IPPT RSGP 2013, historical land use permit
- SIO RSGP 2025, Surat Izin Perpanjangan Operasional via OSS, valid through 2030
- SK SOTK RSGP Nomor HK.02.03/D.XLII.2/02560/2024 tanggal 23 Februari 2024
- KTP dan NPWP Penanggung Jawab Lingkungan RSGP (filed in support of OSS submissions)

- UKL-UPL document existing (296 pages, scanned PDF, text extraction pending)
- SK Persetujuan Kesanggupan Kelola Lingkungan KLH (37 pages, scanned PDF)
- Pertek Pengolahan Air Limbah eksisting + Denah IPAL, per Ceklis Data record
- Rintek TPS Bahan dan Limbah B3 eksisting, per Ceklis Data record
- MoU pengelolaan Limbah B3, sampah domestik, dan sejenis, third-party processor contracts

Comparable ESIA References and Methodological Sources

Comparable ESIA precedents under the TRUST Project portfolio inform the structural and methodological approach for RSGP, ensuring consistency across the consultancy delivery.

- ESIA-ESMP Draft v0.1 RSDK rev, RSUP Dr. Kariadi Semarang (TRUST Project, EGI 2026), methodological and structural reference
- ESIA-ESMP Draft v0.1 RSJRW, RSUP Dr. Saiful Anwar Malang (TRUST Project), comparable structure
- ESIA-ESMP Draft v0.1 RSST, RSUP Dr. Sitanala Tangerang (TRUST Project), comparable structure
- BPS Kabupaten Bogor (latest available edition), Kabupaten Bogor Dalam Angka, Kecamatan Cisarua Dalam Angka
- BMKG Stasiun Klimatologi Citeko, climate observations 2015-2025 (to be obtained)
- Balai Besar Taman Nasional Gunung Gede Pangrango, TNGGP zonation map and management plan

APPENDICES

Annex A - Climate Risk Assessment and GHG Inventory

Overview

Climate change has become an important consideration in infrastructure development due to the potential influence of changing climate conditions on project sustainability, operational continuity, and long-term asset resilience. Future changes in temperature, rainfall patterns, and extreme weather conditions may affect both construction and operational activities throughout the Project lifetime. Therefore, climate change considerations form an integral part of the ESIA process.

In line with the Asian Infrastructure Investment Bank (AIIB) Environmental and Social Policy, particularly Requirements No. 40 and No. 41, the Project is expected to consider both climate change adaptation and greenhouse gas (GHG) mitigation measures, including the assessment of climate-related risks and the identification of the Project's potential contribution to GHG emissions.

This chapter presents the climate change risk and resilience assessment for the Project based on review of existing climate conditions, Swiss Re CatNet hazard screening, and future climate projection analysis under several IPCC Shared Socioeconomic Pathway (SSP) scenarios up to 2099. The assessment evaluates potential future climate hazards relevant to the Project Area and identifies potential implications for construction activities, hospital operations, infrastructure performance, and service continuity.

The assessment has been undertaken using a site-specific approach considering the Project location, surrounding environmental conditions, topography, planned development activities, and hospital operational characteristics. The identified climate risks and adaptation measures are therefore intended to support long-term Project resilience and operational sustainability under future climate conditions.

Climate Projection Scenario

To complete the climate change consideration assessment, future climate projections utilized from Intergovernmental Panel on Climate Change (IPCC) Shared Socioeconomic Pathway (SSP) scenarios. These scenarios represent different future greenhouse gas emission pathways and global development conditions. Four SSP scenarios were considered in this assessment to represent a range of possible future climate conditions, from lower-emission sustainability pathways to high-emission fossil fuel development pathways. Table X provides a short brief of the employed scenarios for this assessment.

Scenario	General Description	Estimated Global Warming By End Of Century
SSP1-2.6	Sustainability pathway with lower greenhouse gas emissions and stronger climate mitigation efforts.	~1.8°C
SSP2-4.5	Intermediate development pathway with moderate greenhouse gas emissions and gradual climate mitigation progress.	~2.7°C
SSP3-7.0	Fragmented development pathway with high emissions, limited global cooperation, and increasing climate risks.	~3.6°C
SSP5-8.5	High-emission fossil fuel development pathway representing severe future climate conditions.	~4.4°C

Source: Swiss Re - CatNet® Risk Assessment Report

The future climate screening and hazard assessment presented in this chapter were prepared using Swiss Re CatNet climate risk outputs and supporting climate projection datasets relevant to the Project Area.

Project Sensitivity

The hospital is located within the Cisarua District, Bogor Regency. Specifically, the hospital is located in the highland area, which is characterized by relatively high annual rainfall, humid conditions, mountainous terrain, and steep topography. Based on the ESIA Baseline (Chapter 3), the Project Area generally falls within a very wet tropical climate zone with frequent rainfall events occurring throughout the year, particularly during the wet season. Considering these environmental and topographical conditions, several climate-related hazards are considered relevant to the Project Area, including extreme rainfall, surface runoff, temporary localized flooding, slope instability, landslide, strong wind, lightning, increasing temperature, and future drought conditions. These hazards may influence both construction activities and long-term hospital operations under future climate conditions.

Following the Project description, the Project involves redevelopment and long-term operation of a hospital facility which requires continuous healthcare services, reliable utility systems, stable water supply, indoor environmental control, and uninterrupted site accessibility during both normal and emergency situations. Therefore, hospitals are generally considered climate-sensitive infrastructure due to their dependence on operational continuity and supporting infrastructure throughout the Project lifetime. Planned construction activities involving excavation works, temporary drainage systems, slope modification, and phased development activities may increase temporary sensitivity to heavy rainfall, surface runoff, and localized slope instability during adverse weather conditions.

The level of Project Sensitivity presented in Table X was determined qualitatively by considering the Project location, existing environmental conditions, Project characteristics, and the potential

influence of each climate hazard on construction activities and long-term hospital operations. The sensitivity categories were generally interpreted as follows,

- High Project Sensitivity, climate hazards may directly influence critical hospital functions, operational continuity, emergency access, drainage performance, construction safety, or essential utility systems.
- Medium Project Sensitivity, climate hazards may result in temporary operational disruption, increased infrastructure and utility demand, localized disturbance to Project activities, or temporary reduction in operational efficiency.
- Low Project Sensitivity, climate hazards are considered less relevant to the Project location or are expected to result in relatively limited influence on construction activities and hospital operations

The Project sensitivities to relevant climate-related hazards are summarized in Table below

Climate Hazard	Sensitivity Level	Project Sensitivity
Extreme rainfall and prolonged wet conditions	High	The hospital is located within a high rainfall mountainous area where heavy rainfall may temporarily affect excavation works, slope stability, construction access, temporary drainage performance, and hospital operational access.
Landslide and slope instability	Medium	Sloping terrain and hillside conditions surrounding the Project Area may increase sensitivity to localized slope instability, erosion, and temporary access disruption during prolonged rainfall conditions.
Heat wave and increasing temperature	Medium	Long-term hospital operations may be sensitive to increasing temperature and heat wave conditions due to increased cooling demand, indoor thermal comfort requirements, and dependence on continuous healthcare services for vulnerable groups.
Drought and water availability	Medium	Hospital operations require reliable water supply for sanitation, medical services, cooling systems, and daily operational activities. Future drought conditions and water supply disruption may affect operational continuity.
Strong wind and lightning	Medium	Strong wind, storms, and lightning events may temporarily affect construction safety, outdoor activities, temporary structures, electrical systems, and operational reliability.
Earthquake	High	Hospitals are considered critical infrastructure requiring continuous operation during emergency conditions. Earthquake events may affect structural integrity, utility systems, emergency access, and hospital operational continuity.
Sea level rise, storm surge, and coastal flooding	Not Relevant	The hospital is located within the highland area at a significant elevation (900 masl) and considerable distance from coastal areas. Therefore, direct sensitivity

Climate Hazard	Sensitivity Level	Project Sensitivity
		to sea level rise, storm surge, and coastal inundation is considered not relevant to the Project.
Major fluvial flooding	High	Hospitals are considered highly sensitive to major fluvial flooding due to their dependence on continuous healthcare services, reliable utility systems, and uninterrupted emergency access. Major flooding events may affect access routes, supporting infrastructure, and operational continuity, potentially disrupting critical healthcare services during emergency situations.

Current Exposure

Current exposure screening was prepared using the Swiss Re CatNet hazard assessment and supporting ESIA baseline information for the Project Area.

Hazard	Current Exposure	Score	Current Exposure Level
Fluvial Flood	Considered not relevant due to the Project Area being located outside major fluvial flood hazard zones and within a mountainous inland area. .	-	Outside
Pluvial Flood	Considered not relevant due to the Project Area being located outside major pluvial flood hazard zones and within a mountainous inland area.	-	Outside
Storm Surge	Considered not relevant due to the Project Area being located outside coastal areas and within a mountainous inland area.	-	Outside
Earthquake - Bedrock Conditions	Considered high due to the regional seismic setting of Java Island and the Project Area's location within an active seismic region.	0.291-0.400	High
Earthquake - Local Soil Conditions	Considered high due to local ground response characteristics that may increase seismic intensity within the Project Area.	0.291-0.400	High
Windstorm	Considered low, as the Project Area is not located within a region characterized by significant extreme wind or cyclone hazard conditions.	25-30 m/s	Low
Landslide	Considered low, although localized slope instability may still occur during prolonged rainfall conditions due to the surrounding terrain and sloping topography.	3.99	Low
Wildfire	Considered negligible due to the high rainfall intensity, humid environmental conditions, and generally wet climate characteristics within the Project Area.	1.00	Negligible

Source: Scoring and Exposure Level form Swiss Re - CatNet® Risk Assessment Report

The current exposure screening indicates that the Project Area is generally characterized by relatively low exposure to major flood, coastal, windstorm, and wildfire hazards. However, earthquake exposure is considered relatively high due to the regional seismic setting of Java Island. In addition, the mountainous terrain, sloping topography, and high rainfall characteristics of the Project Area may still contribute to localized surface runoff and slope instability under certain weather conditions. These existing exposure conditions are considered further in the future climate risk assessment and development of Project adaptation measures.

Future Exposure

Future climate exposure for the Project Area was reviewed using Swiss Re climate risk screening under four SSP climate scenarios, namely SSP1-2.6, SSP2-4.5, SSP3-7.0, and SSP5-8.5. The assessment evaluates future exposure trends for several climate-related hazards across nine future time steps from 2030 to 2085. The future climate exposure scores for the Project Area are summarized in Table below.

Tabel The future climate exposure scores

Climate Hazard	Scenario	2030	2035	2040	2045	2050	2055	2060	2070	2085
Heat Wave Score	SSP1-2.6	5.70 (Moderate)	6.30 (Significant)	6.80 (Significant)	7.10 (Significant)	7.40 (Significant)	7.60 (Significant)	7.80 (Significant)	8.00 (Extreme)	8.00 (Extreme)
	SSP2-4.5	5.80 (Moderate)	6.50 (Significant)	7.20 (Significant)	7.80 (Significant)	8.40 (Extreme)	8.80 (Extreme)	9.10 (Extreme)	9.40 (Extreme)	9.60 (Extreme)
	SSP3-7.0	5.80 (Moderate)	6.70 (Significant)	7.50 (Significant)	8.20 (Extreme)	8.80 (Extreme)	9.30 (Extreme)	9.50 (Extreme)	9.80 (Extreme)	9.80 (Extreme)
	SSP5-8.5	6.40 (Significant)	7.20 (Significant)	8.10 (Extreme)	8.80 (Extreme)	9.30 (Extreme)	9.60 (Extreme)	9.80 (Extreme)	9.80 (Extreme)	9.90 (Extreme)
Heat Stress	SSP1-2.6	0.00 (Negligible)	0.00 (Negligible)	0.00 (Negligible)	0.00 (Negligible)	0.00 (Negligible)	0.00 (Negligible)	0.00 (Negligible)	0.00 (Negligible)	0.00 (Negligible)
	SSP2-4.5	0.00 (Negligible)	0.00 (Negligible)	0.00 (Negligible)	0.00 (Negligible)	0.00 (Negligible)	0.00 (Negligible)	0.00 (Negligible)	0.00 (Negligible)	0.00 (Negligible)
	SSP3-7.0	0.00 (Negligible)	0.00 (Negligible)	0.00 (Negligible)	0.00 (Negligible)	0.00 (Negligible)	0.00 (Negligible)	0.00 (Negligible)	0.00 (Negligible)	0.00 (Negligible)

Climate Hazard	Scenario	2030	2035	2040	2045	2050	2055	2060	2070	2085
	SSP5-8.5	0.00 (Negligible)	0.00 (Negligible)	0.00 (Negligible)	0.00 (Negligible)	0.00 (Negligible)	0.00 (Negligible)	0.00 (Negligible)	0.00 (Negligible)	0.00 (Negligible)
Drought Score	SSP1-2.6	4.90 (Moderate)	6.50 (Significant)	7.70 (Significant)	8.80 (Extreme)	9.30 (Extreme)	9.10 (Extreme)	9.30 (Extreme)	9.40 (Extreme)	8.80 (Extreme)
	SSP2-4.5	6.90 (Significant)	8.00 (Extreme)	8.00 (Extreme)	8.80 (Extreme)	8.70 (Extreme)	9.00 (Extreme)	9.10 (Extreme)	9.10 (Extreme)	9.10 (Extreme)
	SSP3-7.0	8.80 (Extreme)	9.20 (Extreme)	9.60 (Extreme)	9.60 (Extreme)	9.50 (Extreme)	9.50 (Extreme)	9.50 (Extreme)	9.60 (Extreme)	9.70 (Extreme)
	SSP5-8.5	7.00 (Significant)	8.50 (Extreme)	8.80 (Extreme)	9.20 (Extreme)	9.50 (Extreme)	9.60 (Extreme)	9.70 (Extreme)	9.80 (Extreme)	9.80 (Extreme)
Extreme Precipitation Score	SSP1-2.6	0.00 (Negligible)	0.00 (Negligible)	0.00 (Negligible)	0.00 (Negligible)	0.00 (Negligible)	0.00 (Negligible)	0.10 (Negligible)	0.10 (Negligible)	0.80 (Negligible)
	SSP2-4.5	0.00 (Negligible)	0.00 (Negligible)	0.00 (Negligible)	0.00 (Negligible)	0.00 (Negligible)	0.00 (Negligible)	0.00 (Negligible)	0.20 (Negligible)	1.10 (Negligible)
	SSP3-7.0	0.00 (Negligible)	0.00 (Negligible)	0.00 (Negligible)	0.00 (Negligible)	0.00 (Negligible)	0.00 (Negligible)	0.10 (Negligible)	0.50 (Negligible)	1.40 (Negligible)
	SSP5-8.5	0.00 (Negligible)	0.00 (Negligible)	0.00 (Negligible)	0.00 (Negligible)	0.10 (Negligible)	0.20 (Negligible)	0.20 (Negligible)	0.40 (Negligible)	2.50 (Minor)

Based on Table above, the key analysis can be summarized as follows:

- Heat wave exposure is projected to increase progressively under all SSP climate scenarios, particularly under SSP2-4.5, SSP3-7.0, and SSP5-8.5 toward the later projection periods. The increasing heat wave scores generally indicate a gradual increase in temperature conditions and frequency of hot days within the Project Area under future climate conditions. Although increasing temperature conditions are projected under future climate scenarios, the Project Area is not expected to experience extremely high temperature conditions comparable to arid or continental climate regions. Due to the tropical highland characteristics of the Project Area, temperature conditions are still expected to fluctuate between daytime and nighttime periods. However, future climate conditions may contribute to longer warm periods and

increasing frequency of hot days, which may gradually increase cooling demand, indoor thermal management requirements, and operational energy demand for hospital facilities.

- In contrast, future heat stress exposure remains categorized as Negligible across all SSP climate scenarios and projection periods. This indicates that although temperature conditions are projected to increase gradually, and number of days with significant temperatures of above 35C will grow, the average number of future climate conditions within the Project Area where maximum temperature in the shade is on average above 32 will remain the same and are generally not expected to reach severe physiological heat stress conditions due to the relatively moderate tropical highland climate characteristics.
- Drought exposure is projected to increase significantly under all future climate scenarios, with several future periods categorized as Extreme. Increasing drought conditions and prolonged dry periods may affect long-term water availability and increase pressure on operational water demand for hospital services and supporting infrastructure.
- Future extreme precipitation exposure is generally projected to remain relatively low within the Project Area. However, localized runoff, drainage congestion, and slope-related disturbance may still occur during heavy rainfall conditions due to the mountainous terrain and steep topography surrounding the Project Area.

As a final result, the current and future climate exposure assessments were combined to identify the main climate-related exposures potentially relevant to the Project. Table X summarizes the comparison between current exposure conditions and projected future exposure under future SSP climate scenarios. The assessment indicates that increasing temperature conditions and prolonged dry periods may become the main long-term climate-related exposures for the Project, while major flood, coastal hazard, and wildfire exposure are generally expected to remain limited within the Project Area.

Hazard	Current Exposure	Projected Future Exposure	Notes
Fluvial Flood	Outside	Outside (All SSPs)	The Project Area is located outside major fluvial flood hazard zones and within a mountainous inland area.
Pluvial Flood	Outside	Outside (All SSPs)	Although the Project Area is generally located outside major pluvial flood hazard zones, temporary localized runoff and drainage congestion may still occur during heavy rainfall conditions due to the surrounding topography.
Storm Surge	Outside	Outside (All SSPs)	The Project Area is located outside coastal areas and is not exposed to storm surge hazards.

Hazard	Current Exposure	Projected Future Exposure	Notes
Heat Wave	Moderate	Significant to Extreme (All SSPs)	Future climate projections indicate increasing temperature conditions and increasing frequency of hot days, particularly under higher emission scenarios and longer-term projection periods.
Heat Stress	Negligible	Remains Negligible (All SSPs)	Despite increasing temperature conditions, the tropical highland characteristics of the Project Area are generally not expected to result in severe physiological heat stress conditions.
Drought	Moderate	Significant to Extreme (All SSPs)	Future climate projections indicate increasing drought conditions and prolonged dry periods that may influence long-term water availability and operational water demand.
Windstorm	Low	Remains Low (All SSPs)	No significant increase in future windstorm exposure is projected for the Project Area.
Landslide	Low	Remains Low to Moderate (All SSPs)	Although regional landslide exposure remains relatively low, prolonged rainfall conditions may still contribute to localized slope instability due to the surrounding terrain and steep topography.
Wildfire	Negligible	Remains Negligible (All SSPs)	High rainfall intensity and humid environmental conditions are expected to continue limiting wildfire exposure within the Project Area.

Material Physical Climate Risks and Potential Adaptation Measures

Climate Risk and Natural Hazard Risk

The material physical climate risk assessment focuses on climate-related hazards considered relevant to the Project based on the future climate exposure screening, Project sensitivity assessment, and Project operational characteristics. Hazards identified as not relevant or negligible during the current and future exposure screening were not assessed further in the detailed future climate risk assessment.

Future climate risk was assessed by considering the combination of future hazard exposure and the sensitivity of the Project infrastructure and operational activities to the identified climate-related hazards. The future climate risk levels were categorized qualitatively into six categories, as follows,

- Very Low, Climate hazard is considered unlikely to significantly influence Project activities or long-term hospital operations.
- Low, Climate hazard may result in limited or localized disturbance to Project activities, with relatively minor influence on operational continuity and supporting infrastructure.

- Moderate, Climate hazard may periodically influence construction activities, operational efficiency, utility systems, or site accessibility, requiring routine adaptation and management measures.
- High, Climate hazard may significantly affect operational continuity, critical infrastructure, healthcare services, utility systems, or long-term Project resilience without appropriate adaptation measures.
- Very High, Climate hazard may result in major operational disruption, substantial infrastructure stress, or prolonged interruption to critical hospital functions under future climate conditions.
- Extreme, Climate hazard may pose severe long-term risk to operational continuity, infrastructure performance, and overall Project resilience under future climate conditions if adaptation measures are not effectively implemented.

For natural hazards where future exposure projections are not available or where the hazard is generally not influenced by future climate change conditions (such as earthquake hazard), the future risk assessment was considered consistent with the current exposure condition. Table below summarizes the main future climate-related risks considered most relevant to the Project under future climate conditions

Hazard	Current Exposure	Future Exposure	Project Sensitivity	Risk Level	Potential Impact To Hospital Operations And Infrastructure
Climate Risk					
Heat Wave	Moderate	Significant to Extreme (All SSPs)	High	High	Increasing temperature conditions and more frequent hot days may increase cooling demand, operational energy consumption, and operational stress on hospital facilities, particularly for vulnerable patients and temperature-sensitive healthcare services.
Heat Stress	Negligible	Remains Negligible (All SSPs)	Medium	Low	Although future heat stress exposure is projected to remain relatively limited, prolonged warm conditions may still contribute to minor increases in indoor cooling demand and temporary thermal discomfort for hospital occupants during hotter periods.

Hazard	Current Exposure	Future Exposure	Project Sensitivity	Risk Level	Potential Impact To Hospital Operations And Infrastructure
Drought	Moderate	Significant to Extreme (All SSPs)	High	High	Prolonged dry periods and increasing drought conditions may affect long-term water availability required to support hospital operations, sanitation systems, cooling demand, and continuous healthcare services.
Extreme Precipitation	Negligible	Negligible to Minor (All SSPs)	High	Medium	Although future extreme precipitation exposure is generally projected to remain limited, heavy rainfall events may still contribute to temporary drainage congestion, localized runoff, slope disturbance, and temporary access disruption within the Project Area.
Fluvial Flood	Outside	Remains Outside (All SSPs)	High	Low	Although regional fluvial flood exposure is considered limited within the Project Area, extreme rainfall events may contribute to increased runoff and elevated water levels within surrounding catchments and drainage systems. As identified under the extreme precipitation assessment, heavy rainfall events may result in temporary drainage congestion, localized runoff, and temporary access disruption. Consequently, while major riverine flooding is not considered a primary climate risk for the Project, indirect flooding-related impacts associated with extreme rainfall events may still affect site accessibility, emergency access routes, and continuity of healthcare services.
Natural Hazard					
Earthquake	High	High	High	High	Earthquakes can cause significant structural and equipment damage, especially if equipment is not properly secured

Proposed of Potential Adaptation Mesaure

Adaptation measures are intended to reduce potential physical climate risks and improve the long-term resilience of the Project under future climate conditions. Potential adaptation strategies may include engineering and design considerations, operational management measures, utility resilience planning, emergency preparedness, and routine maintenance measures to minimize potential disruption to hospital operations and supporting infrastructure.

Based on the climate risk assessment, the main climate-related hazards considered relevant to the Project include increasing temperature conditions, prolonged dry periods, localized heavy rainfall impacts, and other natural hazards relevant to the Project Area. As the Project involves long-term hospital operations requiring continuous healthcare services, stable utility systems, reliable water supply, and uninterrupted operational access, climate resilience considerations remain important to support operational continuity and infrastructure performance throughout the Project lifetime.

Potential adaptation measures relevant to the Project are summarized below.

Hazard	Proposed adaptation measures
Climate Risk	
Heat Wave and Heat Stress	• Ensure adequate cooling and air-conditioning systems are provided for critical healthcare facilities, high-risk patient wards, and temperature-sensitive operational areas, including sufficient backup power capacity during prolonged hot weather conditions. • Incorporate passive cooling measures, natural airflow optimization, external shading, roof insulation, and heat-reducing building materials for non-critical hospital areas to reduce indoor heat accumulation and long-term cooling demand. • Design hospital buildings and operational layouts to maintain indoor thermal comfort for patients, healthcare workers, and visitors during prolonged warm periods and increasing future temperature conditions. • Consider renewable energy integration, such as rooftop solar photovoltaic systems, to support part of the operational electricity demand associated with long-term cooling and hospital operations. • Establish operational procedures and maintenance programs to ensure reliable cooling system performance and operational continuity during periods of increasing temperature and higher cooling demand.
Drought	• Consider rainwater harvesting systems and water storage facilities to support non-potable water demand and provide supplementary water reserves during prolonged dry periods and increasing drought conditions. • Ensure adequate clean water storage capacity and backup water supply systems to support continuous hospital operations, sanitation systems, cooling demand, and healthcare services during periods of reduced water availability. • Implement water-efficient fixtures, leak prevention measures, and routine water management programs to reduce long-term operational water consumption within hospital facilities. • Consider landscape management and selection of drought-tolerant vegetation to minimize irrigation demand and improve long-term water use efficiency within the Project Area. • Consider treated wastewater reuse systems for non-clinical applications such as landscape irrigation, toilet flushing, and other general utility purposes to reduce long-term freshwater demand and improve water resilience during prolonged dry periods. • Establish operational procedures and contingency planning for water supply disruption to maintain operational continuity during prolonged dry conditions and future drought events.
Extreme Precipitation (include fluvial flood)	• Incorporate high-emissions scenario climate change considerations and future rainfall projections into the design capacity of stormwater drainage systems, rainwater retention facilities, and surface runoff management infrastructure • Implement smart rainwater harvesting and temporary storage systems equipped with appropriate filtration to capture excess rainfall • Ensure critical hospital infrastructure, backup power systems, medical storage, emergency access routes, and operational areas are elevated or designed with adequate surface drainage • Incorporate Nature-based Solutions (NbS) alongside engineering controls, such as bio-engineering and vegetation management, within sloping areas surrounding the Project Area to minimize localized slope disturbance

Hazard	Proposed adaptation measures
	• Establish routine inspection, maintenance, and real-time monitoring programs (e.g., smart water level sensors) for stormwater drainage systems
Natural Hazard	
Earthquake	• Ensure the design hospital buildings and supporting infrastructure in accordance with applicable national seismic standards and appropriate international engineering practices to improve structural resilience against earthquake events. • Ensure critical hospital facilities, utility systems, medical equipment, and non-structural components are secured and protected to minimize damage and maintain operational continuity during seismic events. • Provide redundancy and protection measures for critical utility systems, including backup power supply, water storage, oxygen systems, and communication infrastructure, to support emergency hospital operations following major earthquakes. • Maintain safe evacuation routes, emergency access areas, and designated assembly points to support emergency response and operational safety during earthquake events. • Establish emergency preparedness, post-earthquake inspection procedures, and operational continuity planning to support rapid recovery and continuation of critical healthcare services following seismic events.

Note: Potential fluvial flooding impacts are considered to be adequately addressed through the adaptation and management measures proposed for extreme precipitation, given that any flooding-related effects would primarily result from extreme rainfall events affecting surrounding drainage systems and catchments.

Mitigation and Management Measures

Heatwave and heat stress non-structural measures

No.	non-structural Measure	Description	Expected Outcome
1	Cooling System Maintenance	Maintain and periodically inspect air-conditioning, ventilation, and cooling systems within critical hospital areas.	Supports stable indoor temperature conditions and reduces heat-related operational disruption.
2	Backup Power for Cooling Systems	Ensure backup power systems are available to support cooling and ventilation systems during power interruptions and extreme heat conditions.	Maintains cooling system reliability and operational continuity during prolonged hot weather conditions.
3	Indoor Temperature Monitoring	Monitor indoor temperature conditions in patient wards, critical healthcare facilities, and operational areas during periods of elevated temperature.	Supports early identification of overheating conditions and improves thermal comfort management.

No.	non-structural Measure	Description	Expected Outcome
4	Heat-Related Operational Procedures	Establish operational procedures and work arrangements during prolonged hot weather conditions, particularly for vulnerable patients and hospital staff.	Reduces heat-related operational stress and improves occupational safety.
5	Hydration and Thermal Comfort Measures	Provide adequate hydration facilities, shaded rest areas, and thermal comfort management for staff, patients, and visitors.	Reduces heat-related discomfort and supports health protection during hot weather conditions.
6	Preventive Maintenance Program	Conduct routine preventive maintenance for cooling equipment, ventilation systems, and supporting utilities.	Improves long-term cooling system performance and operational reliability.
7	Heat Emergency Preparedness	Establish emergency preparedness procedures for extreme heat conditions and potential heat-related health incidents.	Supports rapid response and operational readiness during prolonged heat events.

Drought Adaptation Measures

No.	Mitigation / Management Measure	Description	Expected Outcome
1	Water Consumption Monitoring	Conduct routine monitoring of water consumption, storage capacity, and operational water demand within hospital facilities.	Supports efficient water management and early identification of abnormal water usage.
2	Water Conservation Measures	Implement water-saving practices and operational water efficiency measures within hospital facilities and supporting infrastructure.	Reduces long-term operational water demand during prolonged dry periods.
3	Water Supply Contingency Planning	Establish contingency procedures and alternative water supply arrangements during emergency drought conditions or temporary water supply disruption.	Supports continuity of hospital operations and critical healthcare services during water shortage conditions.
4	Routine Inspection of Water Systems	Conduct regular inspection and maintenance of water distribution systems, storage facilities, and pipelines to minimize leakage and water loss.	Improves reliability and efficiency of hospital water supply systems.
5	Water Quality Monitoring	Monitor water quality and storage conditions for backup water supply systems and stored water reserves.	Maintains water quality and operational safety for hospital use.
6	Operational Water Prioritization	Establish operational procedures for prioritization of critical water usage during prolonged dry periods.	Supports continued operation of essential healthcare services during limited water availability.

Extreme Precipitation Adaptation non-structural measures Measures

No.	Mitigation / Management Measure	Description	Expected Outcome
1	Drainage Inspection and Maintenance	Conduct routine inspection and maintenance of stormwater drainage systems, retention facilities, and runoff channels within the Project Area.	Maintains drainage performance and reduces temporary water accumulation during heavy rainfall events.
2	Rainfall and Drainage Monitoring	Monitor rainfall forecasts, site runoff conditions, and drainage system performance during periods of intense rainfall.	Supports early identification of localized flooding and drainage overflow conditions.
3	Emergency Response Procedures for Heavy Rainfall	Establish emergency response procedures for temporary flooding, drainage congestion, and localized access disruption during extreme rainfall events.	Improves operational preparedness and reduces disruption to hospital activities during severe weather conditions.
4	Protection of Critical Infrastructure	Ensure critical utility systems, emergency access routes, and sensitive operational areas are protected from temporary runoff and water intrusion during heavy rainfall conditions.	Reduces risk of operational disruption and damage to critical hospital infrastructure.
5	Runoff and Sediment Control Measures	Implement temporary runoff control and erosion prevention measures within exposed or sloping areas of the Project Area.	Reduces localized erosion, sediment transport, and slope disturbance during prolonged rainfall events.
6	Routine Emergency Access Management	Maintain accessibility of emergency access routes and internal circulation areas during periods of intense rainfall.	Supports continuity of emergency response and hospital operational access during severe weather events.

Earthquake non-structural Measures

No.	Mitigation / Management Measure	Description	Expected Outcome
1	Emergency Preparedness Plan	Develop and communicate earthquake emergency response and evacuation procedures for hospital staff, patients, and visitors.	Supports organized emergency response and reduces safety risks during earthquake events.

No.	Mitigation / Management Measure	Description	Expected Outcome
2	Regular Emergency Drills	Conduct periodic earthquake drills and emergency response exercises for hospital personnel and supporting staff.	Improves preparedness and emergency response capability during seismic events.
3	Structural Seismic Design	Ensure hospital buildings and supporting infrastructure are designed in accordance with applicable seismic design standards.	Improves structural resilience and reduces risk of severe structural damage.
4	Protection of Critical Equipment	Secure critical medical equipment, utility systems, and hazardous material storage against seismic movement and vibration.	Minimizes damage to critical hospital assets and supports operational continuity.
5	Backup Utility Systems	Provide backup power supply, water storage, and emergency communication systems for critical hospital operations.	Maintains essential healthcare services during utility disruption following earthquakes.
6	Emergency Communication System	Establish emergency communication procedures and reliable coordination systems during seismic emergencies.	Supports timely emergency coordination and operational response.
7	Post-Earthquake Inspection Procedures	Establish inspection and operational recovery procedures following significant earthquake events.	Supports rapid safety assessment and continuation of critical hospital operations.

The Summary of Adaptation Analysis presents an overview of the main climate-related hazards, potential impacts, and adaptation measures relevant to the RS Goenawan development project. The assessment focuses on the key climate-related hazards identified through the climate risk screening, including heat wave and heat stress, drought, extreme precipitation, and earthquake hazards.

The analysis considers the potential influence of these hazards on demolition and construction activities, hospital buildings and healthcare facilities, supporting utility systems, and long-term hospital operations. Adaptation measures were identified to support infrastructure resilience, operational continuity, utility reliability, emergency preparedness, and long-term climate resilience throughout the Project lifetime.

Climate Hazards, Impacts, and Adaptation Measures

Components / Work Package	Climate Hazards, Impacts, and Adaptation Measures							
	Heat Wave / Heat Stress		Drought		Extreme Precipitation		Earthquake	
	Key Climate Impacts	Adaptation Measures	Key Climate impacts	Adaptation Measures	Key Climate impacts	Adaptation Measures	Key impacts	Adaptation Measures
Demolition and Construction Activities	Prolonged hot weather conditions may increase worker heat exposure, fatigue, and reduced productivity during outdoor construction activities.	Implement work-rest arrangements, shaded rest areas, hydration facilities, and heat exposure management procedures during hot weather conditions.	Prolonged dry periods may reduce temporary water availability for construction activities, dust suppression, and sanitation needs.	Maintain temporary water storage, monitor water usage, and prepare contingency water supply arrangements during prolonged dry conditions.	Heavy rainfall may contribute to temporary runoff, localized flooding, drainage congestion, and disruption to construction access and earthwork activities.	Maintain temporary drainage systems, runoff control measures, erosion protection, and rainfall emergency response procedures during construction activities.	Earthquake events may affect temporary structures, construction safety, and construction access within the Project Area.	Implement construction safety procedures, emergency evacuation plans, equipment securing measures, and emergency response drills during construction activities.
Hospital Buildings and Healthcare Facilities	Increasing temperature conditions and prolonged hot days may increase cooling demand, indoor thermal stress, and operational pressure on critical healthcare facilities.	Apply energy-efficient HVAC systems, passive cooling strategies, thermal insulation, shading systems, and backup power supply for cooling systems.	Increasing drought conditions may affect long-term water availability required to support sanitation systems, cooling demand, and healthcare services.	Incorporate rainwater harvesting systems, water storage facilities, water reuse systems for non-clinical purposes, and water efficiency measures.	Heavy rainfall may contribute to temporary drainage congestion, localized runoff, and disruption to internal circulation and emergency access.	Incorporate climate-resilient drainage systems, runoff retention facilities, rainwater harvesting systems, and emergency access protection measures.	Earthquake events may affect structural integrity, critical equipment, utility systems, and operational continuity of hospital facilities.	Ensure hospital buildings and critical infrastructure are designed in accordance with applicable seismic standards and emergency operational requirements.
Utility Systems and Supporting Infrastructure	Increasing temperature conditions may increase operational stress on cooling systems and electricity demand.	Consider energy-efficient utility systems, renewable energy integration, and preventive maintenance programs for cooling infrastructure.	Reduced long-term water availability may affect utility systems and supporting operational infrastructure requiring continuous water supply.	Maintain backup water storage capacity, monitor operational water demand, and establish contingency water supply procedures.	Extreme rainfall events may affect utility systems, stormwater management performance, and temporary site accessibility	Design stormwater systems considering future climate projections and maintain routine inspection and maintenance programs	Earthquake events may disrupt power supply, water systems, communication systems, and other critical utilities.	Provide backup utility systems, emergency communication systems, and operational continuity procedures for critical infrastructure.
Hospital Operations	Heat wave conditions may	Establish heat emergency	Drought conditions may affect long-	Implement water conservation	Temporary heavy rainfall events may	Maintain emergency preparedness	Earthquake events may disrupt hospital	Maintain emergency preparedness plans,

Components / Work Package	Climate Hazards, Impacts, and Adaptation Measures							
	Heat Wave / Heat Stress		Drought		Extreme Precipitation		Earthquake	
	Key Climate Impacts	Adaptation Measures	Key Climate impacts	Adaptation Measures	Key Climate impacts	Adaptation Measures	Key impacts	Adaptation Measures
	increase heat-related discomfort and operational stress for patients, healthcare workers, and visitors.	preparedness procedures and maintain thermal comfort management measures for patients and staff.	term operational water demand and continuity of healthcare services requiring stable water supply.	measures, monitor operational water use, and maintain emergency water supply planning for critical hospital operations.	affect operational access, circulation, and emergency response activities.	procedures and operational response plans during heavy rainfall conditions.	operations, emergency services, and healthcare response activities.	evacuation procedures, routine emergency drills, and post-earthquake operational recovery procedures.

Annex B - Labour Management Plan

B1. Introduction

Rumah Sakit Goenawan Partowidigdo(RSGP) is a government hospital under the Ministry of Health located at Jalan Raya Puncak KM 83, Desa Cibeureum, Kecamatan Cisarua, Kabupaten Bogor, West Java. The RSGP redevelopment is part of the TRUST Project financed by the Asian Infrastructure Investment Bank (AIIB). The project aims to expand and improve the quality of services in government-owned teaching hospitals, while strengthening RSGP as a pulmonary and respiratory referral, teaching, training, and research hospital.

The civil works include the development of Building A (Goenawan Integrated Emergency and Diagnostic Center), Building B (Goenawan Advanced Patient Care Center), Building C (Goenawan General Patient Care Center), and Building J-M (Goenawan Research and Training Center), together with related medical and non-medical equipment, human capital investment, information technology, and project management support. The project will be implemented inside an active hospital campus and therefore requires strict control of labour, occupational health and safety, worker conduct, community interaction, infection prevention, traffic, access, and service continuity risks.

This Labour Management Plan (LMP) translates the labour and working-condition requirements applicable to RSGP into practical procedures for the pre-construction, construction, commissioning, and early operational phases. It is a living document. It must be updated after final DED, before contractor mobilisation, and whenever there is a material change in contractor organisation, workforce size, worker accommodation, subcontracting chain, construction method, or project risk profile.

B2. Purpose and Objectives

This LMP is prepared to achieve the following objectives: To establish clear standards, procedures, and responsibilities for labor management across all project phases

- To ensure compliance with applicable Indonesian labor laws and AIIB ESF requirements
- To protect the rights, health, safety, and dignity of all workers engaged in the RSST project
- To prevent and address occupational health and safety (OHS) hazards and incidents
- To prevent and respond to Sexual Exploitation, Abuse, and Harassment (SEAH) in the workplace
- To provide an accessible, fair, and confidential grievance redress mechanism for all workers
- To monitor, evaluate, and report on labor management performance throughout the project
- To prevent and manage HIV and other sexually transmitted infection (STI) risks among project workers through non-stigmatizing education, access to prevention measures, voluntary and confidential counselling and testing, timely medical referral and treatment, and protection against discrimination.

B3. Scope of Application

This LMP applies to all workers involved in the RSST Reconstruction and Development Project across three phases. The categories of workers covered under this LMP are as follows:

B3.1 Pre-Construction Phase Workers

Workers engaged during the pre construction phase include:

- Environmental and social assessment consultants and specialists
- Survey and mapping field teams
- Land and asset assessment officers
- Community consultation and stakeholder engagement facilitators
- Design engineers and architectural consultants
- Government officials from the Project Implementation Unit (PIU) and hospital management

B3.2 Construction Phase Workers

Workers engaged during the construction phase include:

- Civil works contractors and subcontractors
- Skilled laborers: masons, carpenters, electricians, plumbers, welders
- Unskilled general laborers
- Construction supervisors and site engineers
- Procurement and logistics personnel
- Medical waste and hazardous material handling workers
- Security and safety officers assigned to the construction site

B3.3 Operation Phase Workers

Workers engaged during the operation phase include:

- Permanent hospital staff: doctors, nurses, midwives, pharmacists, radiographers, and laboratory technicians
- Administrative and support staff
- Facility management and maintenance workers
- Medical waste and sanitation workers
- Security personnel
- Contracted service providers (catering, laundry, cleaning services)
- Temporary or seasonal workers hired for facility operations

B4. Legal Frameworks

This LMP is formulated based on the following national and international legal and regulatory frameworks:

B4.1 National Legal Frameworks

- Law No. 13 of 2003 on Manpower (Undang Undang Ketenagakerjaan): governs employment contracts, wages, working hours, rest periods, termination, and workers rights
- Law No. 1 of 1970 on Work Safety (Keselamatan Kerja): establishes mandatory occupational safety requirements for all workplaces
- Law No. 24 of 2011 on the Social Security Agency (BPJS): requires all workers to be enrolled in social security programs covering health, occupational accidents, old age, pension, and death
- Government Regulation No. 50 of 2012 on the Implementation of the Occupational Safety and Health Management System (SMK3): requires implementation of OHS management systems for all workplaces with 100 or more employees or high risk activities
- Minister of Manpower Regulation No. 5 of 2018 on OHS in the Work Environment: specifies OHS standards including ergonomics, hazardous chemicals, and physical work environment parameters
- Law No. 12 of 2022 on Sexual Violence Crimes (TPKS): provides comprehensive legal protection against sexual violence including in the workplace
- Law No. 36 of 2009 on Health: provides the basis for occupational health standards in health service institutions
- Presidential Regulation No. 21 of 2010 on Labor Inspection: establishes the framework for monitoring compliance with labor laws and regulations
- Minister of Public Works Regulation No. 14 of 2020 on Standards and Technical Guidelines for Construction Services: includes OHS requirements specifically for construction works

B4.2 AIIB Environmental and Social Framework (ESF) and Other International Best Practices

- AIIB Environmental and Social Policy (ESP) 2021: the overarching framework requiring all AIIB financed projects to meet environmental and social standards throughout the project cycle
- The World Bank ESF of Environmental and Social Standard 2 (ESS2) on Labor and Working Conditions: the primary standard governing labor management, covering terms and conditions of employment, protection of the workforce, OHS, child labor, forced labor, and the grievance mechanism for workers
- World Bank ESF of Environmental and Social Standard 4 (ESS4) on Community Health, Safety, and Security: relevant to construction activities that may impact surrounding community health and safety
- IFC Performance Standard 2 on Labor and Working Conditions: referenced as an international good practice standard for labor management in development projects
- International Labour Organization (ILO) Core Labor Standards: including conventions on freedom of association, collective bargaining, elimination of forced labor, abolition of child labor, and elimination of discrimination in employment

- World Bank Environmental, Health and Safety (EHS) Guidelines for Health Care Facilities: applicable during both construction and operation phases

B5. Potential Labor Risks

Based on the nature of the project and the types of workers involved, the following labor risks have been identified across the three project phases. Mitigation measures are also proposed for each risk category.

B5.1 Occupational Health and Safety (OHS) Risks

Risk: Workers face potential injuries, illnesses, and fatalities due to physical hazards at construction sites including falls from height, struck by objects, electrical hazards, exposure to dust, noise, and hazardous chemicals. Medical staff face exposure to infectious diseases, needle stick injuries, and patient handling injuries during operation.

Mitigation measures:

- Develop and implement a site specific OHS Management Plan (OHS MP) aligned with Government Regulation No. 50 of 2012 on SMK3
- Conduct regular OHS induction training for all workers prior to commencing work
- Provide adequate and appropriate Personal Protective Equipment (PPE) to all workers free of charge
- Establish and enforce site safety protocols including permit to work systems for high risk activities
- Conduct regular site safety inspections and risk assessments
- Establish emergency response procedures and first aid facilities at all work sites
- Ensure all workers are registered with BPJS Ketenagakerjaan covering work accident insurance (JKK)

B5.2 Child Labor and Forced Labor Risks

Risk: The use of child labor or forced labor may occur through contractor and subcontractor chains, particularly among unskilled workers during construction.
Mitigation measures:

- Establish a minimum age requirement of 18 years for all construction workers
- Require all contractors and subcontractors to submit worker identity documents as part of contract compliance
- Conduct periodic audits of contractor workforce to verify age compliance
- Prohibit deduction of wages as a debt repayment mechanism or any practice amounting to forced labor
- Include anti child labor and ant forced labor clauses in all contractor and subcontractor agreements

B5.3 Discrimination and Non Inclusion Risks

Risk: Workers from marginalized groups including women, persons with disabilities, and migrant workers may face discriminatory hiring practices or unequal treatment in the workplace.
Mitigation measures:

- Adopt and enforce a non discrimination policy in all recruitment, promotion, and compensation processes
- Ensure equal pay for equal work regardless of gender, ethnicity, religion, or disability
- Provide gender sensitive facilities at work sites including separate toilets, rest rooms, and breastfeeding areas
- Include gender and inclusion awareness in worker induction programs
- Track and report on gender disaggregated data for workforce composition

B5.4 Sexual Exploitation, Abuse, and Harassment (SEAH) Risks

Risk: The presence of an influx of construction workers near the hospital and surrounding communities increases the risk of sexual harassment, exploitation, and gender-based violence, particularly affecting women workers and community members.
Mitigation measures:

- Develop and enforce a SEAH prevention and response policy applicable to all project workers
- Require all workers to sign the Worker Code of Conduct that includes SEAH prohibitions
- Provide mandatory SEAH awareness training to all workers at induction and periodically thereafter
- Establish a confidential SEAH reporting channel accessible to all workers and community members
- Implement zero tolerance policy with clear consequences for perpetrators including dismissal and referral to legal authorities
- Ensure worker accommodations are separate from community living areas where possible
- Integrate accurate, culturally appropriate and non-stigmatizing HIV/STI information into worker induction and periodic SEAH training, covering transmission, prevention, testing, treatment and available support services.
- Protect all medical and grievance information. HIV status must not be recorded in general grievance registers or disclosed to supervisors without the individual's informed consent.
- Establish a confidential referral arrangement with RSGP and/or designated HIV/STI service providers confirmed with Dinas Kesehatan Kabupaten Bogor and the relevant Puskesmas.

B5.6 Labor Contract and Wage Related Risks

Risk: Workers engaged directly by Hospital, Contractors, and Sub-contractors or could be engaged by third party (labor recruiters company). This engagement may face irregular or delayed wage payments, unclear contractual terms, illegal deductions, or absence of formal employment contracts, particularly workers hired through third party or subcontractors.

Mitigation measures:

- Ensure all workers receive written employment contracts prior to commencement of work in a language they understand
- Ensure wages comply with or exceed the applicable regional minimum wage (UMP or UMK) at all times
- Prohibit any unauthorized wage deductions not provided for by law or agreed upon in writing
- Establish a clear and timely wage payment schedule and enforce it across all contractors
- Maintain worker payroll records available for inspection by the PIU and relevant authorities

B6. Roles and Responsibilities

The implementation of this LMP requires clear division of roles and responsibilities across key parties. The following matrix outlines the responsibilities of the main actors:

No	Responsibility Area	Hospital Management and PIU	Contractors and Subcontractors
1	LMP Preparation and Update	Lead preparation and update of LMP. Ensure LMP aligns with national law and AIIB ESF.	Implement LMP requirements in contractor operations.
2	Worker Recruitment	Oversee recruitment practices. Ensure non discriminatory hiring policies are applied.	Conduct recruitment in compliance with LMP. Submit worker lists to PIU for review.
3	Employment Contracts and Wages	Verify all workers have valid contracts. Monitor wage compliance.	Issue written contracts to all workers. Pay wages on time and at or above minimum wage.
4	OHS Management	Approve site OHS plans. Monitor OHS performance. Respond to OHS incidents.	Develop and implement site OHS plan. Provide PPE. Conduct OHS induction training.
5	SEAH Prevention and Response	Adopt SEAH policy. Oversee implementation. Receive and investigate SEAH complaints.	Enforce Code of Conduct. Ensure SEAH training for all workers. Report SEAH incidents to PIU.
6	Grievance Redress Mechanism	Establish and maintain worker GRM. Ensure all workers know how to access GRM.	Inform workers of GRM. Assist workers in submitting grievances. Participate in GRM process.
7	Monitoring and Reporting	Monitor contractor compliance. Prepare quarterly LMP progress reports for AIIB.	Submit monthly labor management reports to PIU. Maintain records of all workers.

B7. Proposed Policies and Procedures

B7.1 Employment and Terms of Work Policy

- All workers must receive written employment contracts before commencing work. Contracts shall specify the nature of work, duration, wages, working hours, and applicable benefits.
- Working hours shall not exceed 8 hours per day and 40 hours per week as stipulated in Law No. 13 of 2003. Overtime shall be compensated in accordance with the applicable law.
- Wages shall be paid regularly on a monthly or agreed schedule and shall not fall below the applicable regional minimum wage.
- Workers shall be entitled to annual leave, sick leave, and religious holiday allowance (THR) as provided under national law.
- All workers shall be registered with BPJS Kesehatan and BPJS Ketenagakerjaan upon commencement of employment.

B7.2 Child Labor and Forced Labor Policy

- The minimum age for employment on this project is 18 years. No child labor shall be permitted under any circumstances.
- No form of forced or compulsory labor shall be used on this project. Workers shall be free to leave employment upon providing reasonable notice.
- All contractors and subcontractors must include anti child labor and anti forced labor provisions in their worker agreements and comply with all verification requirements.

B7.3 OHS Policy and Procedures

- The project shall implement an OHS Management Plan compliant with Government Regulation No. 50 of 2012 on SMK3 and the AIIB ESF standards.
- OHS induction training is mandatory for all workers before commencing any work activities. Refresher training shall be conducted every six months.
- All construction sites shall display safety signage, emergency contacts, and evacuation routes in Bahasa Indonesia.
- Incident reporting is mandatory. All accidents, near misses, and occupational illnesses must be reported to the site OHS officer within 24 hours of occurrence.
- A safety data sheet (SDS) shall be maintained for all hazardous substances used on site and shall be accessible to all relevant workers.

B7.4 SEAH Prevention Policy

- All workers shall sign and adhere to the Worker Code of Conduct prior to commencing work. The Code explicitly prohibits all forms of sexual harassment, exploitation, and abuse.
- Mandatory SEAH awareness training shall be provided to all workers during induction and at least once annually thereafter.
- Any allegation of SEAH shall be treated as a serious matter, investigated promptly and confidentially, and reported to the PIU and relevant authorities.
- Survivors of SEAH shall be provided access to appropriate support services including medical and psychosocial support.

B7.5 Freedom of Association and Collective Bargaining

- Workers have the right to form and join workers organizations and to bargain collectively in accordance with national law and ILO core conventions.
- No worker shall be penalized, discriminated against, or terminated for exercising their rights to freedom of association or collective bargaining.
- Where freedom of association is restricted by national law, workers shall be allowed to elect worker representatives to communicate workplace concerns to management.

B8. Workers Grievance Redress Mechanism (GRM)

A dedicated Workers Grievance Redress Mechanism (GRM) is established to allow all workers to raise concerns, complaints, or grievances in a safe, accessible, and confidential manner. The GRM is distinct from the community grievance mechanism and is specifically designed for project workers.

B8.1 Principles of the Workers GRM

- Accessibility: The GRM shall be accessible to all workers regardless of literacy level, gender, or employment status
- Confidentiality: The identity of complainants shall be protected unless the complainant consents to disclosure
- Non retaliation: Workers who submit grievances in good faith shall be protected from retaliation of any kind
- Transparency: Workers shall be informed of the outcome of their grievance at each step of the process
- Timely resolution: All grievances shall be addressed within established timeframes

B8.2 Grievance Submission Channels

Workers may submit grievances through the following channels:

- Verbal: Directly to the site Grievance Focal Point (GFP) or OHS Officer
- Written: Using the Grievance Form available at the site office and welfare facilities
- Suggestion box: Anonymous suggestion boxes placed at accessible locations on site
- Hotline: A designated grievance phone number or WhatsApp contact managed by the PIU
- Email: Dedicated grievance email address managed by the PIU Environmental and Social Officer

B8.3 Grievance Resolution Steps and Responsible Persons

The grievance resolution process follows five sequential steps:

Step	Action	Responsible Person	Timeframe
Step 1: Grievance Receipt and Registration	Worker submits grievance through any available channel. Grievance is recorded in the Grievance Register with date, details, and contact of complainant.	Site Grievance Focal Point (GFP) or PIU Environmental and Social Officer	Within 2 working days of receipt
Step 2:	Complainant is notified that	Site GFP in	Within 3 working

Step	Action	Responsible Person	Timeframe
Acknowledgement	their grievance has been received and assigned a reference number. An initial response is provided.	coordination with Contractor Management	days of receipt
Step 3: Investigation and Assessment	The grievance is reviewed and investigated. Additional information may be requested. Site visit or meeting with relevant parties may be conducted.	PIU Environmental and Social Officer and relevant department heads	Within 7 working days of acknowledgement
Step 4: Resolution and Response	A proposed resolution is communicated to the complainant. If the complainant accepts, the grievance is closed. If not accepted, escalation occurs.	PIU Project Manager and Contractor Management	Within 14 working days of receipt
Step 5: Escalation and External Referral	If the worker is not satisfied with the resolution, the grievance is escalated to AIIB or relevant government labor authority. Workers may also seek recourse through the national legal system.	AIIB Accountability Mechanism or Ministry of Manpower (Dinas Ketenagakerjaan)	As required

B9. Evaluation

Regular evaluation of the LMP implementation shall be conducted to assess effectiveness, identify gaps, and make necessary improvements. The following evaluation activities shall be undertaken:

- Monthly internal monitoring: The PIU Environmental and Social Officer shall conduct monthly monitoring visits to construction sites to assess LMP compliance. Findings shall be documented in a monitoring log.
- Semi annual evaluation: A comprehensive evaluation of LMP implementation shall be conducted every six months, covering all risk areas including OHS, labor rights, SEAH prevention, and the GRM.
- Annual performance review: An annual review of the LMP shall be conducted by the PIU together with the Hospital Management and key contractors to assess progress against LMP objectives and revise the plan as needed.
- Incident review: All OHS incidents, grievances, and SEAH cases shall be reviewed and documented as part of a corrective action process. Root cause analysis shall be conducted for serious incidents.
- Worker feedback surveys: Anonymous surveys shall be conducted at least once annually to obtain workers perspectives on working conditions, OHS, and the grievance mechanism.

Key Performance Indicators (KPIs)

- Number of OHS incidents (total, by type, and severity) per month
- Percentage of workers who have received OHS induction training
- Percentage of workers with valid written employment contracts
- Percentage of workers enrolled in BPJS Kesehatan and BPJS Ketenagakerjaan
- Number of grievances received, resolved, and pending per reporting period
- Number of SEAH complaints and percentage resolved satisfactorily
- Gender disaggregated breakdown of workforce composition
- Number of child labor or forced labor violations identified and remediated

B10. Reporting

Reporting on LMP implementation is a mandatory obligation under the AIIB ESF and is essential for demonstrating compliance and accountability. The following reporting requirements apply:

- Contractor Monthly Labor Report: All contractors shall submit a monthly labor management report to the PIU by the 5th of every following month. The report shall cover: number of workers by type and gender, OHS incidents and near misses, grievances received and status, training activities conducted, and wage payment status.
- PIU Quarterly Environmental and Social Progress Report: The PIU shall prepare a quarterly Environmental and Social Progress Report to be submitted to AIIB. The LMP implementation section shall include a summary of all monitoring findings, KPI performance, grievance statistics, and any corrective actions taken.
- Incident and Emergency Report: Any serious OHS incident (fatality, permanent disability, or hospitalization), SEAH complaint, or significant labor grievance shall be reported to AIIB within 48 hours of occurrence using the AIIB incident reporting form.Annual LMP Review Report: An annual report summarizing the overall performance of the LMP implementation, lessons learned, and proposed updates to the LMP for the following year shall be prepared by the PIU and submitted to AIIB.
- LMP Completion Report: At the end of each project phase, a phase completion report shall document all labor management activities, outcomes, and remaining issues to be addressed in the next phase.

Record Keeping

- All labor management records shall be maintained for a minimum of 5 years after project completion and shall be available for review by AIIB upon request
- Records to be maintained include: worker contracts, payroll records, BPJS registration documents, OHS training attendance sheets, incident reports, grievance register, and evaluation reports
- Records shall be stored securely with appropriate data protection measures to safeguard personal information of workers

B11. Worker Code of Conduct

Self Assessment Checklist on OHS and SEAH

This self assessment checklist is to be completed by every worker at RSST Project prior to commencing work and reviewed periodically. Please tick the appropriate response for each statement. This checklist serves as your personal commitment to uphold safe, respectful, and ethical conduct at all times during your engagement with this project.

Worker Name: _____
Position or Role: _____
Employer or Contractor: _____
Date: _____

PART A: Occupational Health and Safety (OHS)For each statement below, please mark: Y = Yes (I comply) | N = No (I do not comply yet) | NA = Not Applicable to my role

No.	Statement	Y	N	NA
1	I always wear the required PPE (helmet, safety shoes, vest, gloves, mask) when working in the project site			
2	I have attended and understood the OHS induction training before starting work			
3	I know the location of the nearest first aid kit, fire extinguisher, and emergency exit			
4	I report unsafe conditions, near misses, or accidents to my supervisor immediately			
5	I do not perform work activities while under the influence of alcohol or drugs			
6	I follow all site safety rules and procedures as instructed by my supervisor and safety officer			
7	I use tools and equipment only for their intended purpose and ensure they are in good working condition			
8	I participate in all mandatory OHS trainings and toolbox meetings			
9	I keep my work area clean and orderly to prevent accidents (housekeeping)			
10	I understand the emergency procedures and the evacuation assembly point			

PART B: Sexual Exploitation, Abuse, and Harassment (SEAH)

Please read and self assess against each statement below:

No.	Statement	Y	N	NA
1	I have read and signed the Worker Code of Conduct and I understand its requirements			

No.	Statement	Y	N	NA
2	I understand that sexual harassment, sexual exploitation, and sexual abuse are strictly prohibited and will result in disciplinary action			
3	I treat all colleagues, patients, community members, and stakeholders with dignity and respect regardless of gender, ethnicity, religion, or disability			
4	I will report any incident of sexual harassment, exploitation, or abuse that I witness or am subjected to through the available grievance channel			
5	I understand the confidential reporting channels available to me and know how to access them			
6	I will not engage in or condone discriminatory or offensive language, gestures, or behavior in the workplace			
7	I will not use my position to coerce, demand, or receive sexual favors in exchange for employment benefits or preferential treatment			
8	I commit to supporting and not retaliating against any worker who reports a SEAH incident in good faith			

Declaration and Signature

I, the undersigned, declare that I have read, understood, and committed to uphold the Worker Code of Conduct as stated in this document. I understand that any violation of this Code may result in disciplinary action, including immediate termination of employment and, where applicable, referral to law enforcement authorities.

Worker Signature: _____ Date: _____

Supervisor or GFP Signature: _____ Date: _____

Witness Name and Signature: _____ Date: _____

B12. Summary List Of Personal Protective Equipment (Ppe)

The following matrix summarizes the required PPE categories, items, and their functions for workers at the RSST Reconstruction and Development Project. All workers shall be provided with appropriate PPE free of charge. Workers are required to always use PPE correctly when in designated work areas.

No.	Category	PPE Items	Function
1	Head Protection	Safety helmet (hard hat)	Protects the head from falling objects, bumps, and impact injuries at construction sites
2	Foot Protection	Safety boots or safety shoes with steel toe cap and puncture resistant sole	Protects feet from crushing injuries, punctures, and slips on wet or uneven surfaces
3	Eye and Face Protection	Safety goggles, safety glasses, face shield	Protects eyes and face from dust, debris, chemical splashes, sparks, and UV radiation during welding or cutting operations
4	Hand Protection	Construction gloves (heavy duty), chemical resistant gloves, cut resistant gloves, latex gloves (for medical staff)	Protects hands from cuts, abrasions, chemical exposure, heat, and infection
5	Hearing Protection	Ear plugs, ear muffs	Protects hearing from excessive noise levels exceeding 85 dB produced by heavy machinery, jackhammers, and drilling
6	Respiratory Protection	Dust mask (N95 or equivalent), respirator with appropriate cartridge, surgical mask (for medical staff)	Protects respiratory system from dust, harmful fumes, chemical vapors, asbestos, cement dust, and airborne biological hazards
7	Body and High Visibility Protection	High visibility (hi vis) safety vest, coveralls, chemical protective suit	Increases worker visibility to equipment operators and drivers, protects body from minor impacts, chemical splash, and contamination
8	Fall Protection	Safety harness, lanyard, lifeline, anchor point equipment	Prevents and arrests falls when working at height (above 1.8 meters). Mandatory for all work involving scaffolding, ladders, or elevated platforms
9	Electrical Hazard Protection	Insulated rubber gloves, insulated tools, arc flash protective clothing	Protects workers from electrical shock, arc flash burns, and electrocution during electrical installation and maintenance works
10	Medical and Biological Hazard Protection (Operation Phase)	Gown or apron, face mask, latex gloves, shoe covers, head cover, goggles or face shield (for medical staff and waste handlers)	Protects medical and clinical staff from exposure to bloodborne pathogens, infectious agents, bodily fluids, and contaminated medical waste

Annex C - Stakeholder Engagement Plan (SEP)

Annex C 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, kabupaten, kecamatan, desa), community, professional, academic, civil society, media, per Chapter 9 mapping.
- Phase 1 calendar, May-August 2026.
- Phase 2 calendar, post disclosure window (target September-November 2026).
- Vulnerable group provisions, TB / MDR-TB peer groups, People Living with HIV (PLHIV) peer groups, women's groups, PWD networks.

RS Goenawan Partowidigdo Cisarua Bogor

C.1 Purpose

This Stakeholder Engagement Plan (SEP) provides the approach for informing, consulting, recording, and responding to stakeholders during the preparation, disclosure, construction, and operation of the RSGP redevelopment project. The SEP supports the ESIA-ESMP by ensuring that affected people, hospital users, government institutions, vulnerable groups, professional groups, and other interested parties are involved in a timely, inclusive, and documented manner.

The SEP focuses on key project issues, including construction traffic, hospital access, service continuity, dust, noise, vibration, drainage, medical waste, wastewater, worker conduct, patient safety, gender and disability inclusion, and grievance handling.

C.2 Engagement Objectives

The objectives of stakeholder engagement are to,

1. Inform stakeholders about the project scope, schedule, risks, mitigation measures, and grievance mechanism.
2. Obtain feedback from affected and interested stakeholders before key decisions are finalised.
3. Ensure vulnerable groups are consulted in a safe and accessible way.
4. Support project design, construction planning, service continuity, ESMP implementation, and monitoring.
5. Record issues raised and show how the project responds to them.

C.3 Key Stakeholders

STAKEHOLDER CATEGORY	STAKEHOLDERS
National government and lender	Ministry of Health, PMU/PIU TRUST, AIIB
Provincial government	West Java Provincial Government, DLH Province, Bappeda Province, cultural heritage agencies West Java Provincial Health Office
Kabupaten government	Bappeda Kabupaten Bogor, DLH, Dinas Kesehatan, Dinas Perhubungan, Tenaga Kerja, DPMPTSP, PUPR,
Local government	Kecamatan Cisarua, Desa Cibeureum, BPD, RT/RW, community leaders
Hospital stakeholders	RSGP management, doctors, nurses, staff, cleaners, waste handlers, security, students, contractors
Patients and caregivers	Outpatients, inpatients, emergency patients, TB/MDR-TB patients, ODHIV, JKN patients, elderly patients, children, family caregivers
Vulnerable groups	Women's groups, female staff, persons with disabilities, elderly persons, low-income patients, TB/MDR-TB peer groups, ODHA peer groups
Community and local economy	Nearby residents, local vendors, shops, transport providers, tourism-related businesses
Technical and professional groups	IDI, PDPI, PPNI, BPJS, PMI, academic partners, medical training institutions
Civil society and media	Health NGOs, environmental NGOs, local media, community information channels
HIV/PIMS authorities, services and support groups	Dinas Kesehatan Provinsi Jawa Barat, Dinas Kesehatan Kabupaten Bogor HIV/AIDS and PIMS programme, Dinas Tenaga Kerja Kabupaten Bogor, RSGP HIV/PIMS focal point, K3RS/PPI and occupational-health unit, Puskesmas Cisarua, confirmed HIV testing/ARV referral facility, qualified HIV clinician or counsellor, and ODHIV peer-support organisations

C.4 Engagement Methods

METHOD	PURPOSE	MAIN PARTICIPANTS
Key Informant Interview	Obtain technical and institutional input	Government agencies, hospital units, professional bodies
Focus Group Discussion	Understand group concerns and local impacts	Communities, women's groups, staff, vendors, caregivers
Public consultation / public hearing	Disclose ESIA findings and obtain formal feedback	Public, government, communities, hospital users

METHOD	PURPOSE	MAIN PARTICIPANTS
Workshop	Discuss technical topics in detail	RSGP units, government, consultants, contractors
Site visit / walkdown	Review access, safety, heritage, drainage, and disability access	Hospital units, PWD groups, technical agencies
Patient and caregiver interview	Understand service access and patient experience	Patients, caregivers, JKN users
Staff briefing	Inform hospital staff about construction and service changes	Doctors, nurses, cleaners, security, administration
Contractor briefing	Explain ESMP, worker conduct, traffic, OHS, and GRM	Contractor and subcontractors
Written and digital disclosure	Provide accessible information	All stakeholders
HIV prevention team	Conduct HIV/AIDS and SID socialization to the construction workers, conducted VCT (Voluntary, Counselling and Testing) regularly to the workers during the construction stage,	RSGP/HIV Prevention team including the HIV counsellor,

C.5 Vulnerable Group Engagement

VULNERABLE GROUP	ENGAGEMENT APPROACH	KEY ISSUES
TB/MDR-TB patients	Confidential small discussion or KII through trusted hospital focal point	Treatment continuity, stigma, access, dust, infection prevention
PLHIV peer groups	Confidential KII or trusted facilitator discussion	Privacy, stigma, service continuity, confidential complaints
Women and caregivers	Women-only FGD where needed	Safety, toilets, lighting, privacy, caregiver burden, lactation room
Female staff	Female staff FGD or confidential HR/K3RS discussion	Night-shift safety, harassment, toilets, changing/rest areas
Persons with disabilities	Accessibility walkdown and FGD	Ramps, toilets, signage, temporary access routes
Elderly and chronic patients	Short patient/caregiver interviews	Safe access, waiting time, dust, noise, mobility support
Low-income/JKN patients	Simple information at service points	Access, waiting time, service relocation, complaint channels

VULNERABLE GROUP	ENGAGEMENT APPROACH	KEY ISSUES
Construction workers	Induction and toolbox talks	OHS, labour rights, worker GRM, Code of Conduct, GBV/SEAH
GBV/SEAH survivors and persons at heightened risk	Confidential and voluntary one-to-one engagement through a trained focal point or qualified service provider.	Immediate safety, confidentiality, risk of retaliation, respectful treatment, medical and psychosocial support, legal assistance, service referral, and safe reporting options

C.6 Engagement Schedule

Phase 1 , ESIA Preparation, May-August 2026

PERIOD	ACTIVITY	STAKEHOLDERS	OUTPUT
May 2026	SEP kick-off and stakeholder mapping	RSGP, PIU, ESIA team	Stakeholder register
May-June 2026	Institutional KIIs	MoH, AIIB, DLH, Bappeda, Dinkes, Dishub, PUPR, DPMPTSP	KII minutes
June 2026	Local coordination	Kecamatan Cisarua, Desa Cibeureum, RT/RW	Local engagement plan
June-July 2026	Community FGD	Desa Cibeureum, nearby residents, vendors	FGD minutes
July 2026	Vulnerable group consultations	TB/MDR-TB, ODHA, women's groups, PWD	Vulnerable group summary
July 2026	Hospital staff consultation	Doctors, nurses, cleaners, security, admin staff	Staff issues log
July-August 2026	Technical workshop	Hospital units, technical agencies, consultants	Technical input register
August 2026	Phase 1 close-out	RSGP, PIU, ESIA team	Issue-response register

Phase 2, Disclosure Window, September-November 2026

PERIOD	ACTIVITY	STAKEHOLDERS	OUTPUT
September 2026	ESIA-ESMP disclosure	Public, government, hospital users	Disclosure record
September 2026	Public information session	Community, patients, caregivers, staff	Meeting minutes

PERIOD	ACTIVITY	STAKEHOLDERS	OUTPUT
September-October 2026	Vulnerable group disclosure	TB/MDR-TB, ODHA, women, PWD	Vulnerable group response log
October 2026	Technical disclosure workshop	DLH, Dishub, Dinkes, Bappeda, PUPR,	Technical response matrix
October-November 2026	AMDAL/public hearing	Public, government, affected stakeholders	Public hearing minutes
November 2026	Comment-response close-out	RSGP, PIU, ESIA team	Final response register
November 2026	ESIA-ESMP update	RSGP, PIU, AIIB	Updated SEP and ESIA-ESMP

C.7 Information Disclosure

Information will be disclosed in Bahasa Indonesia using simple language. Oral explanation in Sundanese may be used during village-level meetings where needed. Disclosure channels include,

- RSGP website and information boards,
- RSGP Humas/information desk,
- Kecamatan Cisarua and Desa Cibeureum offices,
- posters and QR code complaint forms in hospital areas,
- public consultation meetings,
- staff briefings and contractor briefings,
- WhatsApp or other local communication channels, where appropriate.

The disclosed information should include project scope, schedule, construction access changes, traffic arrangements, key impacts and mitigation, GRM channels, and contact persons.

C.8 Documentation and Reporting

All engagement activities must be documented. Records shall include,

- date, location, and method of engagement,
- stakeholder group and participants,
- key issues raised,
- project response,
- follow-up action,

- responsible party and deadline,
- status of completion.

SEP implementation will be reported in the ESIA-ESMP monitoring report and updated when major design, construction, schedule, or stakeholder issues arise.

SEP Forms

Form C-1 , Stakeholder Engagement Plan Form

ITEM	DESCRIPTION
Activity title	
Date and time	
Location	
Engagement method	KII / FGD / Workshop / Public Consultation / Site Visit / Staff Briefing / Other
Stakeholder group	
Target participants	
Main objective	
Key topics to discuss	
Materials to be shared	Project summary / ESIA summary / GRM flyer / map / construction schedule / other
Language	Bahasa Indonesia / Sundanese oral explanation / other
Accessibility needs	PWD access / large print / separate women's session / confidential session / other
Facilitator	
Note taker	
Responsible unit	
Expected output	Minutes / issue log / attendance list / photo record / response matrix
Follow-up required	Yes / No
Remarks	

Form C-2 , Attendance List

NO.	NAME	INSTITUTION / COMMUNITY	POSITION / ROLE	SEX	CONTACT	SIGNATURE
1				M / F		
2				M / F		
3				M / F		
4				M / F		
5				M / F		

Note, For sensitive consultations, such as TB/MDR-TB or ODHA groups, personal names may be replaced with coded identifiers to protect confidentiality.

Form C-3 , Meeting Minutes Form

ITEM	DESCRIPTION
Activity title	
Date	
Location	
Engagement method	
Stakeholder group	
Number of participants	Male, ___ / Female, ___ / Total, ___
Facilitator	
Note taker	
Main topics presented	
Key issues raised	
Project response	
Agreed follow-up actions	
Responsible party	
Deadline	
Supporting documents	Attendance list / photos / presentation / map / other

ITEM	DESCRIPTION
Prepared by	
Reviewed by	

Form C-4 , Issue and Response Register

NO.	DATE	STAKEHOLDER	ISSUE / CONCERN RAISED	PROJECT RESPONSE	FOLLOW-UP ACTION	RESPONSIBLE PARTY	DEADLINE	STATUS
1								Open / Closed
2								Open / Closed
3								Open / Closed

Form C-5 , Disclosure Record Form

ITEM	DESCRIPTION
Document disclosed	
Version / date	
Disclosure date	
Disclosure location	RSGP / Kecamatan / Desa / website / public meeting / other
Language	Bahasa Indonesia / English / other
Format	Printed copy / digital copy / poster / presentation / oral explanation
Target audience	
Feedback period	
Feedback channel	Email / phone / QR code / Humas desk / written letter / meeting
Person responsible	
Evidence	Photo / upload screenshot / signed receipt / meeting record

ITEM	DESCRIPTION
Remarks	

Form C-6 , Vulnerable Group Consultation Form

ITEM	DESCRIPTION
Vulnerable group consulted	TB/MDR-TB / ODHA / women / PWD / elderly / JKN users / female staff / other
Date and location	
Method	Confidential KII / small FGD / site walkdown / interview / other
Facilitator	
Number of participants	Male, ___ / Female, ___ / Total, ___
Confidentiality measures applied	Yes / No
Main concerns raised	
Access or safety issues identified	
Gender or disability issues identified	
Service continuity issues identified	
Required mitigation / action	
Responsible party	
Deadline	
Status	Open / Closed

Form C-7 , Construction Phase Community Update Form

ITEM	DESCRIPTION
Reporting month	
Construction activities this month	

ITEM	DESCRIPTION
Planned activities next month	
Access or traffic changes	
Dust/noise/vibration controls applied	
Complaints received	
Complaints resolved	
Unresolved issues	
Community feedback	
Corrective actions required	
Responsible party	
Date of next update	

Form C-8 , SEP Monitoring Summary

INDICATOR	TARGET	RESULT THIS PERIOD	STATUS	CORRECTIVE ACTION
Number of engagement activities conducted				
Number of participants				
Percentage of women participants				
Number of vulnerable group sessions				
Number of issues raised				
Number of issues closed				
Number of disclosure locations active				
Number of GRM channels disclosed				
Number of construction community updates				

Annex D - Grievance Redress Mechanism (GRM)

D.1 Purpose and Scope

This Annex sets out the full operating procedure for the project-level Grievance Redress Mechanism (GRM) for the RSGP redevelopment. The GRM receives, records, investigates, resolves, escalates and reports complaints related to project environmental and social performance. It integrates with the existing RSGP DUMAS system and adds safeguards tracking for construction, labour, community health and safety, gender, GBV/SEAH/HIV,access, traffic, waste, wastewater and hospital service continuity issues.

D.2 Operating Principles

The GRM shall be accessible, free of charge, predictable, transparent, fair, responsive, confidential where required, and free from retaliation. It does not replace formal legal remedies, clinical governance procedures, regulatory complaints, labour dispute mechanisms or AIIB-related accountability channels, instead, it provides an early, practical and documented pathway for resolving project-related concerns.

D.3 Relationship with RSGP DUMAS

RSGP already operates a hospital-level public complaint system through Bagian Humas / DUMAS. The Project GRM will not duplicate the DUMAS system. It will use the existing channels and reporting culture, while adding issue categories, timelines, escalation steps and confidential procedures required for project safeguards monitoring. Clinical complaints related to treatment, diagnosis, professional ethics or patient safety will continue to follow RSGP clinical governance and patient safety procedures, while construction and ESIA/ESMP-related complaints will be managed through this Project GRM.

Classification	Scope / Routing
Included	Dust, noise, vibration, construction traffic, access disruption, ambulance access, drainage, wastewater, waste/B3 waste, worker behaviour, OHS, labour conditions, security, community health and safety, service relocation linked to construction, gender, PWD access, harassment, GBV/SEAH, information disclosure and stakeholder engagement concerns.
Routed to clinical governance	Medical treatment, diagnosis, malpractice, professional ethics, patient safety incidents not caused by project works, and other clinical matters under hospital procedures.
Routed to worker GRM	Worker wages, contracts, overtime, OHS, accommodation, discrimination, harassment and contractor employment issues. These must still be summarised in the Project GRM dashboard in anonymised form.
Routed to emergency response	Immediate safety threats, fire, medical emergency, severe traffic incident, hazardous spill, serious violence or criminal incident. Emergency response is activated first, GRM registration follows after the situation is safe.

D.4 Grievance Channels

Multiple channels will be maintained so that hospital users, surrounding communities, workers and vulnerable groups can submit concerns without cost or technical barriers.

Channel	Definition	Minimum Handling Requirement
In-person	RSGP Bagian Humas / DUMAS Team, RSGP Information Desk, Project Liaison Officer, on-site GRM Officer during construction.	Record on Intake Form and enter into Register within 1 working day.
Telephone / WhatsApp	RSGP main line (0251) 8253630, complaint WhatsApp +62 812-8000-3605, project contact if assigned.	Send reference number where contact details are available.
Digital	Email humas.RSGPcisarua@gmail.com, info@RSGP-cisarua.co.id, pemasaranRSGPcisarua@gmail.com, RSGP website feedback form, project page when active.	Save screenshots/emails as supporting evidence.
Written	Complaint boxes at RSGP entrance/service points and proposed boxes at Camat Cisarua and Desa Cibeureum offices during disclosure and construction.	Open at least weekly, two-person opening recommended.
Anonymous	Locked complaint box, web form with anonymous option, and no-name WhatsApp/email complaints.	Accept and register. Do not reject due to missing identity.
Workforce	Contractor worker GRM, toolbox feedback, HR channel, worker suggestion box.	Contractor reports anonymised worker grievance status to PIU/RSGP monthly.
GBV/SEAH	Separate confidential intake through trained female officer/focal point, anonymous channel, or trusted hospital/PIU focal point.	Use restricted register. Do not use open mediation.
HIV-related health, privacy and discrimination complaints	Any GRM channel, with confidential or anonymous handling by the RSGP HIV/PIMS focal point, counsellor, or trusted health professional. A representative or support organisation may submit on the complainant's behalf.	Use a restricted case code, collect only essential information, exclude HIV status from the general register, obtain consent before disclosure or referral, and prevent retaliation.

D.5 Categorisation, Priority and Timelines

Priority	Examples	Target Response
Red / Critical	Immediate danger, ambulance or emergency access blocked, fatality or serious OHS incident, major pollution/spill, serious violence, GBV/SEAH requiring urgent protection, interruption or denial of essential HIV treatment, unauthorised HIV-status disclosure creating serious safety risk, severe discrimination, threats or retaliation, major service disruption.	Activate emergency or protective action immediately. Conduct confidential triage and acknowledge within 24 hours. Escalate on a need-to-know basis to the responsible RSGP unit, PIU and relevant emergency or regulatory authority. Protect sensitive information and obtain consent where required.,
Yellow / Moderate	Repeated dust/noise, traffic or access obstruction, moderate worker-conduct issue, sanitation or waste concern, unresolved construction-related service	Acknowledge, route and start follow-up within 3 working days. Provide initial findings or

	issue, repeated HIV stigma or discrimination, inappropriate handling of HIV information, non-urgent treatment, referral or service-access problem.	a corrective-action update within 7 working days. Notify the complainant if further investigation is required.,
Green / Routine	Minor nuisance, general complaint, information request, suggestion or appreciation, non-urgent access or communication issue, general HIV prevention, referral or service-navigation enquiry.	Acknowledge within 3 working days and provide a substantive response within 7 working days. Target closure within 21 working days, where possible.,

Stage	Step	Action	Timeline	Lead
1	Receipt and registration	Record complaint in GRM Register, assign reference number, note channel, anonymous status, category, location and summary.	Within 1 working day	Humas / GRM Officer
2	Acknowledgement	Acknowledge complaint where contactable, explain next step and expected timeline.	Within 3 working days	Humas / PLO
3	Triage and routing	Screen by type: clinical, safeguards, labour, community, GBV/SEAH, emergency. Route to responsible unit.	Within 5 working days	Humas + PIU Safeguards
4	Investigation	Review evidence, interview relevant parties, conduct site visit where needed, identify root cause and corrective options.	Within 14 working days for Tier 1, up to 30 working days for complex cases	Responsible Unit / Contractor / PIU
5	Resolution and feedback	Implement corrective action, communicate result to complainant, ask whether response is satisfactory.	Within 21 working days for Tier 1, complex cases may extend with notice	Responsible Unit + Humas
6	Appeal / escalation	If dissatisfied, escalate to RSGP Direksi, PIU/PMU, relevant authority or AIIB safeguards channel as appropriate.	Within 14 working days after response	RSGP Direksi / PIU
7	Reporting and learning	Prepare monthly dashboard and quarterly report, analyse trends and corrective actions.	Monthly / Quarterly	PIU Safeguards + Humas

D.6 Roles and Responsibilities

Role / Unit	Key Responsibility
RSGP Humas / DUMAS Team	Main intake point, records grievances, issues acknowledgement, liaises with complainants, forwards cases, maintains records.
Project Liaison Officer / On-site GRM Officer	First contact for construction-related complaints, supports site-level communication, records community, visitor and hospital-user concerns.
RSGP Kesling / K3RS / PPI	Investigates environmental hygiene, waste, sanitation, OHS, infection prevention and hospital health-risk complaints.
Relevant RSGP Units	Investigate and resolve unit-specific issues including IGD, outpatient, inpatient, pharmacy, radiology, security, parking, finance, facilities and nursing services.

Role / Unit	Key Responsibility
Civil Works Contractor	Maintains worker GRM, reports construction complaints, cooperates in investigations, implements corrective actions for dust, noise, access, traffic, labour, OHS and community safety.
HIV/AIDS & SID prevention team	Carry out coordination between workers identified as having HIV or SID with the Cisarua Community Health Center for further treatment
CMC / PMSC	Supervises contractor GRM performance, verifies corrective actions, reports repeated or unresolved complaints.
PIU Safeguards Officer	Consolidates monthly dashboard, monitors overdue cases, escalates safeguards complaints to PIU management and AIIB where required.
Trained Female GBV/SEAH Focal Point	Receives sensitive complaints, ensures survivor-centred handling, confidentiality, consent, referral and restricted documentation.
AIIB Safeguards Team	Reviews GRM reporting during implementation support, receives escalated issues where required.

KPI	Definition
100% complaints registered	All complaints from all channels are entered into GRM Register.
Acknowledgement within 3 working days	Where complainant is contactable.
Triage within 5 working days	All cases classified by category, priority and responsible unit.
Closure within 21 working days for simple cases	Complex cases may extend to 30 working days with written/verbal update to complainant.
0 retaliation	Any retaliation allegation is classified Red and escalated immediately.
Quarterly reporting	Quarterly GRM report prepared and integrated into ESMP reporting.
GBV/SEAH confidentiality	No survivor-identifying information in public or routine reports.

D.7 Investigation Procedure

- Confirm whether the case is project-related, clinical, labour-related, emergency-related or sensitive/GBV/SEAH-related.
- Assign an investigator who is not directly accused and has no conflict of interest.
- Review evidence such as photos, CCTV where legally/ethically permitted, site logs, work permits, medical service relocation notices, traffic records, waste manifests, monitoring results and witness statements.
- Conduct a site inspection when the complaint relates to dust, noise, vibration, access, traffic, drainage, waste, sanitation, construction safety or property damage.
- Consult the complainant where contactable and safe to do so. Do not pressure anonymous complainants to reveal identity.
- Identify root cause and corrective action, responsible person, budget/resource requirement and completion deadline.
- Document investigation findings in the Investigation Form and update the Register.
- D.8 Resolution, Feedback and Closure

- A resolution may include corrective action, repair, cleaning, access adjustment, schedule change, staff briefing, contractor sanction, additional monitoring, written explanation or referral to another procedure.
- The complainant must be informed of the proposed resolution in writing, by telephone, WhatsApp, or in-person meeting depending on preference and contact availability.
- Closure requires evidence that action has been completed and, where possible, confirmation from the complainant that the response is satisfactory.
- If the complainant is not satisfied, the case remains open and moves to appeal/escalation.
- Anonymous cases may be closed based on completion of corrective action and public notice where individual feedback is impossible.

D.9 Escalation Pathway

Level	Escalation Route	Responsible Party	When Used
Level 1	Unit-level resolution	Relevant RSGP unit, Contractor, Humas, PLO	Routine and moderate cases that can be resolved directly.
Level 2	RSGP management review	RSGP Direksi, PIU Safeguards Officer	Unresolved, repeated, cross-unit, or reputationally sensitive cases.
Level 3	PMU / Ministry of Health / technical authority	PMU, MoH, DLH, Dishub, labour authority or another agency as relevant	Major environmental, labour, traffic, safety, regulatory or institutional issues.
Level 4	AIIB safeguards / other escalation remedies	AIIB safeguards team or other lawful mechanism	Unresolved safeguards issues, serious incidents, or complainant requests for lender-level attention.

D.10 GBV/SEAH-Specific Protocol

GBV/SEAH complaints require a separate, confidential, survivor-centred process. The purpose is to protect safety, dignity, consent and privacy. The GRM team must not investigate by questioning the survivor repeatedly, must not require proof before offering support, and must not use open mediation between the survivor and alleged perpetrator.

Protocol Step	Requirement
Separate intake	A trained female officer/focal point receives the complaint where possible. The complainant may remain anonymous. The intake records only minimum necessary information.
Immediate safety check	Ask whether the survivor is in immediate danger and whether urgent medical, security or psychosocial support is needed. Activate emergency support only with consent, unless there is an imminent life-safety threat.
Consent and confidentiality	Explain options. Do not share identity, details or referral without informed consent, except where legally required or life-safety risks apply.
Referral	Offer referral to appropriate medical, psychosocial, legal or protection services. Maintain a referral directory and update it every six months.
No open mediation	Do not mediate GBV/SEAH cases in public meetings or with the alleged perpetrator.

Protocol Step	Requirement
Restricted records	Use a restricted GBV/SEAH log separated from the general register. Routine reports may only show anonymised aggregate numbers and status.
Contractor action	If the alleged perpetrator is a project worker, apply Code of Conduct sanctions, access restriction, removal from site, employment action and legal reporting where required and consented/legal.
Escalation	Serious cases are escalated to RSGP Direksi/PIU/PMU and AIIB through confidential channels without survivor-identifying details in routine reports.

D.10A HIV-Related Complaint Protocol

HIV-related complaints shall be handled as sensitive health, privacy and non-discrimination matters. Complaints may be submitted anonymously or through an authorised representative. The GRM shall collect only the minimum information required and shall not require disclosure or proof of HIV status. A designated HIV/PIMS focal point or qualified counsellor shall confidentially triage the complaint and explain the available options. Information shall only be shared or referred with the complainant's informed consent, except where legally required or where there is an immediate threat to life.

Complaints related to clinical care and treatment will be forwarded to the HIV Prevention Program team, who will then coordinate with the HIV services at the Cisaruan Community Health Center (PUSKESMAS). Complaints about worker discrimination or mandatory testing will be forwarded to the worker's GRM and the HR/occupational health unit, and complaints related to project-related protection will be monitored by the PIU Protection Officer. Routine reports will contain only anonymous and aggregated information. Retaliation, unauthorized disclosure, and further discrimination are prohibited.

D.11 Disclosure, Records and Data Protection

- GRM channels and timelines will be displayed on hospital information boards, construction signage, QR-code posters, RSGP website, community meeting materials and worker induction materials.
- All records must be retained securely. General GRM records should be retained for at least five years after project completion, or longer if required by RSGP/PMU policy.
- Personal data must be protected. Access to detailed registers is limited to authorised GRM personnel.
- Sensitive information, including GBV/SEAH, health status, TB/HIV stigma-sensitive issues, identity documents and personal contact details, must not be included in public reports.
- Quarterly reports may disclose aggregate trends, issue categories, resolution time, corrective actions and lessons learned.

D.12 GRM Forms and Templates

Form D-1 -Grievance Intake Form

Field	Input
Reference number	

Field	Input
Date/time received	
Received by	
Channel	In-person / Phone / WhatsApp / Email / Website / Complaint box / Worker GRM / Anonymous / Other
Anonymous submission?	Yes / No
Complainant name or code	
Contact details	
Preferred contact method	Phone / WhatsApp / Email / In-person / No contact
Sex / age group / stakeholder group (optional)	
Location of issue	
Complaint summary	
Category	Clinical / Environmental / Social / Labour / Traffic-access / OHS / Community safety / GBV-SEAH / Other
Priority	Red / Yellow / Green
Immediate safety risk?	Yes / No. If yes, action taken:
Consent to follow up?	Yes / No / Anonymous
Supporting evidence received	Photo / video / document / witness / none / other
Initial routing	

Form D-2 -Investigation Record

Field	Input
Reference number	
Investigator / unit	
Date assigned	
Complaint category and priority	
Investigation method	Document review / site inspection / interview / monitoring data / other
Findings	
Root cause	
Corrective action proposed	
Responsible party	
Deadline	
Evidence attached	
Investigator signature / date	

Form D-3 -Resolution and Feedback Template

Field	Input
Reference number	
Date response issued	
Complaint summary	
Action taken / proposed	
Completion evidence	
Complainant feedback	Satisfied / Not satisfied / No response / Anonymous
Further action required	
Closure date	
Closed by	

Form D-4 -Escalation / Appeal Form

Field	Input
Reference number	
Date of appeal/escalation	
Reason for escalation	
Previous response	
Escalation level	Level 2 / Level 3 / Level 4
Escalated to	
Decision / instruction	
Final action	
Final closure status	

Form D-5 -Quarterly GRM Reporting Template

Field	Input
Reporting quarter	
Total grievances received	
Open at start of quarter	
New cases this quarter	
Closed this quarter	
Open at end of quarter	
Overdue cases	
Cases by category	
Cases by priority	Red: ___ / Yellow: ___ / Green: ___
Average closure time	
GBV/SEAH cases	Report aggregates only, no personal details
Key trends	

Field	Input
Corrective actions completed	
Unresolved / escalated issues	
Lessons learned and system improvements	
Prepared by / date	
Reviewed by / date	

D.13 Minimum Fields for the Excel GRM Register

The Excel GRM Register is the official chronological record for all project-related complaints. The following fields are mandatory so that the project can monitor timeliness, accountability, sensitive-case handling and quarterly reporting.

Field Group	Required Content
Identification	GRM ID, date received, reporting quarter, channel, received by, anonymous status.
Complainant information	Name or coded ID, contact details, sex, stakeholder group and vulnerability marker where voluntarily provided. Sensitive health status must not be recorded unless strictly necessary and consented.
Complaint details	Location, short description, category, subcategory, priority, project-related flag, GBV/SEAH sensitive flag, immediate safety risk.
Routing and deadlines	Assigned unit, responsible officer, acknowledgement due date, triage due date, investigation due date, target resolution date.
Investigation and action	Investigation summary, root cause, corrective action, evidence, action owner and action due date.
Feedback and closure	Date response issued, complainant feedback, satisfaction, status, closure date, days to close, overdue flag and appeal/escalation status.
Confidentiality	Restricted access marker, referral support marker, non-retaliation check and anonymisation flag for reports.
Reporting	Monthly dashboard inclusion, quarterly report inclusion, trend code and lesson learned/corrective system action.

D.14 Immediate Implementation Checklist

- Assign GRM focal persons, including trained female GBV/SEAH focal point.
- Activate all complaint channels and disclose them at RSGP, construction areas, Camat Cisarua and Desa Cibeureum.
- Prepare QR-code posters and Bahasa Indonesia GRM flyers.
- Train Humas, security, contractor, PLO and relevant hospital units on intake, timelines, confidentiality and escalation.
- Open the Excel GRM Register and start monthly dashboard reporting.
- Confirm referral contacts for GBV/SEAH, medical, psychosocial, legal and protection support.
- Review first quarterly report and update the procedure based on complaint

Annex E - Gender Action Plan

1. Purpose and Use of this GAP

This Gender Action Plan translates gender and inclusion findings into practical design, construction, consultation, grievance, workforce and monitoring actions for the RSGP redevelopment. It is intended for use by RSGP management, the Ministry of Health PIU, the DED consultant, the contractor, the supervision consultant, and the ESIA-ESMP team.

The GAP is not limited to women only. It covers different risks and needs experienced by female and male patients, caregivers, hospital staff, students, contractors, persons with disabilities, elderly patients, children, low-income/JKN patients, TB/MDR-TB patients, ODHA and nearby communities. Special attention is given to women because hospital spaces, night-shift work, caregiving roles, privacy, sanitation, harassment risk and access to complaint channels are not gender-neutral.

2. What Was Strengthened Based on the AIIB Guideline

Added the AIIB Two-Layer Gender Integration approach: Layer 1 - risk management / do no harm, Layer 2 - value addition / do better.

Reorganised GAP actions under the five AIIB health-sector focus areas: Safety and Respectful Care, Access and Affordability, Care Burden and Continuity, Workforce and Institutional Equality, and Voice and Accountability.

Strengthened actions for service continuity, caregiver burden, female staff safety, night-shift safety, privacy, sanitation, lactation rooms, universal design, and respectful care.

Added clearer contractor requirements for GBV/SEAH prevention, worker Code of Conduct, restricted access to clinical areas, STI/HIV awareness, worker accommodation and worker GRM.

Added SMART, practical indicators that can be monitored through existing RSGP systems where possible, rather than creating a complicated new data system.

Added sensitive complaint protocols. GBV/SEAH complaints will follow confidential, survivor-centred procedures and specialised referral pathways. HIV-related health, privacy and discrimination complaints will receive confidential, consent-based handling by the designated HIV/PIMS focal point or qualified counsellor, with coded records, minimum data collection, non-discrimination and protection from retaliation.

3. AIIB Health-Sector Gender Framework Applied to RSGP

The AIIB guideline is used as a decision-support tool, not a rigid checklist. For RSGP, the relevant approach is to identify material gender risks and opportunities, then select actions that are feasible for an operating public hospital under the TRUST Project.

AIIB element	Meaning in simple terms	RSGP relevance	How it is reflected in this GAP
Layer 1 - Risk Management	Avoid harm and manage mandatory safeguards risks.	Active hospital construction may affect safe access, privacy, infection control, vulnerable patients, female staff, workers and nearby communities.	Actions on safe access, privacy, GBV/SEAH prevention, worker conduct, OHS, universal design, confidential GRM and service continuity.
Layer 2 - Value Addition	Use the project to improve service quality, workforce wellbeing and institutional performance.	The redevelopment can improve patient experience, female staff safety, caregiver support, accessible design and gender-responsive procurement.	Actions on respectful care, caregiver waiting areas, staff rest/changing/lactation areas, women-led/local vendors, patient feedback, and sex-disaggregated monitoring.
Contextual action	Analysis is required, but actions should match project risks and feasibility.	RSGP is a pulmonary referral and teaching hospital, not a maternity hospital. Therefore, the strongest actions are access, safety, privacy, TB service continuity, staff welfare, GRM and inclusive consultation.	The matrix focuses on actions relevant to RSGP and avoids generic gender actions that are not material to the project.

4. Five Focus Areas Customized for RSGP

AIIB focus area	Main RSGP issue	Priority receptors	Layer 1 action	Layer 2 opportunity
A. Safety and Respectful Care	Privacy, dignity, safe circulation, lighting, SEAH risk, patient trust.	Women patients, pregnant women, children, caregivers, female staff, TB/MDR-TB and isolation patients, PWD.	Privacy screens/doors, separate toilets, safe routes, controlled access, GBV/SEAH protocol, confidential GRM.	Respectful-care briefing, safety audits with women/PWD, improved patient experience tracking.
B. Access and Affordability	Construction may change entry points, routes, service locations, parking and information flow.	Low-income/JKN patients, elderly patients, PWD, women caregivers, patients from outside Bogor.	Accessible routes, signage, help desk, clear JKN/service information, non-discriminatory service rules.	Better wayfinding, large-font/pictorial signs, caregiver-friendly information, feedback-driven corrections.
C. Care Burden and Continuity	Disruption can increase waiting time and unpaid care burden, often carried by women.	Female caregivers, elderly patients, TB/MDR-TB patients, children, chronic respiratory patients.	Hospital Service Continuity and Patient Transfer Plan, emergency access, service relocation notices.	Comfortable waiting areas, better referral/discharge information, caregiver support and reduced avoidable repeat visits.
D. Workforce and Institutional Equality	Female staff may face night-shift safety, fatigue, harassment, infectious exposure and poor facilities.	Nurses, doctors, cleaners, laboratory staff, security/support staff, contractors and subcontractors.	Fair labor, OHS, sex-appropriate PPE, staff GRM, separate WASH, safe rest/changing areas.	Female staff safety survey, career/training spaces, procurement clauses for safe working conditions.
E. Voice and Accountability	Women, caregivers, PWD and vulnerable patients may not speak freely in formal meetings.	Women patients, female staff, caregivers, PWD, elderly patients, low-income users, local women/community groups.	Inclusive SEP, targeted sessions, accessible GRM, anonymous/confidential channels.	Patient feedback linked to corrective actions, women and PWD included in design and safety reviews.

5. RSGP Gender and Inclusion Context

The redevelopment will occur inside an active pulmonary referral and teaching hospital in Desa Cibeureum, Kecamatan Cisarua, along the busy Puncak corridor.

Relevant affected groups include patients, patient families, caregivers, hospital staff, students, contractors, local residents, road users, nearby businesses and communities affected by construction traffic, dust, noise, access changes and service-flow adjustments.

Vulnerable groups that need tailored attention include TB/MDR-TB patients, ODHA, elderly patients with chronic respiratory disease, paediatric patients, pregnant women, persons with disabilities, low-income/JKN patients, female patients, female caregivers, female staff and construction workers.

The 2024 hospital profile used in the ESIA records 448 staff, consisting of 253 male staff and 195 female staff. Updated 2026 sex-disaggregated workforce data should be confirmed with the HR Unit before construction.

The absence of recorded GBV/SEAH complaints in available 2025 complaint logs should not be read as absence of risk, because sensitive cases are often underreported. The GAP therefore uses a precautionary approach.

Note: Values and baseline statements should be updated if the final ESIA, DED, RSGP HR data, or safeguards review provides newer information.

6. Customized Gender Action Plan Matrix

The actions below should be inserted into the ESMP, C-ESMP, DED review checklist, bidding documents, supervision checklist, GRM procedure and safeguards reporting system.

No.	AIIB Focus / Layer	RSGP issue or risk	Customized action	Indicator / target	Timing	Responsible party / evidence
1	All / L1+L2	Gender data are not yet complete for patients, staff, complaints, consultations and vulnerable groups.	Compile and maintain sex-, age- and disability-disaggregated data where available and appropriate. Include patients, staff, consultation participants, complaints, training participants, PWD, elderly, pregnant women, JKN users and vulnerable patient groups. Do not collect sensitive data if it creates privacy or stigma risk.	Baseline dataset prepared before final ESIA/major works. Monthly dashboard uses sex-disaggregated data where feasible.	Before ESIA finalisation, update monthly	RSGP Humas, Rekam Medis, HR Unit, PIU Safeguards, Gender/Social Specialist. Evidence: baseline tables, dashboard.
2	A/B/D / L1+L2	DED may not fully reflect privacy, dignity, accessibility, safe circulation, lactation, staff welfare and SEAH prevention.	Conduct gender, disability and safety design review before final DED approval. Review toilets, accessible toilets, lactation room, prayer spaces, waiting areas, consultation privacy, lighting, CCTV/visibility, blind spots, lifts, ramps, parking, staff rest/changing rooms and safe circulation.	DED review completed. Corrective design notes issued and tracked to closure before final approval.	DED finalisation	DED Consultant, RSGP Management, PIU, Gender Specialist, PWD representative. Evidence: checklist, revised drawings, minutes.
3	A/B/C / L1	Construction may disrupt patient, caregiver, staff and PWD access inside an active hospital.	Prepare Safe Access and Wayfinding Plan. Maintain physically separated pedestrian routes, ramps/handrails, non-slip surfaces, lighting, shaded waiting/queuing areas, large-font/pictorial signage, emergency access and ambulance priority. Update the plan whenever construction phasing changes.	100% of temporary public routes are signed, lit and separated from construction hazards. PWD-accessible route maintained at all times.	Before construction, update monthly	Contractor, CMC/PMSC, RSGP Facilities, Security, PIU. Evidence: route map, inspection photos, corrective action log.
4	C / L1	Service disruption may increase care burden, especially for women caregivers and low-income/JKN patients.	Integrate gender and vulnerable-group needs into the Hospital Service Continuity and Patient Transfer Plan. Map affected services, temporary locations, patient flow, emergency access, utility backup, communications and referral pathways.	No unplanned closure of critical services due to construction. Notices issued before service-flow changes. Complaints on service disruption tracked.	Before construction and before each service relocation	RSGP Direksi, Medical Services, Nursing, IPSRS, Humas, Contractor, PIU. Evidence: service continuity plan, notices, complaints log.
5	A/C / L1	TB/MDR-TB, respiratory, elderly, child and immunocompromised patients are sensitive to dust, infection risk, access changes and privacy loss.	Maintain safe TB/MDR-TB and isolation pathways, infection prevention controls, dust/noise-sensitive scheduling, mask/IPC information, and confidential patient movement where needed. Coordinate service changes with PPI and clinical units.	PPI review completed for temporary routes/locations. No unresolved disruption to TB/MDR-TB and emergency pathways.	Before and during construction	RSGP PPI, Medical Services, Nursing, Contractor, CMC/PMSC. Evidence: PPI checklist, route map, incident/complaint log.
6	A / L1+L2	Poor privacy in temporary or permanent clinical and waiting areas may reduce dignity and patient trust.	Provide curtains/screens, private examination arrangements, lockable doors where appropriate, clear queueing, respectful-care reminders and controlled access to sensitive areas. Apply before using any temporary clinical or waiting space.	Privacy checklist completed for affected areas. Corrective actions closed before relocation/use.	Before use of temporary areas, early operation	RSGP Medical Services, Nursing, Facilities, Contractor. Evidence: checklist, photos, patient feedback.
7	A/D / L1+L2	Women, PWD, caregivers and staff may face inadequate sanitation, lactation, rest or changing facilities during	Maintain clean separate male/female toilets, accessible toilets, lactation room, prayer spaces, staff rest/changing areas, and separate WASH for	Weekly checks show toilets, accessible toilets and lactation/rest spaces are	DED, pre-construction, construction, operation	RSGP Facilities, K3RS, Contractor. Evidence: facility checklist, cleaning logs, photos.

No.	AIIB Focus / Layer	RSGP issue or risk	Customized action	Indicator / target	Timing	Responsible party / evidence
		construction and operation.	construction workers. Ensure cleaning and maintenance responsibilities are clear.	available and functional. Worker WASH inspected monthly.		
8	B / L1	Low-income/JKN patients, elderly persons and PWD may be disadvantaged by unclear service changes, fees, routes or admission procedures.	Maintain non-discriminatory admission and service rules. Provide clear JKN/BPJS, queue, service relocation and GRM information through posters, help desk, WhatsApp/QR and oral explanation for low-literacy users.	Accessible information available in public areas. Complaints on JKN/access/service relocation tracked and responded to.	Before construction and whenever changes occur	RSGP Humas, Registration, Medical Services, PIU. Evidence: posters, screenshots, complaint dashboard.
9	C / L2	Caregivers may face longer waiting time, unclear routes, limited seating and added unpaid care burden.	Improve caregiver support through safe waiting areas, priority seating for elderly/pregnant/PWD users, clear wayfinding, toilet access, drinking water points where available, and simple discharge/referral information.	Caregiver waiting/access checks completed quarterly. Corrective actions tracked, patient/caregiver feedback reviewed.	Construction and early operation	RSGP Humas, Facilities, Nursing, Contractor. Evidence: inspection checklist, feedback log.
10	D/A / L1+L2	Female staff may face night-shift safety, temporary route risks, harassment, fatigue, parking safety and infectious/hazardous exposure.	Conduct female staff safety assessment covering night shifts, routes, parking, toilets, lockers/changing rooms, rest areas, lactation, security patrols, fatigue, harassment reporting and PPE. Prioritise corrective actions before major works.	Assessment completed before mobilisation and repeated every 6 months. Priority corrective actions closed.	Before mobilisation, every 6 months	RSGP HR, K3RS, Security, PPI, Gender Specialist. Evidence: assessment report, action tracker, staff consultation notes.
11	D / L1	Contractor and hospital support workers may face labour, OHS, sanitation, welfare and discrimination risks.	Apply fair labor, OHS and welfare requirements: written contracts, BPJS, working-hour/rest controls, sex-appropriate PPE, clean WASH, worker GRM, non-discrimination and no forced/child labor. Report workforce by sex and local/non-local status.	Monthly labor report includes workforce by sex/local status, OHS training, PPE, grievances and corrective actions.	Procurement, monthly during construction	Contractor, CMC/PMSC, PIU, RSGP K3RS/HR. Evidence: labor report, training records, PPE logs, GRM log.
12	A/D / L1	Worker influx and interaction with patients, caregivers, staff, vendors and communities can create GBV/SEAH and harassment risks.	Include GBV/SEAH clauses in contracts and C-ESMP. Require worker Code of Conduct, induction, monthly toolbox talks, sanctions, controlled access, prohibition of harassment/intimidation/retaliation, and restriction of workers from clinical/sensitive areas unless authorised and supervised.	100% contractor/subcontractor workers sign CoC and receive induction before site entry. Monthly toolbox talks completed.	Before worker mobilisation, monthly	Contractor, CMC/PMSC, PIU, RSGP HR/K3RS/Security. Evidence: signed CoC, attendance, access records.
13	A/B/D / L1+L2	Influx of non-local workers may increase STI/HIV risk if health awareness and referral information are weak.	Provide mandatory HIV/STI awareness at worker induction, with Bahasa Indonesia materials. Coordinate with Puskesmas Cisarua and/or Dinas Kesehatan Kabupaten Bogor for voluntary counselling/testing referral information and community health surveillance where feasible. No personal health data should be disclosed in project reports.	100% workers receive HIV/STI awareness at induction. Referral information available. Reporting uses only aggregate/non-identifying data.	Before mobilisation, refresh every 6 months	Contractor, RSGP K3RS/PPI, PIU, Puskesmas/DKK liaison. Evidence: training records, materials, coordination notes.
14	A/E / L1	Survivors may not report GBV/SEAH or harassment if the channel is not confidential or safe.	Strengthen GRM with confidential, survivor-centred handling: anonymous reporting, trained female intake option, non-retaliation, restricted register, survivor consent before referral, and referral to verified medical, psychosocial, legal or protection services.	Confidential channel operational before construction. Sensitive cases recorded separately with restricted access. No survivor-identifying data in routine reports.	Before construction, throughout project	RSGP Humas/DUMAS, PIU Safeguards, trained focal point, Gender Specialist. Evidence: SOP, posters, restricted register, referral list.

No.	AIIB Focus / Layer	RSGP issue or risk	Customized action	Indicator / target	Timing	Responsible party / evidence
15	E / L1+L2	Existing DUMAS may mix general hospital complaints with project-related and sensitive safeguards complaints.	Sort complaints into hospital service complaints, project-related complaints, worker/labour complaints and confidential GBV/SEAH-sensitive complaints. Add categories for access disruption, PWD access, women safety, privacy, sanitation, worker conduct, traffic, dust/noise and service continuity.	100% project-related complaints logged and assigned category. Monthly dashboard prepared. Sensitive complaints handled separately.	Before construction, monthly	RSGP Humas/DUMAS, Project Liaison Officer, PIU. Evidence: GRM register, monthly dashboard, trend analysis.
16	E / L1+L2	Women, caregivers, PWD and vulnerable patients may not speak freely in formal public meetings.	Conduct targeted consultation with women patients, female caregivers, female staff, PWD representatives, women/community groups in Desa Cibeureum, vulnerable patient groups and vendors. Use separate/safe spaces where needed.	At least one female staff session, one women/caregiver session and one PWD/vulnerable group session before major construction. General consultations aim for at least 40% women participation where feasible, or document why not feasible.	ESIA disclosure, before major construction or access changes	PIU Safeguards, RSGP Humas, Gender Specialist, Village Government. Evidence: attendance by sex, minutes, issue-response log.
17	B/E / L1	Written-only disclosure may not reach caregivers, elderly persons, low-literacy users, PWD or low-income/JKN patients.	Prepare simple Bahasa Indonesia materials on construction schedule, access changes, service relocation, safety rules, GRM and confidential complaints. Use posters, QR/WhatsApp, information desk, oral explanation, large-font signs and pictorial wayfinding.	Disclosure materials available in hospital public areas and relevant community locations before construction and updated after changes.	Before construction, update as needed	RSGP Humas, Contractor, PIU. Evidence: posters, leaflets, screenshots, disclosure log.
18	D/E / L2	Women may not benefit from project jobs, supplier opportunities or procurement if outreach is not inclusive.	Use non-discriminatory recruitment. Encourage women in suitable non-hazardous roles and identify women-led/local micro-enterprises for food, cleaning, laundry support, logistics or other safe opportunities where feasible. Procurement should include safe labor and respectful service requirements.	Contractor reports workforce by sex and local/non-local status. Local/vendor register identifies women-led businesses where available.	Procurement and construction	Contractor, PIU Procurement, RSGP Humas/Security. Evidence: recruitment notices, workforce reports, vendor register.
19	A/D / L1	Uncontrolled contractor movement may increase safety, privacy, infection and harassment risks in hospital areas.	Apply controlled site access: ID badges, access registration, worker route maps, security at gates, no unauthorised entry to wards, toilets, lactation rooms, emergency areas, isolation areas, pharmacy, laboratories or other sensitive areas. Security guards and marshals should receive respectful interaction and GBV/SEAH awareness briefing.	Access controls active before mobilisation. No unresolved unauthorised-entry incident. Security/marshal briefing completed.	Before mobilisation, weekly checks	Contractor, Security, RSGP Facilities, CMC/PMSC. Evidence: gate logs, route map, incident register, briefing attendance.
20	E / L1+L2	Without monitoring, the project cannot show whether GAP measures work or need correction.	Prepare monthly GAP dashboard and include GAP implementation in quarterly ESMP/safeguards reports. Review after DED changes, phasing changes, service relocation, repeated complaints, major incidents or AIIB/PIU comments. Report GBV/SEAH only in anonymous aggregate form.	Monthly dashboard and quarterly reports prepared. Corrective actions tracked to closure. GAP reviewed at least every 6 months.	Monthly, quarterly and every 6 months	PIU Safeguards, RSGP Humas, Gender Specialist, CMC/PMSC. Evidence: dashboard, quarterly report, action tracker.
21	A/B/D/E – L1	People living with or affected by HIV may experience stigma, discrimination, confidentiality breaches, denial of services or	Apply non-discrimination and medical-confidentiality requirements for patients and workers. HIV testing must be voluntary and based on informed consent. HIV status must not affect recruitment, employment, promotion or access to hospital services. Provide	Relevant policies and procedures updated before construction, designated confidential referral pathway operational, no substantiated unresolved HIV-related	RSGP Medical Services, HR, PPI/K3RS, Humas/DUMAS, contractor and	

No.	AIIB Focus / Layer	RSGP issue or risk	Customized action	Indicator / target	Timing	Responsible party / evidence
		employment disadvantage.	confidential referral and continuity-of-treatment support where required.	discrimination or confidentiality breach.	PIU safeguards team.	

7. Minimum Indicators for ESMP Monitoring

Monitoring topic	Minimum indicator
Gender baseline	Sex-disaggregated patient, staff, consultation, training and complaint data collected where available and appropriate.
Design review	Gender, disability and safety DED review completed, corrective design actions closed before final approval/occupancy.
Women participation	% women in general consultations, number of women-only/caregiver/PWD sessions completed.
Safe access	Number of access inspections, number and % of unsafe route findings corrected.
Service continuity	Number of complaints related to service disruption, temporary relocation, waiting time and patient flow, no unplanned critical service closure due to construction.
Privacy and dignity	Number of privacy, toilet, lactation-room, lighting and waiting-area issues identified and corrected.
Disability inclusion	PWD access audit completed, number and % of PWD access issues corrected.
Female staff safety	Number of female staff safety assessments, number and % of corrective actions closed, staff safety feedback reviewed.
GBV/SEAH prevention	% workers signing Code of Conduct, % workers trained on GBV/SEAH and respectful behaviour before site entry.
STI/HIV prevention	% workers receiving HIV/STI awareness at induction, referral information available without personal data disclosure.
Confidential GRM	Number of gender/harassment/SEAH/HIV complaints received and resolved, reported only in anonymised aggregate form.
Workforce inclusion	Contractor workforce and training participation disaggregated by sex and local/non-local status where available.

8. Confidential Handling of GBV/SEAH/HIV and Harassment Complaints

Use a separate restricted register for GBV/SEAH/HIV and harassment complaints, do not record survivor-identifying details in the general GRM dashboard.

Offer anonymous reporting and a trained female intake option. The complainant should not be forced to repeat the story to multiple people.

Prioritise immediate safety, dignity and consent of the survivor. Any referral to medical, psychosocial, legal or protection services should be based on the survivor's informed consent, except where mandatory reporting rules legally apply.

Apply non-retaliation. Contractors and staff must be warned that retaliation, intimidation or pressure on complainants is a serious breach.

For contractor-related cases, apply the Code of Conduct and disciplinary process while protecting confidentiality and not exposing the survivor.

Quarterly reports may include the number and status of sensitive complaints only in anonymised and aggregated form.

9. Minimum Contractor and Procurement Requirements

Requirement area	Minimum requirement
Bidding and contract	Include GAP, GBV/SEAH, Code of Conduct, worker GRM, STI/HIV awareness, accommodation, safe access, worker/public separation, non-discrimination and reporting

Requirement area	Minimum requirement
	obligations. STI/HIV prevention, confidentiality, non-discrimination, voluntary referral, safe accommodation and access, worker/public separation, and reporting duties.
Before mobilisation	Approve C-ESMP, OHS Plan, Traffic Management Plan, Worker Accommodation Plan if relevant, GBV/SEAH procedure, STI/HIV prevention and confidential referral procedure, Worker Code of Conduct and worker induction materials.
Site controls	Provide hoarding, lighting, signage, safe routes, access registration, restricted worker movement, flagmen/marshals and ambulance/emergency access protection.
Worker welfare	Provide clean WASH, safe drinking water, rest areas, sex-appropriate PPE, fair working hours, BPJS, contracts and worker grievance channels, and voluntary, confidential HIV counselling, testing, and referral. Do not require HIV testing or status disclosure for employment.
Sensitive complaints	Handle GBV/SEAH cases through a survivor-centred procedure. Handle HIV-related health, privacy, or discrimination cases confidentially through the HIV/PIMS focal point or qualified counsellor. Apply both protocols where cases overlap.
Reporting	Report workforce data, training, Code of Conduct compliance, grievances, OHS incidents, accommodation checks, access inspections, and corrective actions. Report HIV-related information only in anonymised and aggregated form, never include individual HIV status in routine reports..

10. Priority Actions Before Construction

Complete the gender and vulnerable-group baseline using RSGP patient, staff, complaint and consultation data.

Complete gender, disability and safety DED review before design approval.

Prepare Hospital Service Continuity and Patient Transfer Plan with specific measures for TB/MDR-TB patients, women caregivers, elderly patients, pregnant women, PWD and JKN users.

Prepare Safe Access and Wayfinding Plan and Construction Traffic Management Plan before mobilisation.

Require contractor GBV/SEAH procedure, Code of Conduct, STI/HIV awareness materials and worker induction before site entry.

Set up confidential GRM handling, including anonymous reporting and trained female intake option.

Confirm referral contacts for GBV/SEAH, medical, psychosocial, legal and protection support before disclosure of confidential channels.

Conduct targeted consultation with female staff, women patients, caregivers, PWD representatives, local women/community groups and vulnerable patient groups.

Include GAP requirements in bidding documents, C-ESMP, supervision checklist and monthly reporting template.

11. Institutional Responsibilities

Party	Core responsibilities
PIU Safeguards	Overall GAP oversight, integration into ESMP reporting, review of contractor compliance, escalation of unresolved issues and AIIB reporting.

Party	Core responsibilities
RSGP Direksi / Management	Integrate GAP actions into hospital service continuity, staffing, patient communication, facility readiness and operational procedures.
RSGP Humas / DUMAS	Operate accessible and confidential complaint channels, sort project-related complaints and prepare monthly dashboards.
RSGP HR, K3RS, PPI, Kesling, Security	Implement female staff safety, OHS, infection prevention, WASH, medical waste protection, security patrols and worker/public access controls.
DED Consultant	Apply gender, disability, safety and GBV/SEAH design review checklist and revise drawings/specifications where needed.
Contractor and Subcontractors	Implement C-ESMP, Code of Conduct, GBV/SEAH and STI/HIV training, safe access, labour management, accommodation controls and incident reporting.
CMC/PMSC / Supervision Consultant	Verify contractor compliance, conduct inspections, track corrective actions and support safeguards reporting.
Gender/Social Specialist	Support baseline update, consultations, GAP monitoring, sensitive referral pathway and corrective action tracking.

12. Linkage to ESIA-ESMP Instruments

Instrument	GAP integration
Chapter 5 - Social Baseline	Update gender, disability and vulnerable group data for patients, staff, consultations and complaints.
Chapter 7 - Impact Assessment	Assess gender-differentiated impacts from access disruption, service continuity, traffic, dust/noise, labour influx, GBV/SEAH, privacy and OHS.
Chapter 7 / ESMP	Include safe access, privacy, separate toilets, lactation/rest areas, Code of Conduct, SEAH prevention, confidential GRM, STI/HIV awareness and monitoring indicators.
Chapter 9 / SEP	Require targeted consultation with women patients, female staff, caregivers, PWD representatives and local women/community groups.
Chapter 10 / GRM	Add confidential reporting, anonymous reporting and trained female intake option for harassment and GBV/SEAH.
Annex B - Labour Management Plan	Include non-discrimination, worker welfare, OHS, GBV/SEAH, STI/HIV awareness, worker GRM and accommodation controls.
C-ESMP and Contractor Method Statements	Translate the GAP into site controls, access controls, induction, security procedures, signage, WASH, inspections and monthly reporting.

13. Reporting and Review

The PIU Safeguards team and RSGP Humas/DUMAS should maintain a monthly GAP dashboard covering consultation, GRM, access, service continuity, workforce, training, safety audits and corrective actions.

Quarterly ESMP/safeguards reports should summarise GAP implementation status, open and closed corrective actions, major risks, complaint trends and any required escalation to RSGP management and the PIU.

GBV/SEAH and harassment cases must be reported only in anonymised and aggregated form. Survivor-identifying information must not appear in routine reports.

The GAP should be reviewed when the DED changes, construction phasing changes, service relocation plans change, new baseline data become available, recurring complaints show that mitigation is not working, or AIIB/PIU requires updates.

Annex F - Heritage Impact Assessment and Cultural Heritage Management Plan (CHMP)

Executive Summary

This Heritage Impact Assessment and Cultural Heritage Management Plan (CHMP) has been prepared as Annex I to the RSGP ESIA-ESMP. It operationalises the heritage protection regime introduced in the cultural heritage baseline and construction impact assessment sections of the ESIA-ESMP. The plan applies to the redevelopment of RS Goenawan Partowidigdo within the existing hospital campus in Cisarua, Bogor.

Available project documents indicate that RSGP is a long-established pulmonary hospital campus with early institutional history linked to the Methodist Zending Hospital Tjisaroea era, the Sanatorioem Tjisaroea Bogor era under S.C.V.T., and later Indonesian state health service use. The ESIA-ESMP identifies potential heritage receptors associated with building stock from the 1914 and 1928 periods and the current “Heritage Eksekutif” wing. Formal designation status remains a data gap and must be confirmed with the competent cultural heritage authority before preparatory works that may affect those receptors.

Until formal confirmation is received, this CHMP applies a conservative assumption that the 1914 buildings, 1928 sanatorium-era buildings, and the “Heritage Eksekutif” wing are treated as designated heritage or as objects suspected to be cultural heritage. This approach is necessary because the structures are potentially over 50 years old and may carry historic, architectural, scientific, social and institutional value related to tuberculosis treatment, pulmonary medicine and health-service history in Cisarua.

The principal heritage risks are not expected to arise from land acquisition, because the project is planned within the existing Ministry of Health hospital land. The main risks relate to accidental physical damage, vibration from piling and compaction, dust and moisture effects on old fabric, contractor encroachment, unapproved alteration, visual and setting impacts, and chance finds during excavation or utility works. The management strategy therefore focuses on documentation, avoidance, physical protection, vibration control, contractor training, chance-find procedures, authority coordination and post-construction inspection.

Key Issue	Working Determination
Heritage status	Not yet formally confirmed. Treat 1914, 1928 and Heritage Eksekutif receptors as designated or suspected cultural heritage until BPCB / cultural heritage authority confirms otherwise.
Impact type	Mainly construction-interface risk: vibration, accidental damage, dust, drainage/moisture, visual setting change and chance finds.
Overall significance without controls	Moderate to High for heritage buildings close to piling, demolition, compaction or heavy equipment movement.

Key Issue	Working Determination
Residual significance with CHMP controls	Low to Moderate, provided no direct demolition or irreversible alteration of heritage fabric is allowed without authority review and written approval.
Pre-construction gate	No physical works near potential heritage receptors until archival recording, condition assessment, authority consultation and contractor method statements are completed.

1 Introduction

1.1 Purpose

The purpose of this document is to identify and assess potential impacts on cultural heritage receptors within the RSGP campus and to define practical management measures for preventing, minimising, monitoring and correcting those impacts. The document functions as both a Heritage Impact Assessment and a Cultural Heritage Management Plan for incorporation into the ESIA-ESMP and Contractor ESMP.

1.2 Scope of Application

This CHMP applies to all pre-construction, construction and early operation activities that may affect known or suspected cultural heritage within the RSGP campus, including demolition interface works, excavation, piling, compaction, utility relocation, temporary access routes, stockpiles, contractor laydown areas, drainage works, façade-adjacent works and adaptive reuse of older hospital buildings.

The CHMP applies to the following parties: RSGP management, the Project Implementation Unit, the DED consultant, supervising engineer, main civil works contractor, subcontractors, demolition contractor, conservation specialist, environmental and social consultant, security personnel, and any hospital unit occupying or managing heritage-sensitive buildings.

1.3 Project Description Relevant to Heritage

The RSGP redevelopment forms part of the TRUST Project and is financed by AIIB. Project documentation identifies new Buildings A, B, C and J-M to support emergency and diagnostic functions, advanced patient care, general patient care/JKN services, and research, education and training functions. The project is planned within the existing RSGP campus and Ministry of Health landholding at Jl. Raya Puncak KM 83, Desa Cibeureum, Kecamatan Cisarua, Kabupaten Bogor.

Component	Function	Indicative Area / Capacity	Heritage Interface
Building A	Integrated emergency and diagnostic centre, including emergency services and advanced diagnostics.	Approx. 9,112 m2	Confirm distance to any older building fabric and Heritage Eksekutif wing, apply vibration and movement controls if within influence area.

Component	Function	Indicative Area / Capacity	Heritage Interface
Building B	Advanced patient care and high-acuity services.	Approx. 14,244 m2	Check foundation method and crane/equipment route against heritage receptor buffer.
Building C	General patient care and JKN-related inpatient services.	Approx. 8,550 m2	Avoid temporary works near heritage façades, confirm no demolition of historic fabric.
Building J-M	Research, education, training, auditorium, meeting and simulation functions.	Approx. 7,500 m2	Assess visual setting and campus heritage narrative integration.
Temporary works	Laydown areas, access, utility relocation, stockpiles and contractor facilities.	Subject to DED / contractor planning	No temporary occupation or heavy traffic within heritage protection buffer unless approved by the conservation specialist and PIU.

2 Project Context and Heritage Baseline

2.1 Historical Context

The RSGP campus has a long-standing health and institutional land-use history in Cisarua. Available documents present several early-history milestones that should be reconciled during archival verification: an early Zending-related health/education presence, the Methodist Zending Hospital Tjisaroea period around 1914, the S.C.V.T. sanatorium period from around 1928, the laying of the tuberculosis sanatorium foundation stone in 1938, the Indonesian-state pulmonary hospital period from 1978, and the later use of the name RS Goenawan Partowidigdo from 2004. These milestones demonstrate that the campus has institutional, medical-history and potential architectural value, even where formal designation status has not yet been confirmed.

2.2 Known and Potential Heritage Receptors

The following receptors are identified for the purposes of this HIA/CHMP. The list must be updated once the heritage inventory and BPCB / cultural heritage authority response are available.

No.	Receptor	Indicative Significance	Current Status	Management Approach
1	1914 Methodist Zending-era building stock / fabric, if still extant on site	Potential historic, architectural and medical-institutional value, likely highly sensitive due to age and rarity.	Formal status not confirmed, assume suspected cultural heritage.	Protect from demolition, vibration and accidental damage, undertake archival record and condition survey.

No.	Receptor	Indicative Significance	Current Status	Management Approach
2	1928 Sanatorioem Tjisaroea / S.C.V.T. era building stock / fabric, if still extant	Potential historic value linked to tuberculosis and pulmonary care, likely highly sensitive.	Formal status not confirmed, assume suspected cultural heritage.	Map, photograph, survey and establish buffer, consult authority before any intervention.
3	Current "Heritage Eksekutif" wing	Internal hospital recognition of heritage value, potential architectural and social value.	Operational hospital use, formal status not confirmed.	Maintain service safety while preventing irreversible alteration, condition survey before nearby works.
4	Campus landscape features associated with older buildings	Potential contextual value such as historic circulation, views, trees, garden setting, plaques or memorial elements.	Inventory pending.	Document and avoid unnecessary removal, relocate only after assessment and approval.
5	Unknown sub-surface objects or features	Potential archaeological or historic remains from earlier institutional phases.	Unknown until excavation.	Apply chance-find procedure, stop work and notify competent authority if found.

2.3 Sensitivity Rating

For a conservative assessment, the potential 1914 and 1928 receptors and Heritage Eksekutif wing are rated as High sensitivity. This is because the receptors may be more than 50 years old, may be rare examples of health-facility heritage in the Puncak highland corridor, and may hold social and institutional meaning for RSGP staff, patients and the surrounding community. Unknown buried heritage is rated Moderate to High sensitivity depending on the nature of any find.

3 Policy, Legal and Lender Framework

This CHMP applies the stricter requirement where Indonesian law, AIIB requirements and good international industry practice differ. The practical implication is simple: any receptor that may be cultural heritage must be identified, protected and managed before works proceed in its area of influence.

Framework	Main Relevance to this CHMP
Law No. 11 of 2010 on Cultural Heritage	Defines cultural heritage objects, buildings, structures, sites and areas, establishes protection, development and utilisation principles, provides the basis for protecting buildings or objects meeting cultural heritage criteria.
Government Regulation No. 1 of 2022 on National Register and Preservation of Cultural Heritage	Provides implementation rules for national registration and preservation, including protection of objects suspected to be cultural heritage, conservation, development, utilisation, management, supervision and funding.
Regional Regulation of Bogor Regency No. 6 of 2023 on Advancement of Regional Culture and Regional Cultural Heritage	Provides the local policy basis for safeguarding Bogor cultural values and heritage assets, including coordination with local cultural institutions.
AIIB Environmental and Social Framework, ESS1	Requires assessment and management of environmental and social risks, including cultural heritage and community health and safety, and application of the mitigation hierarchy.
ESIA-ESMP and Contractor ESMP	Translate the CHMP into construction controls, monitoring, reporting, training and corrective action requirements.
Good international practice	Applies precautionary protection, archival recording, qualified conservation review, no-go zones, vibration monitoring, reversible intervention and chance-find procedures.

4 Methodology and Assessment Assumptions

4.1 Information Reviewed

- RSGP ESIA-ESMP Draft v1.1 and earlier draft sections on cultural heritage, project components, land status, and mitigation hierarchy.
- RSGP RAP / Social Due Diligence Report, including land status, institutional history and third-party impact screening.
- RSGP Feasibility Study / Pre-FS information on project scope, location, access and hospital redevelopment needs.
- AIIB ESF 2024 and Indonesian cultural heritage regulations.
- User-provided CHMP requirements for documentation, protective measures, chance-find procedure, post-construction inspection and adaptive reuse.

4.2 Assessment Steps

1. Identify known and potential cultural heritage receptors based on project documents and working assumptions.
2. Define sensitivity of each receptor, considering age, historic value, social value, rarity, formal status and reversibility of possible damage.
3. Identify project activities that may affect the receptors during pre-construction, construction and operation.
4. Assess impact magnitude and likely significance before and after mitigation.

5. Define management controls, monitoring requirements, responsibility and reporting triggers.

4.3 Key Assumptions and Limits

The assessment is prepared before formal BPCB / cultural heritage authority confirmation and before final DED interface drawings are available. As a result, the CHMP must be updated after: (i) formal heritage status confirmation, (ii) completion of a measured heritage inventory, (iii) finalisation of demolition and foundation methods, and (iv) confirmation of the distance between piling/compaction points and heritage receptors.

In case of uncertainty, this CHMP applies the precautionary approach. No demolition, alteration, drilling, trenching, anchoring, façade works, service penetration, or vibration-generating activity may occur on or immediately adjacent to the suspected heritage fabric until the relevant receptor has been assessed by a qualified conservation specialist and, where required, cleared by the competent authority.

5 Cultural Heritage Receptors and Sensitivity

Receptor	Heritage Value	Sensitivity	Main Vulnerability
1914-era building fabric	Historic association with early health-service development in Cisarua, potential architectural and institutional value.	High	Vibration, façade cracking, accidental strike, unapproved alteration, moisture ingress and loss of context.
1928 sanatorium-era building fabric	Historic association with tuberculosis treatment and pulmonary care, potential medical-history value.	High	Foundation vibration, settlement, dust and water damage, utility trenching and heavy equipment proximity.
Heritage Eksekutif wing	Operational and symbolic heritage value acknowledged by hospital use and naming.	High	Disruption during adjacent works, changes to façade/interior fabric, poor temporary protection and uncontrolled service modifications.
Historic campus landscape and setting	Contextual value for reading the hospital as an older health campus in the highland Puncak corridor.	Moderate to High	Temporary occupation, loss of trees/paths/signage, visual clutter, poor reinstatement.
Unknown buried features or artefacts	Possible historical remains from earlier institutional phases.	Moderate to High	Excavation, trenching, removal as waste, lack of reporting.

6 Heritage Impact Assessment

6.1 Impact Pathways

The main impact pathways are construction-related. They include direct physical intervention, vibration, accidental damage, dust and moisture, contractor encroachment, changed setting, disruption to public or staff appreciation of the heritage fabric, and chance finds. Operational impacts are expected to be lower, but adaptive reuse and future maintenance may still create risks if works are carried out without conservation review.

Project Activity / Source	Potential Heritage Impact	Pre-Mitigation Significance	Required Control	Residual Significance
Demolition of non-heritage structures near old fabric	Accidental damage to adjacent façade, roof, drains, foundation or landscape features.	High if within influence area	Confirm heritage buffer, install protective hoarding, supervise demolition, prohibit impact tools adjacent to heritage fabric without approval.	Low to Moderate
Piling, compaction, heavy equipment movement	Vibration-induced cracks, settlement, detachment of plaster, damage to old masonry or timber elements.	High for nearby receptors	Set vibration limit below 5 mm/s PPV at heritage receptor unless specialist sets stricter level, continuous vibration monitoring, stop-work trigger.	Moderate
Excavation and utility relocation	Damage to unknown sub-surface features or old buried infrastructure.	Moderate to High	Chance-find procedure, toolbox briefing, archaeological watching brief where high-risk excavation is identified.	Low to Moderate
Dust, runoff and water ponding	Staining, moisture ingress, blocked drainage, biological growth on older fabric.	Moderate	Dust suppression away from façades, drainage diversion, no stockpiling against heritage walls, regular inspection.	Low
Temporary laydown, stockpile, parking and access	Encroachment into heritage buffer, visual clutter, collision risk and soil compaction	Moderate	Designate no-go zones, traffic marshal, physical barriers,	Low

Project Activity / Source	Potential Heritage Impact	Pre-Mitigation Significance	Required Control	Residual Significance
	around old structures.		signage, weekly compliance checks.	
Adaptive reuse or building services upgrade	Irreversible loss of authentic material, inappropriate modern finishes, penetrations or blocked ventilation.	High	Conservation design review, reversibility principle, authentic-material specification, authority approval if required.	Low to Moderate
Post-construction operation and maintenance	Gradual deterioration if defects or construction damage are not corrected.	Moderate	Post-construction condition survey, defect rectification by qualified conservator, maintenance plan.	Low

7 Cultural Heritage Management Plan

7.1 Management Objectives

- Avoid demolition, alteration or direct disturbance of suspected heritage fabric unless formally assessed and approved.
- Prevent construction-related vibration, accidental impact, dust, water damage and encroachment from damaging heritage receptors.
- Ensure all relevant workers understand heritage no-go zones and chance-find requirements before work starts.
- Record the existing condition of heritage receptors before construction and verify that any damage is corrected after construction.
- Maintain the operational function of the hospital while protecting heritage values and patient/staff safety.

7.2 Pre-Construction Controls

Control	Minimum Requirement	Responsibility	Timing / Evidence
Formal status confirmation	Submit formal request to BPCB Banten / competent cultural heritage authority and local culture agency to confirm whether identified buildings are registered, designated, candidate heritage, or not designated.	PIU / RSGP / EGI Cultural Heritage Specialist	Before preparatory works near old buildings. Evidence: letter sent, minutes, authority response.
Heritage inventory	Prepare building-by-building inventory for all pre-1975 and visually old structures, include location, age estimate, use, photographs, condition, materials and significance.	Qualified conservation specialist with RSGP IPSRS support	Before DED freeze and contractor mobilisation. Evidence: inventory register.

Control	Minimum Requirement	Responsibility	Timing / Evidence
Archival recording	Collect historic photographs, plans, institutional records, plaques, inscriptions and staff knowledge relevant to 1914, 1928, sanatorium and Heritage Eksekutif receptors.	RSGP / conservation specialist	Before construction. Evidence: archival record folder.
Dimensional survey	Prepare measured drawings or dimensioned sketches, façade elevations, key architectural features and cracks/defects map.	Conservation specialist / DED consultant	Before adjacent construction. Evidence: measured record.
Photographic record	High-resolution photographs of façades, interiors where accessible, roof, drainage, foundation visible area, landscape features and existing defects.	Conservation specialist	Before nearby works. Evidence: geo-tagged photographic log.
Condition assessment	Record structural and material condition, existing cracks, damp, deformation, plaster detachment, roof leaks and drainage condition.	Conservation specialist / structural engineer	Before nearby works. Evidence: baseline condition report.
DED interface review	Overlay final new building footprint, piling points, crane route, access route, laydown area, drainage and utilities against heritage receptor map.	DED consultant / Supervising Engineer / EGI	Before approval of construction method statements. Evidence: signed interface drawing.

7.3 Construction-Phase Protective Measures

Measure	Requirement	Performance Standard / Trigger	Responsibility
Heritage buffer / no-go zone	Install visible fencing, tape, signage or hoarding around heritage façades and landscape features.	No access, storage, parking or equipment movement inside buffer except authorised inspection or protection works.	Contractor / Supervising Engineer
Hoarding and façade protection	Provide protective hoarding where construction occurs near façades, do not attach fixings to heritage fabric unless approved.	No drilling, anchoring or loading on heritage walls without conservation approval.	Contractor
Vibration control	Monitor PPV at heritage receptor during piling,	Typical limit below 5 mm/s PPV at heritage receptor	Contractor / OHS &

Measure	Requirement	Performance Standard / Trigger	Responsibility
	compaction, demolition and other vibration-generating works.	unless conservation/structural specialist sets stricter threshold. Alert at 70% of limit, stop work at exceedance.	Environment Team / Supervising Engineer
Restricted-hour operations	Schedule high-vibration or high-noise works during agreed daytime periods, avoid night works near heritage receptors.	No restricted activity outside approved hours without written authorisation.	Contractor / PIU
Dust and water protection	Use dust suppression, covers and drainage controls, keep stockpiles away from old walls and drainage lines.	No visible dust accumulation or water ponding against heritage fabric.	Contractor
Traffic and lifting control	Use banksman/marshal for truck and crane movement near heritage zones.	Zero collision / near-miss incidents involving heritage receptor.	Contractor
Toolbox training	Train workers on heritage sensitivity, no-go zones, chance finds and reporting channels.	100% of workers involved in excavation, demolition, piling and heavy equipment activities trained before work.	Contractor / EGI / RSGP
Incident response	Any crack growth, impact, vibration exceedance, chance find, or unauthorised work triggers immediate stop-work in affected area and notification.	Incident report within 24 hours, corrective action before resumption.	Contractor / Supervising Engineer / PIU

7.4 Adaptive Reuse and Intervention Principles

If a heritage receptor requires intervention for continued hospital use, the design shall follow the principles of minimum intervention, reversibility, compatibility of materials, retention of significant fabric, documentation before and after works, and authority consultation where required. New services should be routed through existing penetrations where possible. Additions should be distinguishable but visually compatible and should not conceal or destroy significant features.

- Do not demolish or remove original fabric unless there is no reasonable alternative and approval is obtained.
- Use authentic or compatible material specifications for repairs, including mortar, plaster, timber, roof elements and façade finishes.

- Ensure accessibility, fire safety, seismic strengthening and hospital infection-control upgrades are designed to minimise heritage loss.
- Retain plaques, inscriptions, historic signage, commemorative objects, distinctive windows, doors, columns, roof forms and façade rhythms where safe and technically feasible.
- Prepare a short adaptive-reuse design note for any alteration to Heritage Eksekutif or other suspected heritage building.

7.5 Post-Construction Controls

Control	Requirement	Timing	Output
Post-construction inspection	Repeat condition survey using the same photographic points and crack markers as pre-construction survey.	Within 30 days after completion of nearby heavy works and again before handover.	Condition comparison report.
Damage rectification	Repair any construction-related incidental damage using qualified conservator and compatible materials.	Before final handover of affected construction package.	Signed rectification record.
As-built heritage file	Compile final drawings, photos, monitoring logs, incidents, repairs and authority correspondence.	Before project close-out.	Heritage close-out file.
Maintenance recommendations	Prepare annual inspection and maintenance checklist for drainage, cracks, damp, roof, vegetation and façade condition.	At operational handover.	Maintenance checklist integrated into IPSRS routine.

8 Chance-Find Procedure

The chance-find procedure applies to any previously unknown object, structure, buried feature, human remains, inscription, old foundation, ceramic, metal, timber, masonry, archival item or artefact encountered during excavation, trenching, demolition, drainage, utility relocation or other ground-disturbing works.

Step	Action	Responsible Party	Timeframe
1. Stop work	Immediately stop work within at least 10 metres of the find or a larger distance if needed for safety.	Worker / Foreman	Immediately
2. Secure area	Protect the find from theft, weather, traffic, vibration and unauthorised handling. Do not clean, move or remove the item unless required for safety.	Contractor / Security	Immediately

Step	Action	Responsible Party	Timeframe
3. Notify	Notify Site Manager, Supervising Engineer, PIU, RSGP, EGI Cultural Heritage Specialist and BPCB / competent authority as required.	Contractor / PIU	Within 24 hours
4. Initial recording	Record date, time, GPS/location, photos, depth, context, workers present and activity underway. Maintain confidentiality for sensitive finds.	EGI / Contractor	Within 24 hours
5. Specialist assessment	Qualified heritage specialist assesses the find and recommends protection, salvage, design change or release.	EGI / Authority	As directed by authority
6. Authority decision	Resume work only after written clearance or agreed method from competent authority / PIU.	PIU / Contractor	Before restart
7. Close-out	Maintain chance-find log and include in monthly ESMP report and final heritage close-out file.	Contractor / EGI	Monthly and close-out

9 Monitoring, Reporting and Corrective Action

Monitoring Item	Location	Frequency / Trigger	Indicator	Reporting
Heritage buffer condition	All mapped heritage receptors	Daily during adjacent works, weekly otherwise	Fence/hoarding intact, no storage or access breach	Daily site checklist, monthly ESMP report
Vibration PPV	Nearest point on heritage receptor closest to piling/compaction/demolition	Continuous during high-vibration activity	PPV below threshold, alert at 70%, stop-work at exceedance	Real-time log, incident report within 24 hours if exceeded
Crack / condition monitoring	Pre-identified cracks and sensitive features	Before works, weekly during adjacent works, after works	No new crack or measurable widening attributable to works	Condition monitoring sheet
Dust and water	Heritage façades, roof drainage, walls and buffer areas	Daily during earthworks and rainy periods	No visible dust build-up, no ponding against old walls	Site inspection report

Monitoring Item	Location	Frequency / Trigger	Indicator	Reporting
Chance-find readiness	All excavation and utility work fronts	Before excavation, toolbox refresh weekly	Workers briefed, chance-find posters available	Training attendance and toolbox records
Incident and corrective action	Any affected heritage receptor	Immediately after incident	Stop-work implemented, root cause recorded, repair plan approved	Incident report, close-out evidence
Post-construction condition	All heritage receptors within construction influence area	After heavy works and before handover	Baseline/post-work comparison completed	Post-construction inspection report

Any exceedance, new damage, unauthorised works, or unresolved heritage grievance must be escalated to the PIU and included in the next ESMP implementation report. Repeated non-compliance by a contractor should trigger contractual corrective measures, retraining and, where necessary, suspension of the relevant work activity.

10 Implementation Responsibilities

Party	Core Responsibilities
RSGP Director / Management	Approve site access for heritage survey, ensure hospital units cooperate, maintain operational safety, endorse no-go areas and adaptive-use decisions.
Project Implementation Unit	Ensure CHMP requirements are included in bidding documents, contracts, DED review, work permits and ESMP reporting.
EGI Cultural Heritage Specialist / Conservation Specialist	Prepare heritage inventory, condition assessment, training, chance-find assessment, monitoring review and post-construction inspection.
DED Consultant	Integrate heritage buffer and protection requirements into design, method constraints and interface drawings.
Supervising Engineer	Check contractor compliance, approve work method statements, verify vibration monitoring, issue stop-work instruction when required.
Main Contractor	Implement protective measures, train workers, monitor vibration, maintain logs, report incidents and comply with chance-find procedure.

Party	Core Responsibilities
Subcontractors / Demolition Contractor	Follow no-go zones, approved methods, PPE and heritage-specific controls, stop work immediately if chance finds or damage occur.
BPCB West Java / Competent Cultural Heritage Authority	Confirm heritage status, advise on protection requirements, review chance finds and approve resumption where needed.
/ Local Cultural Agency	Support local coordination, provide available records and participate in consultation where required.
RSGP IPSRS / Facility Maintenance	Maintain heritage assets after construction, track defects and integrate inspection into maintenance routine.

11 Data Gaps and Actions Before Construction

Data Gap / Risk	Why It Matters	Action Required	Responsible	Deadline
Formal designation status not confirmed	Determines legal process, authority approval and permitted intervention.	Send formal confirmation request and obtain written response from BPCB / competent authority.	PIU / RSGP / EGI	Before works near old buildings
No measured heritage inventory yet available	Cannot define exact buffer, receptor condition or impact significance.	Complete inventory, condition survey, photos and dimensional survey.	Conservation specialist	Before contractor mobilisation
DED and construction method not final	Vibration and physical-interface risks depend on foundation and equipment choices.	Overlay DED, piling points, demolition limits and access routes onto heritage map.	DED consultant / Supervising Engineer	Before method statement approval
Exact receptor distances unknown	Determines monitoring locations and vibration risk zone.	Survey and map distances from heritage receptors to piling, compaction, trenching and haul routes.	Surveyor / Contractor / EGI	Before construction layout approval
No agreed vibration trigger protocol	Contractor needs clear stop-work limit and response procedure.	Set trigger level, monitoring equipment, reporting template and stop-work authority.	PIU / EGI / Supervising Engineer	Before high-vibration works

Data Gap / Risk	Why It Matters	Action Required	Responsible	Deadline
Adaptive reuse requirements not defined	Risk of future irreversible alteration to Heritage Eksekutif or other old fabric.	Prepare adaptive reuse design brief if any intervention is proposed.	RSGP / DED Consultant / Conservation specialist	Before design approval

Annex G - Traffic Impact Analysis Summary

This Annex extracts the safeguards-relevant findings and commitments for the ESIA/ESMP, particularly those related to construction traffic, hospital access, patient safety, ambulance priority, and coordination with traffic authorities.

The uploaded ANDALALIN traffic count data for the Taman Safari / Puncak corridor confirms that the area is sensitive to peak-hour and weekend traffic. The weekday data shows the main corridor peak at approximately 1,644 smp/hour, while the weekend data shows a higher peak of approximately 1,935 smp/hour. This indicates that construction traffic must be carefully planned to avoid adding pressure to an already congested tourism corridor, especially during weekend and holiday periods.

The Construction Traffic Management Plan shall apply the following key principles:

Key principle	Required traffic-management action
Separation of construction and hospital traffic	Where technically feasible, construction vehicle entry and exit points shall be separated from the main hospital operational entry and exit points used by patients, visitors, staff, ambulances, and suppliers. If full physical separation is not possible, time-based separation and active traffic control shall be applied.
Protection of ambulance and emergency access	Ambulance routes and emergency access shall remain open at all times. Construction vehicles shall not queue, park, unload, or reverse in a way that blocks the emergency entrance, internal emergency route, or public road access.
Controlled access and vehicle registration	All construction vehicles shall use designated gates only. Vehicles shall be registered at entry and exit, including plate number, driver name, company, material type, arrival time, departure time, and destination within the site. Unauthorized vehicles shall not be allowed to enter the hospital campus.
Security control at access points	Trained security personnel shall be assigned at construction access points to control entry, prevent unauthorized access, check vehicle documents, and coordinate with hospital security were construction traffic interfaces with hospital users.
Flagmen / traffic marshals	Flagmen or traffic marshals shall be assigned during active construction vehicle movements, especially at gates, internal road crossings, pedestrian routes, patient drop-off areas, and any location where construction trucks interact with hospital or public traffic.
Delivery scheduling based on Puncak congestion risk	Heavy equipment mobilization, concrete pouring, demolition debris transport, and bulk material delivery shall be scheduled outside hospital peak hours and outside the busiest Puncak tourism periods as far as practicable. Weekend, public-holiday,

Key principle	Required traffic-management action
	and peak tourism-period truck movements shall be avoided or minimized unless approved through coordination with RSGP, the supervision consultant, Dishub, and Polantas.
Defined haulage routes	The Contractor shall define approved haulage routes for materials, equipment, waste, and demolition debris. Routes shall avoid narrow local roads, sensitive community access points, and areas with high pedestrian activity where practicable.
No roadside queuing	Construction trucks shall not wait or queue on Jalan Raya Puncak or in front of the hospital gate. A designated staging or holding area shall be identified before trucks are dispatched to the site.
Internal circulation control	Internal construction routes shall be marked with signage, barriers, cones, and speed limits. Construction traffic shall be separated from pedestrian routes, patient circulation routes, and active clinical service areas.
Pedestrian and vulnerable-user safety	Safe pedestrian routes shall be maintained for patients, visitors, elderly persons, persons with disabilities, carers, staff, and nearby community members. Temporary crossings, warning signs, lighting, and marshals shall be provided where routes are changed.
Vehicle standards and load control	Construction vehicles shall be roadworthy, licensed, covered when carrying loose materials, and equipped with functioning lights, horns, reverse alarms, and spill-prevention measures. Overloading shall be prohibited.
Dust, mud, and road cleanliness control	Wheel washing, road cleaning, and covered loads shall be used to prevent mud, dust, or material spillage on internal roads and Jalan Raya Puncak. Any road spill shall be cleaned immediately.
Coordination with authorities	The Contractor shall coordinate traffic arrangements with Dinas Perhubungan Kabupaten Bogor and Polantas Polres Bogor, especially for heavy equipment mobilization, abnormal loads, traffic control near the hospital frontage, and periods affected by Puncak tourism traffic management.
Communication with hospital users and community	Temporary access changes, parking changes, delivery restrictions, or road diversions shall be communicated in advance to hospital staff, patients, visitors, tenants, local residents, and relevant village/community representatives.

Key principle	Required traffic-management action
Monitoring and grievance response	Traffic-related complaints shall be recorded through the Project GRM and hospital complaint channels. Corrective actions shall be taken where complaints relate to blocked access, unsafe truck movements, dust/mud on roads, noise from night deliveries, parking disruption, or delayed ambulance/patient access.

The Construction Traffic Management Plan shall be prepared by the Contractor before mobilization and reviewed by RSGP Management, PIU, the Supervision Consultant, K3RS, IPSRS, Security, and the Traffic/ANDALALIN Specialist. The plan shall be updated when the DED, construction phasing, access gates, haulage routes, delivery schedule, or hospital service-continuity arrangements change.

Minimum monitoring indicators shall include: number of construction vehicles entering and exiting per day, number of unauthorized vehicle entries, number of traffic incidents and near misses, number of access-related complaints received through the GRM, number of ambulance or emergency access obstructions, number of road-spillage or road-damage events, and evidence of coordination with Dishub and Polantas.

Annex H - Asbestos Management Plan

1. Purpose

This Asbestos Management Plan (AMP) sets out the procedures for identifying, controlling, removing, transporting, and disposing of asbestos-containing material (ACM) and suspect ACM at RS Goenawan Partowidigdo. The purpose is to protect workers, hospital staff, patients, visitors, contractors, and nearby communities from possible exposure to asbestos fibres during pre-construction, enabling works, demolition, renovation, construction, and maintenance activities.

This AMP applies the precautionary principle. Any material identified as suspect ACM shall be treated as asbestos-containing until laboratory confirmation proves otherwise.

2. Scope

This AMP applies to all Project activities that may disturb old building materials or suspected asbestos-containing materials, including:

- demolition and partial demolition of existing buildings,
- removal of old roof sheets, ceilings, wall panels, insulation, pipe lagging, service ducts, floor materials, adhesives, and building fragments,
- utility relocation, maintenance, drilling, cutting, sanding, breaking, or other intrusive works in older buildings,
- handling, temporary storage, transport, and disposal of ACM or suspect ACM waste,
- emergency response if suspect ACM is accidentally broken, exposed, or disturbed.

This AMP covers all existing buildings and support facilities within or near the confirmed construction footprint of Building A, Building B, Building C, Building J-M, and other project-enabling areas. It also applies to any additional area where old materials are found during the works.

No asbestos-containing material shall be used in any new construction material, equipment, or building component procured for the Project.

3. Project Context and Risk Basis

RS Goenawan Partowidigdo is an active pulmonary and respiratory referral hospital. The redevelopment will be implemented within the existing hospital campus while hospital services continue. The Project includes new clinical, inpatient, diagnostic, education, training, and research buildings. Existing buildings and support facilities within the construction footprint may require demolition, partial demolition, temporary relocation, permanent relocation, or protection during construction.

The asbestos audit identified three tested material samples as suspect ACM. The findings indicate that the materials show mineral or inorganic composition with fibrous, fibre-like, layered, brittle, or fragmented characteristics. The audit did not conclude that the samples are definitively positive

asbestos, however, all suspect materials must be managed as ACM until further confirmation testing is completed.

This is a sensitive risk because RSGP is a pulmonary hospital. Patients may include people with respiratory disease, TB, MDR-TB, lung infection, asthma, COPD, cancer, and other conditions that make dust and airborne fibre control especially important.

4. Applicable Requirements and Standards

The AMP shall be implemented in line with applicable Indonesian laws and standards, AIIB ESF requirements, and good international industry practice. The following requirements shall guide implementation:

- occupational health and safety requirements for asbestos handling,
- hospital occupational health and safety / K3RS requirements,
- environmental health requirements for hospitals,
- hazardous and toxic waste / B3 waste management requirements,
- AIIB Environmental and Social Framework, especially requirements on environmental and social risk assessment, pollution prevention, occupational health and safety, community health and safety, labour and working conditions, and monitoring,
- good practice for asbestos survey, containment, air monitoring, worker protection, packaging, transport, and final disposal.

Where there is a difference between Indonesian requirements, AIIB ESF requirements, and good international practice, the stricter requirement shall apply.

5. Key Management Principles

The Project shall apply the following principles:

1. **No disturbance before clearance.** No demolition, renovation, drilling, cutting, sanding, dismantling, or intrusive work may start in areas with old or suspect materials until asbestos screening and approval are completed.
2. **Treat suspect ACM as ACM.** All suspect ACM shall be treated as asbestos-containing unless confirmed negative by competent laboratory analysis.
3. **Avoid disturbance where possible.** ACM or suspect ACM that is stable and outside the construction footprint should be left in place, labelled, protected, and monitored, unless removal is required for safety, demolition, or future works.
4. **Remove before demolition.** Confirmed ACM or high-risk suspect ACM located in demolition or construction areas shall be safely removed by trained and licensed personnel before structural demolition starts.

5. **Prevent fibre release.** Wet methods, careful handling, containment, restricted access, and no dry sweeping shall be mandatory.
6. **Protect hospital operations.** ACM works shall be separated from active hospital services, patient routes, staff routes, air intakes, clinical areas, and public areas.
7. **Use competent personnel.** ACM survey, removal, air monitoring, transport, and disposal shall be carried out by competent and, where required, licensed parties.
8. **Document every step.** The Project shall maintain an asbestos register, survey reports, laboratory results, work permits, training records, air monitoring results, waste manifests, disposal certificates, and clearance records.

6. Initial Suspect ACM Register

The following register is based on the asbestos audit and shall be verified and updated before construction mobilisation and before any demolition or renovation work.

No.	Area / Sample	Initial Audit Finding	Current Status	Required Action
1	Sample 1 – Around Guest House and Kiara Payung	SEM showed clear elongated fibre structures, bundled and layered morphology, with mineral composition including C, O, Mg, Al, Si, and Ca.	Suspect ACM, highest priority due to stronger fibre indication.	Restrict disturbance, label area, include in detailed ACM survey, confirm by PLM/TEM or equivalent method, remove or encapsulate depending on final work plan.
2	Sample 2 – Widuri	SEM showed rough, porous, fragmented material with elongated fibre-like structures, mineral composition includes C, O, Mg, Al, Si, and Ca.	Suspect ACM.	Label and monitor, confirm condition and quantity, remove before demolition or renovation if within affected area.
3	Sample 3 – Audit Sample #3 / demolition-related material to be confirmed on site	Material is layered, brittle, fragmented, and has complex mineral composition, fibre indication is weaker than Sample 1 but still requires control.	Suspect ACM until proven otherwise.	Reconfirm exact location in final register, prevent disturbance, include in detailed survey and manage as ACM if affected by works.

No.	Area / Sample	Initial Audit Finding	Current Status	Required Action
4	Other old roofs, ceilings, panels, pipe insulation, wall boards, old utility rooms, storage areas, and building fragments	Not fully confirmed by the initial selective audit.	Potential suspect ACM due to age and material type.	Include in full pre-demolition asbestos survey before any works.

The asbestos register shall remain a live document and shall be updated whenever new suspect material is found.

7. Pre-Demolition Asbestos Survey

Before any demolition, renovation, or intrusive work starts, the Contractor shall conduct a detailed pre-demolition asbestos survey for all buildings and areas affected by the Project. The survey shall be undertaken by competent asbestos survey personnel.

The survey shall cover:

- visible and accessible materials,
- hidden areas where safe access is possible, including above ceilings, service ducts, roof voids, utility rooms, pipe insulation, wall panels, and old storage areas,
- all buildings to be demolished, partly demolished, renovated, or affected by utilities relocation,
- areas close to active hospital services where ACM disturbance could affect patients, staff, visitors, or hospital operations,
- areas identified in the asbestos audit as suspect ACM or potential ACM.

The survey report shall include:

- annotated site map and floor plans,
- photographs of each suspect ACM location,
- material description and condition,
- sampling location,
- laboratory result,
- risk rating,

- friable or non-friable classification,
- estimated area, volume, or weight,
- recommended management method: leave in place, encapsulate, enclose, remove, or dispose,
- exclusion zone and containment requirements,
- proposed waste management route,
- clearance requirements.

No demolition or intrusive activity shall proceed in an affected area until the survey report has been reviewed and approved by the Construction Supervision Consultant, RSGP management, K3RS/OHS unit, sanitation/environmental health unit, IPSRS/engineering unit, PIU, and the relevant contractor HSE team.

8. Confirmation Testing

Where suspect ACM is found, representative samples shall be taken safely and analysed by an accredited laboratory. Acceptable methods may include PLM, TEM, XRD phase matching, or other recognised methods suitable for asbestos confirmation.

Until definitive laboratory confirmation is available, the material shall remain classified as suspect ACM and shall be controlled as ACM.

Sampling shall be conducted using safe methods to avoid fibre release. Sampling points shall be sealed after sample collection. Samples shall be packed, labelled, and transported to the laboratory with chain-of-custody documentation.

9. Risk Classification and Control Priority

The Project shall classify ACM or suspect ACM into three control priorities.

Priority	Description	Required Control
Priority 1 - Immediate Control	Damaged, brittle, friable, exposed, broken, weathered, or easily disturbed material, material in active work areas or near patients, staff, visitors, air intakes, or demolition areas.	Stop disturbance, isolate area, install warning signs, restrict access, conduct air monitoring if needed, prepare removal or encapsulation method statement, and remove or stabilise before further work.
Priority 2 - Planned Control	Suspect ACM in fair condition but located in areas that may be affected by future	Label, protect, include in work permit system, inspect regularly, and remove before planned disturbance.

Priority	Description	Required Control
	demolition, renovation, maintenance, or utility works.	
Priority 3 - Monitor and maintain	Stable suspect ACM outside current work areas and not likely to be disturbed.	Keep in place, label or map, prevent accidental contact, and inspect periodically.

10. In-Situ Management

Where ACM or suspect ACM is stable and not affected by the Project works, it may remain in place under controlled conditions. In-situ management may include:

- labelling or marking the location,
- recording the location in the asbestos register,
- restricting access if needed,
- covering, sealing, encapsulating, or enclosing the material if it is at risk of minor disturbance,
- prohibiting drilling, cutting, sanding, scraping, pressure washing, or dry cleaning,
- periodic inspection by K3RS/IPSRS and contractor HSE personnel,
- communication to maintenance workers, cleaning staff, security, and contractors.

Any change in condition, such as cracking, breakage, water damage, vibration damage, or dust release, shall trigger re-assessment and corrective action.

11. Work Permit and Hold Point System

The Project shall establish a permit-to-work system for any work in areas with old building materials or known/suspect ACM.

The permit-to-work shall confirm that:

- the area has been checked against the asbestos register,
- a pre-demolition or pre-work asbestos survey has been completed,
- ACM or suspect ACM has been removed, protected, or isolated,
- the method statement has been approved,
- workers have received asbestos awareness training,
- required PPE and respiratory protection are available,

- waste packaging and disposal route are ready,
- emergency response procedure is understood,
- RSGP service continuity and patient protection measures have been agreed.

The following are mandatory hold points:

1. no demolition before asbestos survey approval,
2. no ACM removal before AMP and method statement approval,
3. no structural demolition before ACM clearance certificate,
4. no area handover before final cleaning and visual inspection,
5. no resumption of work after accidental ACM disturbance until corrective action is approved.

12. Work Area Preparation

Before ACM or suspect ACM removal starts, the work area shall be prepared as follows:

- isolate the work area from hospital operations and public access,
- install warning signs in Bahasa Indonesia and English,
- establish controlled entry and exit points,
- provide worker decontamination area where needed,
- protect nearby doors, windows, corridors, air intakes, ventilation openings, drains, and clinical areas,
- use plastic sheeting, hoarding, barriers, or negative pressure enclosure where required,
- coordinate with RSGP to avoid impact on patient routes, staff routes, emergency access, oxygen/medical gas systems, HVAC systems, wastewater systems, and active services,
- conduct pre-work briefing for workers and hospital contact persons.

Where ACM works are near sensitive areas such as isolation wards, ICU/HCU, emergency department, outpatient areas, inpatient wards, pharmacy, laboratory, kitchen, or public waiting areas, additional protection and monitoring shall be applied.

13. Safe Removal Procedure

ACM removal shall be undertaken only by competent and authorised personnel. The Contractor shall prepare a detailed ACM removal method statement before work starts.

Minimum removal requirements include:

- wet the material using water or water mixed with surfactant before and during removal,

- avoid breaking, dropping, crushing, drilling, sawing, sanding, or grinding ACM,
- remove ACM in whole pieces as far as possible,
- use manual or low-impact methods where feasible,
- prohibit dry sweeping and compressed air cleaning,
- use HEPA-filtered vacuum equipment where available and appropriate,
- lower material carefully and place it directly into sealed packaging,
- clean the area using wet wiping or HEPA vacuum methods,
- inspect the area before barriers are removed.

Power tools shall not be used on ACM unless specifically justified in an approved method statement and supported by adequate containment, dust suppression, and air monitoring.

14. Personal Protective Equipment

Workers handling ACM or suspect ACM shall use PPE appropriate to the risk level, including:

- suitable respiratory protection, such as P3 or equivalent respirator,
- disposable coveralls,
- gloves,
- safety boots or boot covers,
- eye protection,
- hard hat and other construction safety PPE as required.

Disposable PPE shall be treated as asbestos-contaminated waste after use. Workers shall be trained in correct donning, doffing, cleaning, and disposal of PPE to prevent secondary contamination.

Eating, drinking, smoking, and storing personal items inside ACM work areas are prohibited.

15. Air Monitoring and Clearance

Air monitoring shall be conducted where there is a risk of airborne fibre release, especially during removal of friable ACM, damaged ACM, large-volume ACM, work near active hospital services, or works close to sensitive receptors.

Air monitoring may include:

- worker breathing zone sampling,
- work area sampling,

- boundary sampling at the exclusion zone,
- sampling near hospital-sensitive areas where relevant,
- clearance monitoring after removal and cleaning.

If air monitoring shows exceedance of the applicable threshold or indicates uncontrolled release, works shall stop immediately. The area shall be isolated, corrective actions shall be implemented, and work shall only restart after approval by the supervision consultant, RSGP, and PIU.

Before the area is released for demolition, construction, or normal hospital use, the Contractor shall complete final cleaning, visual inspection, and clearance documentation.

16. ACM Waste Management

All ACM and suspect ACM waste shall be managed as hazardous waste unless confirmed otherwise. Waste shall be handled to prevent fibre release, scavenging, reuse, or environmental contamination.

Minimum packaging requirements:

1. wet the ACM or suspect ACM material before packaging,
2. place waste in leak-tight, sealed packaging or container,
3. double-wrap or double-bag using strong plastic sheeting or bags,
4. seal all packages securely,
5. label packages clearly as asbestos-contaminated hazardous waste,
6. place packages in a secure temporary storage area,
7. keep asbestos waste separate from general construction waste, medical waste, recyclable waste, and domestic waste.

Temporary storage shall be:

- locked or access-controlled,
- protected from damage, rain, wind, and vehicle collision,
- clearly labelled,
- located away from patients, visitors, food areas, water channels, drains, and public routes,
- recorded in the waste log.

Transport and disposal shall be undertaken only by licensed hazardous waste transporters and disposal facilities in accordance with Indonesian requirements. Waste manifests, handover records, disposal certificates, and photographs shall be retained.

17. Emergency Procedure

If suspect ACM or ACM is accidentally broken, exposed, mishandled, or released:

1. stop work immediately,
2. evacuate non-essential personnel from the affected area,
3. isolate and barricade the area,
4. prohibit sweeping, touching, or moving the material,
5. notify the Contractor HSE Officer, Construction Supervision Consultant, RSGP K3RS/OHS unit, IPSRS, sanitation/environmental health unit, and PIU,
6. dampen the material if safe to do so,
7. arrange assessment by competent asbestos personnel,
8. collect and package loose material safely,
9. conduct cleaning and air monitoring if required,
10. prepare an incident report,
11. revise the method statement and conduct re-training before work restarts.

Work shall not resume until corrective actions are approved.

18. Training and Awareness

All workers involved in demolition, renovation, maintenance, waste handling, and asbestos-related activities shall receive asbestos awareness training before starting work.

Training shall cover:

- health risks of asbestos exposure,
- how to recognise suspect ACM,
- locations of known or suspect ACM in RSGP,
- prohibited work practices,
- permit-to-work requirements,
- PPE and respiratory protection,
- safe handling and packaging,
- emergency response,
- waste segregation and disposal,

- reporting and grievance channels.

RSGP K3RS, IPSRS, sanitation/environmental health, cleaning staff, security staff, and relevant hospital departments shall receive awareness briefings so they understand restricted areas, warning signs, and reporting procedures.

Visitors and patients do not need technical asbestos training, but they shall receive clear information if patient routes or service access are temporarily changed for safety reasons.

19. Occupational Health Monitoring

Workers who may be exposed to ACM shall be registered by the Contractor. Health monitoring shall be provided in accordance with applicable occupational health requirements and risk level. The Contractor shall maintain exposure records, training records, PPE records, and any medical surveillance records required by regulation.

Any suspected exposure incident shall be reported and followed up with occupational health review.

20. Community and Hospital Communication

Because the Project is located in an active hospital, asbestos-related works shall be communicated carefully. The Contractor and RSGP shall prepare clear communication materials for affected hospital units, staff, tenants, patients, visitors, and nearby users when asbestos works may affect access, routes, noise, dust control, or service movement.

Communication shall include:

- purpose of the control measures,
- areas that are restricted,
- temporary access changes,
- emergency contact person,
- grievance channel,
- expected duration of the work.

The communication shall avoid creating unnecessary alarm, while clearly explaining that suspect materials are being controlled to protect health and safety.

21. Grievance and Complaint Handling

Any complaint related to suspected asbestos exposure, unsafe demolition, dust, waste handling, worker conduct, access restriction, or lack of information shall be recorded through the Project GRM and/or the existing RSGP complaint mechanism.

Asbestos-related complaints shall be screened as project-related if they concern construction, demolition, contractor activity, or project-enabling works. Urgent complaints involving suspected

exposure or visible dust release shall be escalated immediately to the Contractor HSE Officer, RSGP K3RS/OHS unit, Construction Supervision Consultant, and PIU.

All asbestos-related grievances shall be tracked until closure, with evidence of corrective action.

22. Roles and Responsibilities

Party	Main Responsibilities
Ministry of Health / PIU	Overall oversight, ensure AMP is included in ESMP and procurement documents, review contractor compliance, receive monitoring reports, ensure corrective actions are implemented.
RSGP Management	Coordinate hospital access, service continuity, patient protection, communication, and internal units, approve hospital-specific access and isolation arrangements.
RSGP K3RS/OHS Unit	Support hazard identification, worker and staff awareness, incident response, health and safety monitoring, and coordination with hospital departments.
IPSRS / Engineering Unit	Provide building information, utility maps, maintenance history, and access support, ensure no maintenance work disturbs suspect ACM without permit.
Sanitation / Environmental Health Unit	Support hazardous waste management, temporary storage, manifests, disposal records, and environmental monitoring.
Construction Supervision Consultant	Review surveys, AMP, method statements, air monitoring, waste records, and clearance documents, supervise implementation, report non-compliance.
Contractor	Prepare and implement detailed AMP and method statements, conduct surveys, appoint competent asbestos personnel, train workers, provide PPE, manage removal, packaging, storage, transport, disposal, monitoring, and records.
Licensed Asbestos / Hazardous Waste Contractor	Conduct ACM removal, packaging, transport, treatment, and disposal in line with regulatory permits and approved method statements.
Accredited Laboratory	Conduct asbestos confirmation testing and air monitoring analysis where required.

Party	Main Responsibilities
Security Team	Support access control, exclusion zones, public route separation, and emergency response.

23. Monitoring Plan

Parameter	Location	Method	Frequency	Responsibility	Evidence
ACM register update	All affected buildings and suspect ACM areas	Visual inspection, survey report, photo log	Before mobilisation, before each demolition phase, after chance-find	Contractor, RSGP IPSRS, CSC	Updated ACM register
Condition of suspect ACM left in place	Guest House/Kiara Payung, Widuri, Sample #3 area, and other mapped areas	Visual inspection	Monthly during construction, quarterly if outside active works	RSGP K3RS/IPSRS and Contractor	Inspection checklist and photos
Worker training	All workers involved in demolition, renovation, waste handling	Attendance and competency check	Before work, refresher as needed	Contractor HSE	Training records
Work permit compliance	ACM-related work areas	Permit-to-work review	Each work activity	Contractor and CSC	Approved permit
Exclusion zone and signage	ACM work areas	Site inspection	Daily during ACM work	Contractor HSE, Security, CSC	Daily inspection log
PPE use	ACM work areas	Site inspection	Daily during ACM work	Contractor HSE	PPE checklist

Parameter	Location	Method	Frequency	Responsibility	Evidence
Airborne fibre / dust control	ACM removal areas, worker breathing zone, boundary, sensitive hospital receptors where relevant	Air sampling or dust monitoring as required by risk level	During removal, after incident, before clearance where required	Accredited laboratory / Contractor	Air monitoring report
Waste packaging and labelling	ACM packaging and temporary storage area	Visual inspection	Each waste batch	Contractor, Sanitation Unit, CSC	Waste log, photos
Transport and disposal	Temporary storage to licensed disposal facility	Manifest and disposal certificate	Each shipment	Contractor / Licensed transporter	Manifest and disposal certificate
Incident and emergency response	Any accidental disturbance or release	Incident report and corrective action tracking	As needed	Contractor, RSGP, PIU	Incident report and close-out evidence
Grievances	GRM and RSGP complaint channels	Grievance log review	Monthly	RSGP, Contractor, PIU	GRM register and closure record

24. Implementation Schedule

Stage	Required Action	Timing
ESIA finalisation	Include AMP as ESIA appendix and integrate key commitments into ESMP, C-ESMP requirements, and procurement documents.	Before ESIA final submission
Pre-mobilisation	Update asbestos register, complete detailed pre-demolition asbestos survey for all affected buildings, prepare final contractor AMP and method statements.	Before contractor mobilisation

Stage	Required Action	Timing
Before demolition or intrusive work	Confirm ACM status, remove or protect ACM, obtain clearance for affected areas.	Before each demolition or renovation package
During ACM works	Implement exclusion zones, PPE, wet methods, containment, air monitoring where required, and waste control.	During ACM removal or control
During construction	Maintain chance-find procedure, monthly inspection, and GRM tracking.	Throughout construction
Handover	Confirm no unmanaged ACM remains in work areas, submit final asbestos close-out report.	Before area handover
Operation / maintenance	Maintain register for any ACM left in place and apply permit-to-work for future maintenance.	Operational phase, as needed

25. Indicative Budget

The final budget shall be determined by the Contractor, asbestos specialist, confirmed ACM quantity, removal method, air monitoring requirement, transport distance, and disposal facility cost. A provisional budget shall be included in the ESMP and Contractor BOQ.

Cost Item	Indicative Allocation
Detailed pre-demolition asbestos survey, sampling, laboratory confirmation, and final AMP update	IDR 150,000,000 – 250,000,000
Labelling, temporary access control, awareness training, and routine inspection	IDR 25,000,000 – 50,000,000
Air monitoring and clearance monitoring	IDR 50,000,000 – 100,000,000
ACM removal, packaging, temporary storage, licensed transport, and disposal	To be determined based on confirmed ACM volume, provisional sum recommended
Emergency contingency for accidental ACM disturbance	IDR 50,000,000 – 100,000,000

Minimum provisional ESMP allocation: IDR 250,000,000. Final cost shall be determined through the Contractor's priced method statement and confirmed ACM quantity.

26. Documentation and Reporting

The following records shall be maintained and submitted to the Construction Supervision Consultant, RSGP, and PIU:

- asbestos survey report,
- asbestos register and location map,
- laboratory test results,
- approved AMP and work method statements,
- permit-to-work records,
- training records,
- PPE inspection records,
- air monitoring results,
- daily site inspection records,
- waste packaging and storage records,
- hazardous waste manifests,
- transport records,
- disposal certificates,
- incident reports,
- grievance records,
- final clearance and handover certificates.

Records shall be retained for the period required by Indonesian regulation and Project ESMP requirements.

27. Stop-Work Triggers

Work shall stop immediately if:

- suspect ACM is discovered unexpectedly,
- ACM is broken, cut, drilled, crushed, or disturbed without approval,

- visible dust or debris is released from suspect ACM,
- containment fails,
- air monitoring indicates exceedance or uncontrolled release,
- waste packaging is damaged,
- unauthorised personnel enter the exclusion zone,
- workers do not use required PPE,
- patient, visitor, or hospital staff safety may be affected.

Work may resume only after corrective actions are completed and approved.

28. Integration with ESMP and Contractor ESMP

This AMP forms part of the ESIA/ESMP. Its requirements shall be included in:

- Contractor ESMP,
- demolition method statement,
- hazardous materials management plan,
- waste management plan,
- OHS plan,
- community health and safety plan,
- hospital service continuity plan,
- traffic and access control plan where ACM transport affects hospital circulation,
- GRM procedure,
- monitoring and reporting plan.

The Contractor shall not treat this AMP as a separate document only. Its controls must be implemented in daily construction management and supervision.

29. Review and Update

This AMP shall be reviewed and updated:

- after completion of the detailed pre-demolition asbestos survey,
- after any new suspect ACM is found,
- before each major demolition package,

- after any asbestos-related incident,
- after changes in DED, demolition sequence, construction method, or building footprint,
- before final handover if any ACM remains in place for future maintenance management.

The updated AMP shall be approved by the Contractor, Construction Supervision Consultant, RSGP management, K3RS/OHS unit, sanitation/environmental health unit, IPSRS, and PIU.

Annex I – Draft SOP for Relocation of Hospital Services, Utilities and Supporting Facilities

Relocation of existing hospital functions, utilities, equipment and supporting facilities will be undertaken before the affected areas are released for demolition or construction. The indicative relocation locations and timing are presented in Table 8. Detailed planning, approval, implementation and monitoring requirements are provided in **Annex I – Draft SOP for Relocation of Hospital Services, Utilities and Supporting Facilities**. The SOP will be reviewed, completed and formally approved by RSGP and the PIU before the relevant relocation or construction activity begins.

Draft Standard Operating Procedure for Relocation of Hospital Services, Utilities and Supporting Facilities

1. Document status

Item	Information
Document title	SOP for Relocation of Hospital Services, Utilities and Supporting Facilities
Hospital	RS Goenawan Partowidigdo
Project	TRUST Project – RSGP Redevelopment
Status	Draft for inclusion in the ESIA-ESMP
Document owner	RSGP Directorate
Lead implementing unit	RSGP Directorate and designated Relocation Team
Reviewers	PIU, K3RS, PPI, IPSRS, affected clinical/support units and Supervision Consultant
Approval	RSGP President Director and PIU
Effective date	Before the first Project-related relocation
Review frequency	Before each relocation package and following any major incident or design change

This draft must be aligned with RSGP's existing disaster, K3RS, B3 spill, fire-safety, infection-control and emergency-response procedures before formal adoption. Existing hospital SOPs already address internal and external disasters, fire response, hazardous waste and infectious-fluid spills, but they do not by themselves provide a complete procedure for Project-related relocation.

2. Purpose

This SOP establishes the procedure for planning and implementing the temporary or permanent relocation of hospital services, utilities, equipment, records, staff functions and supporting facilities affected by the RSGP redevelopment.

The objectives are to:

- maintain safe and continuous hospital services,

- protect patients, carers, visitors, workers and hospital staff,
- prevent uncontrolled utility interruption,
- maintain infection prevention and emergency access,
- protect surrounding and retained buildings,
- control waste, spills, dust, noise, vibration and other environmental risks,
- provide timely information to affected users, and
- confirm that the replacement location is safe and operational before the original facility is closed.

3. Scope

This SOP applies to Project-related relocation involving:

- clinical and inpatient functions,
- pharmacy, laboratory, radiology, ICU, operating theatre and CSSD functions,
- nutrition, laundry, administration, medical records and training functions,
- generator, transformer, water, wastewater, drainage, medical gas, ICT and fire-safety systems,
- garages, storage facilities, dormitories, prayer rooms, cooperative and commercial facilities,
- patients, equipment, medicines, records, materials and staff, and
- temporary or permanent access routes associated with the relocation.

It applies to RSGP staff, the PIU, DED Consultant, Supervision Consultant, contractors, subcontractors, equipment vendors and other parties involved in the relocation.

4. Main principles

- **No relocation without an approved plan.**
  Each affected facility must have a facility-specific Relocation Plan and readiness checklist.
- **Replacement before closure.**
  A clinical service or critical utility must not be discontinued until its replacement or temporary arrangement is installed, tested and accepted.
- **Patient safety first.**
  Patient transfer will only occur where required and after approval by the responsible clinician, nursing unit, PPI and hospital management.
- **Continuity of emergency services.**
  IGD, ambulance routes, emergency power, medical gas, communications, water supply and fire-safety systems must remain available.
- **Separation from construction.**
  Patients, visitors and hospital staff must be physically separated from construction vehicles, demolition areas, waste routes and hazardous work.
- **Protection of sensitive information and materials.**
  Medical records, medicines, controlled substances, laboratory samples and confidential data must remain secure.
- **Advance communication.**
  Staff, patients, visitors, tenants and other affected users must receive clear information before changes occur.
- **Stop-work authority.**
  RSGP, the PIU and Supervision Consultant may stop relocation or related construction if safety, service continuity or environmental requirements are not met.

5. Roles and responsibilities

Responsible party	Main responsibilities
RSGP Directorate	Approve relocation sequence, temporary facilities, service-continuity arrangements and final handover
PIU	Review Project readiness, confirm ESMP compliance and coordinate with PMU and AIIB as required
Relocation Coordinator	Maintain the relocation programme, coordinate affected units and manage readiness meetings
Affected Unit Head	Inventory staff, services, patients, equipment and materials, prepare unit-specific transition arrangements
Medical Services and Nursing	Approve clinical transition, patient transfer and temporary service capacity
PPI	Approve infection-control zoning, clean/dirty routes, isolation arrangements and environmental cleaning
K3RS	Review safety risks, emergency procedures, evacuation routes and incident readiness
IPSRS/Engineering	Map, isolate, divert, test and commission utilities and technical systems
Pharmacy/Laboratory/CSSD/Nutrition	Control specialist materials, equipment, chain of custody and service-specific readiness
Humas	Issue notices, update signage, disclose the GRM and communicate service changes
Security	Control access, routes, crowd movement and protection of restricted materials
Contractor	Provide construction schedule, access requirements, work zones, utility-interface details and safe execution
Supervision Consultant	Verify readiness, inspect implementation and record corrective actions
Environmental and Social Personnel	Monitor environmental, social, access and grievance requirements

6. Required documents before relocation

The following documents must be prepared as applicable:

- facility-specific relocation plan,
- inventory of services, equipment, materials and records,
- patient-transfer plan, where required,
- temporary service layout,
- utility map and isolation/diversion plan,
- infection-control risk assessment,
- K3RS and emergency-readiness assessment,
- equipment disconnection, transport and recommissioning method,

- traffic and access plan,
- waste-management plan,
- stakeholder communication plan,
- grievance channel information,
- relocation schedule and responsible-person matrix, and
- pre- and post-relocation inspection forms.

7. Procedure

Step 1 -Confirm the affected facility

The Relocation Coordinator and affected unit shall confirm:

- the facility or asset to be moved,
- its current function and users,
- the reason for relocation,
- the proposed destination,
- the planned relocation date,
- construction dependencies,
- utilities connected to the facility,
- hazardous materials or waste present,
- nearby sensitive buildings and services, and
- whether patients or vulnerable users may be affected.

Step 2 -Undertake a facility-specific risk assessment

The assessment must cover, as applicable:

- interruption of clinical services,
- patient-transfer and infection risks,
- emergency and ambulance access,
- interruption of electricity, water, medical gas, ICT, fire alarm or wastewater systems,
- dust, noise and vibration affecting retained buildings,
- asbestos, B3 materials, fuel, chemicals or biological contamination,
- equipment damage or calibration loss,
- medicine, specimen and records security,
- accessibility for persons with disabilities,
- worker and visitor safety,
- tenant or livelihood disruption, and
- complaints or community-access concerns.

Risks, controls, responsible persons and verification evidence must be recorded.

Step 3 -Prepare and commission the replacement location

Before relocation, the replacement or temporary location must be inspected for:

- structural and fire safety,
- power and emergency-power availability,
- clean water and wastewater connections,
- medical gas, HVAC and pressure control, where relevant,

- infection-control zoning,
- accessible entrances and toilets,
- lighting and security,
- emergency exits and assembly points,
- communication and ICT systems,
- waste storage and collection,
- equipment space and load capacity, and
- appropriate signage and patient circulation.

The affected Unit Head, IPSRS, PPI, K3RS and hospital management must jointly issue a **Facility Readiness Certificate**.

Step 4 -Notify affected users

Humas and the affected unit shall provide advance notice through appropriate channels, including:

- notices at the existing and replacement facilities,
- staff briefings,
- patient and caregiver information,
- website, social media or WhatsApp where appropriate,
- wayfinding signs,
- contact details for assistance, and
- the Project GRM.

Notification should normally be provided at least seven days before relocation. Longer notice should be provided for major clinical, inpatient, access or tenant changes.

Step 5 -Prepare equipment, materials and records

Before movement:

- prepare a complete inventory,
- label all equipment and containers,
- identify fragile, calibrated or high-value equipment,
- secure confidential records,
- maintain the cold chain for medicines and samples,
- separately control narcotics and restricted medicines,
- disinfect clinical equipment where necessary,
- isolate energy sources using an approved lock-out/tag-out process,
- separate waste and obsolete materials, and
- record the person releasing and receiving each controlled item.

Step 6 -Implement the relocation

Relocation shall be conducted during the approved time window and under the supervision of the responsible Unit Head and Relocation Coordinator.

The following controls apply:

- keep emergency and public routes open,

- install barriers and directional signs,
- use trained staff for patient and medical-equipment movement,
- prevent mixing of clean items, dirty items and waste,
- use covered and appropriate transport,
- control noise and movement near inpatient areas,
- prohibit uncontrolled storage in corridors or emergency routes,
- maintain communication between the original and receiving locations, and
- keep emergency backup systems available.

Step 7 -Patient transfer, where required

Patient transfer shall only begin after the receiving area is accepted.

The responsible clinical team shall:

- identify patients suitable for transfer,
- prioritise patients according to clinical condition,
- brief patients and caregivers,
- maintain patient identification and records,
- provide appropriate clinical escorts,
- maintain oxygen, medication and monitoring requirements,
- use routes separated from construction activity,
- confirm arrival and clinical handover, and
- record any delay, incident or service interruption.

Infectious and non-infectious patients must use appropriately separated transfer arrangements approved by PPI.

Step 8 -Utility isolation or diversion

IPSRS and the contractor shall:

- verify affected utility lines,
- notify users before planned interruption,
- activate backup supply,
- test isolation points,
- apply lock-out/tag-out,
- isolate or divert utilities,
- confirm that no active service remains unintentionally connected,
- monitor the replacement supply, and
- issue a Utility Isolation or Diversion Certificate.

Unplanned interruption to critical electricity, water, medical gas, ICT, fire-safety or wastewater systems must be treated as an emergency.

Step 9 -Environmental and building-protection controls

Before the original facility is released for demolition or construction:

- remove medicines, chemicals, B3 materials, medical waste and general waste,
- inspect for asbestos and other hazardous materials,

- drain and clean tanks or pipes where required,
- inspect fuel and generator areas for spills or contamination,
- protect drains and retained utilities,
- photograph the condition of adjacent buildings,
- install dust, noise and vibration controls,
- establish building buffers or no-go zones where required, and
- confirm the licensed transport and disposal route for waste.

Step 10 -Post-relocation verification

Within 24 hours of relocation, the Relocation Team shall verify:

- service availability,
- patient and staff access,
- equipment operation,
- utility reliability,
- infection-control performance,
- emergency readiness,
- signage and wayfinding,
- waste collection,
- unresolved complaints, and
- any incident or corrective action.

A follow-up review shall be undertaken after seven days or sooner where problems are identified.

Step 11 -Release the former facility

The former facility may only be released for demolition, renovation or construction after:

- all persons, equipment, records and materials have been removed,
- utilities have been safely isolated,
- hazardous materials have been assessed and removed or controlled,
- waste has been cleared,
- the site is secured,
- adjacent services remain operational, and
- RSGP, the PIU and Supervision Consultant sign the **Facility Release Certificate**.

8. Facility-specific requirements

Facility type	Additional requirement
Pharmacy	Medicine inventory, cold-chain verification, narcotics chain of custody and secure temporary storage
ICU/operating theatre	Clinical-capacity confirmation, medical gas, emergency power, infection control and equipment validation
CSSD	Clean/dirty-flow separation, sterilisation validation and continuity of sterile supplies
Inpatient/isolation ward	Bed-capacity confirmation, patient-transfer plan, isolation arrangements and PPI approval

Facility type	Additional requirement
Laboratory	Specimen control, chemical inventory, biosafety, cold-chain and equipment calibration
Nutrition	Food safety, clean water, pest control, delivery routes and uninterrupted patient meal supply
Medical records/ICT	Confidentiality, data backup, secure transport and system testing
Generator/transformer	Backup supply, fuel and spill controls, fire protection and electrical safety
Water well/GWT	Alternative water capacity, water-quality testing and safe closure or isolation
IPAL	Continuous wastewater management, temporary bypass prohibition and emergency response
Prayer room or public facility	Replacement access, user notification, accessibility and consultation
Dormitory	Occupant notice, alternative accommodation and basic health, safety and sanitation inspection

9. Stop-work and emergency conditions

Relocation or related construction must stop where:

- the replacement location is not ready,
- critical services cannot be maintained,
- patient safety is at risk,
- emergency or ambulance access is obstructed,
- infection-control separation fails,
- an unknown utility is encountered,
- asbestos or unidentified hazardous material is found,
- a significant spill or contamination occurs,
- structural damage or abnormal vibration is observed,
- medical equipment is damaged,
- a serious complaint or security incident occurs, or
- approval conditions are not followed.

The incident must be reported immediately to RSGP management, PIU, K3RS and the Supervision Consultant. Work may resume only after corrective actions have been verified.

10. Monitoring indicators

The following indicators shall be included in monthly ESMP reporting:

- number of facilities relocated,
- percentage with approved Relocation Plans,
- percentage with Facility Readiness Certificates,
- number and duration of unplanned service interruptions,
- number of patients transferred and transfer incidents,
- critical utility interruptions,

- equipment damage or calibration failures,
- infection-control non-conformities,
- environmental or safety incidents,
- complaints related to access or relocation,
- percentage of complaints resolved, and
- outstanding corrective actions.

11. Required records

Records shall include:

- relocation plans and risk assessments,
- inventory and chain-of-custody forms,
- staff briefing records,
- patient-transfer records,
- notification materials,
- utility isolation certificates,
- readiness and release certificates,
- inspection reports,
- waste manifests,
- photographs before and after relocation,
- incident and complaint records, and
- corrective-action closure evidence.

12. Suggested forms attached to the SOP

1. Facility Relocation Planning Form
2. Facility-Specific Risk Assessment
3. Replacement Facility Readiness Checklist
4. Equipment and Materials Inventory
5. Patient Transfer Checklist
6. Utility Isolation and Diversion Certificate
7. Stakeholder Notification Record
8. Post-Relocation Inspection Checklist
9. Facility Release Certificate
10. Incident and Corrective Action Form

Annex J – HIV/AIDS and SID Prevention Program

This annex sets out detail of the HIV/AIDS Prevention Program which is established to implement protection of HIV/AIDS potential spreading and mitigation practices to follow the Project Management Plan.

RSGP will conduct HIV/AIDS & SID prevention program which consist:

(i) Information, Education and Communication (IEC) campaigns,

(ii) Condom distribution and,

(iii) Screening, diagnosis, counselling and referral to a treatment provider to reduce the risk of HIV/AIDS infection spreading

Considering that many HIV/AIDS infection cases are reported in Cisarua district, RSGP will actively implement the prevention program not only for the employees but also for the local communities because the risk of the infection spread is strongly connected with local people's behaviours and will affect their lives.

Dedicated team will implement the activities closely coordinating and collaborating with the Health Department (Dinas Kesehatan) of Cisarua sub-district and the local health clinic (Puskesmas) to be in line with the national health programs. Since there are other diseases such as tuberculosis (TB) closely linked with HIV, the awareness and testing of the diseases shall be included in the activities if necessary being instructed by the Health Department and the local health clinic.

Detail scope of work of HIV/AID prevention team are detailed at table below:

COMPONENT	REQUIRED ACTIVITIES	ITEMS TO BE REPORTED
IEC Campaigns	Group sessions for the workers to promote awareness on HIV/AIDS and Sexual Transmitted Infection (STI) at least every other month for each construction package.	▪ Date, time, venue, contents and number of participants of each session, ▪ Response/questions from the participants, ▪ Proportion of the workers who have attended the sessions at least one time to entire number of the workers working for three months or more at the project site.
Condom Distribution	Condom distribution to the workers at no charge	▪ Number of distributed condom (monthly and accumulated), ▪ Place and method of distribution.

COMPONENT	REQUIRED ACTIVITIES	ITEMS TO BE REPORTED
Screening, Diagnosis, Counselling and referral to a treatment provider	▪ For those of the workers who are interested, screening (testing), diagnosis and counselling for HIV shall be conducted as well as diagnosis of other STI at no charge. ▪ The opportunities of testing, diagnosis and counselling shall be provided at least every other month.	▪ Date, venue and number of workers who received the services of testing, diagnosis and counselling.

a. IEC Campaign

Information, Education and Communication (IEC) campaigns shall be implemented in the four types of methodology listed in below:

TYPE	TARGET PARTICIPANTS	FREQUENCY	EXPECTED NUMBER OF PARTICIPANTS
1) Small Group Session	Workers*(including truck drivers and materials suppliers)	Every month	10 persons per month
2) Door to Door Approach	Communities and hot spots (the high-risk areas)	Once in three months	5 families or 5 individuals per time

(1) Small Group Session

For construction workers in small groups of 5 people each, awareness sessions in HIV/AIDS and STI are provided by the HIV Expert. Socialization material such as leaflets and condom shall be provided to participants during the session.

(2) Door to Door approach

The expert shall visit surrounding households and hotspots to promote awarenes of HIV/AIDS and STI.

b. Condom Distribution

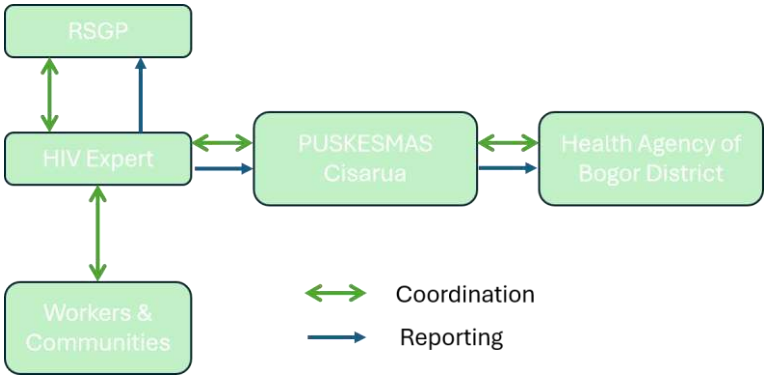
Condom shall be distributed in the following ways at no charge during the IEC campaigns to partivcipants, and placing at Project site so that anyone can take the condoms anytime (toilets).

c. Screening, Diagnosis, Counselling and Referral to a Treatment Provider

Opportunities for screening, diagnosis, and counselling of HIV/AIDS and STI are provided in the following manners:

- If positive cases are found, the patient shall be referred to treatment providers (PUSKESMAS).
- During the IEC Campaigns and through daily communications, the Contractor shall inform opportunities for screening tests for HIV and diagnosis of other STI. For those who are interested, testing, diagnosis, and counseling are provided at no charge.

In addition to the above, screening tests for HIV shall be implemented for donated blood from workers on a voluntary basis or voluntary in each large group sessions agenda in collaborated with Health Department of Bogor District.



Organization Chart for HIV Prevention Program

This annex should remain marked **"Draft"** in the ESIA. Before implementation, RSGP should assign document numbers, named officers, approval signatures, notification periods and unit-specific technical requirements.