Fergana Eco City Regional Hospital – Uzbekistan

Environmental and Social Impact Assessment Report

Volume 2

Vision Invest

Prepared by:

SLR Sustainable Environmental Consultancy L.L.C S.O.C

Al Wasl Building, Sheikh Zayed Rd, Al Wasl, Dubai,
United Arab Emirates

SLR Project No.: 777.24182.00001

10 August 2026

Revision: 3
Report No.: 2.0

Making Sustainability Happen

Title	Fergana Eco City Regional Hospital – Environmental & Social Impact Assessment Report
Project Manager	Vanessa Zwane
Project Manager Email	vanessa.zwane@slrconsultting.com
Author	Vanessa Zwane
Reviewer	Max Burrow
Status	ESIA Report for IESC and Lenders Review
Report No.	2.0
SLR Company	SLR Sustainable Environmental Consultancy L.L.C S.O.C

Revision Record

Revision	Date	Prepared By	Checked By	Authorised By
1.0	9 June 2026	Vanessa Zwane	Max Burrow	Ed Perry
2.0	1 July 2026	Various	Ed Perry Lara Bou Ghanem	Max Burrow
3.0	07 July 2026	Various	Max Burrow	Max Burrow
3.1	10 July 2026	Vanessa Zwane	Max Burrow	Max Burrow

Basis of Report

This document has been prepared by an SLR Group company with reasonable skill, care and diligence, and taking account of the timescales and resources devoted to it by agreement with Vision Invest (the Client) as part or all of the services it has been appointed by the Client to carry out. It is subject to the terms and conditions of that appointment.

SLR shall not be liable for the use of or reliance on any information, advice, recommendations and opinions in this document for any purpose by any person other than the Client. Reliance may be granted to a third party only in the event that SLR and the third party have executed a reliance agreement or collateral warranty.

Information reported herein may be based on the interpretation of public domain data collected by SLR, and/or information supplied by the Client and/or its other advisors and associates. These data have been accepted in good faith as being accurate and valid.

SLR disclaims any responsibility to the Client and others in respect of any matters outside the agreed scope of the work.

The copyright and intellectual property in all drawings, reports, specifications, bills of quantities, calculations and other information set out in this report remain vested in SLR unless the terms of appointment state otherwise.

This document may contain information of a specialised and/or highly technical nature, and the Client is advised to seek clarification on any elements which may be unclear to it.

Information, advice, recommendations and opinions in this document should only be relied upon in the context of the whole document and any documents referenced explicitly herein and should then only be used within the context of the appointment.

Table of Contents

Basis of Report ..... **iii**
Acronyms and Abbreviations ..... **xix**
1 Introduction **1**
1.1 Background Information 1
1.2 Project Rationale 1
1.3 Purpose and Objective of the ESIA 2
1.4 Structure of the ESIA 2
1.5 National EIA 3
2 Project Description **4**
2.1 Project Overview 4
2.2 Project Milestones and Agreements 4
2.3 Project Parties 4
2.3.1 Public Partner 4
2.3.2 Private Partner 5
2.3.3 SPV Project Company 5
2.4 Project Location and Scale 6
2.4.1 Project Site Access 8
2.5 Land Use and Site Conditions 10
2.5.1 Land Ownership 10
2.5.2 Land Use and Site Conditions 10
2.6 Surrounding Area 14
2.7 Sensitive Receptors 17
2.8 Project Facilities 19
2.8.1 Healthcare Environment and Innovations 20
2.8.2 Project Design and Layout 22
2.8.3 Design Standards 33
2.9 Associated Facilities 34
2.10 Construction Activities 35
2.10.1 Key Construction Activities 36
2.10.2 Temporary Construction Areas 36
2.10.3 Construction Workforce 38
2.10.4 Construction Worker's Accommodation Facilities 38
2.10.5 Transportation Requirements 38
2.10.6 Utility Requirements 39
2.10.7 Waste 40

2.11 Operations and Maintenance 43
2.11.1 Key Operation Activities 43
2.11.2 Utility Requirements 45
2.11.3 Waste 49
2.11.4 Rainwater System 54
2.11.5 Medical Gas System 54
2.11.6 Operational Workforce 55
3 Project Alternatives 57
3.1.1 No Project Alternative 57
3.1.2 Location Alternatives 57
4 Regulatory Framework 59
4.1 National Regulations 59
4.1.1 Constitution of Uzbekistan 59
4.1.2 Law on Nature Protection, 1992 (as Amended in 2024) 60
4.1.3 Law on Environmental Control, 2013 (as Amended in 2024) 60
4.1.4 Law “On Ambient Air Protection” (1996, amended in 2024) 61
4.1.5 Law “On Wastes” (2002, amended in 2023) 61
4.1.6 Law “On Water and Water Use” (1993, amended in 2024) 61
4.1.7 Law “On the Protection and Use of Flora" (2016, amended in 2024) 61
4.1.8 Law “On Protection and Use of the Wildlife" (2016, amended in 2024) 61
4.1.9 Law “On Protected Natural Areas" (2004, amended in 2022) 62
4.1.10 Environmental Audit Law No. ZRU-678 (2021, amended in 2024) 62
4.1.11 Presidential Decree No. 5863 on Environmental Protection Strategy (2019, amended in 2024) 62
4.2 Other Environmental Laws and State Regulatory Standards 62
4.2.1 Laws Relating to Labour and Employment 63
4.2.2 Laws Relating to Archaeology and Cultural Heritage 64
4.3 Management of Public Grievances 64
4.4 International Conventions and Protocols 64
4.5 Institutional Framework 66
4.6 National EIA Requirements 67
4.6.1 Project Categorisation 67
4.6.2 Public Participation in National EIA 68
5 Lenders Requirements 70
5.1 IFC Performance Standards 70
5.1.1 WBG/IFC EHS Guidelines 71
5.2 European Bank for Reconstruction and Development (EBRD) 71

5.3 Development Finance Corporation (DFC) ... 73
5.3.1 Project Categorisation ... 74
6 Approach to the ESIA ... 75
6.1 Scope of Assessment ... 75
6.2 Scope of Work and Key Deliverables ... 75
6.3 ESIA Methodology ... 76
6.3.1 Process ... 76
6.3.2 Identification And Evaluation of Sensitive Receptors ... 77
6.3.3 Identification and Evaluation of Potential Impacts ... 78
6.3.4 Defining Impact Magnitude ... 79
6.3.5 Determining Significance of Effects ... 79
6.3.6 Mitigation and Management Measures ... 81
6.3.7 Residual Impacts ... 81
6.3.8 Cumulative Impact Assessment ... 81
6.4 Project Study Area and Area of Influence ... 82
6.4.1 Environmental Study Area ... 82
6.4.2 Social Study Area ... 82
7 Air Quality ... 83
7.1 Applicable Requirements and Standards ... 83
7.1.1 National Standards ... 83
7.1.2 Lenders Requirements ... 83
7.2 Baseline Conditions ... 85
7.3 Survey Methodology and Findings ... 86
7.4 Potential Impacts, Mitigation and Management ... 88
7.4.1 Receptors ... 88
7.4.2 Construction Phase Impacts ... 89
7.4.3 Impacts Assessment Summary – Air Quality Impacts during Construction ... 90
7.4.4 Operation Phase Impacts ... 92
7.4.5 Impacts Assessment Summary – Air Quality Impacts during Operation ... 93
7.5 Monitoring ... 94
8 Climate Change ... 96
8.1 Applicable Requirements ... 96
8.1.1 National Requirements ... 96
8.1.2 Lender Requirements ... 96
8.2 Climate Change Impacts and Adaptation ... 96
8.2.1 Vulnerability to Climate Change Methodology ... 97
8.2.2 Historic and Future Climate Conditions ... 98

8.2.3 Potential Impacts, Mitigation and Management 101
9 Noise and Vibration 124
9.1 Applicable Requirements and Standards 124
9.1.1 National Standards 124
9.1.2 Lender Requirements 124
9.2 Baseline Conditions 126
9.3 Survey Methodology and Findings 126
9.4 Potential Impacts, Mitigation and Management 131
9.4.1 Receptors 131
9.4.2 Potential Impacts 132
9.4.3 Impacts Assessment Summary – Noise and Vibration Impacts during Construction 134
9.4.4 Operation Phase Impacts 136
9.5 Monitoring 138
10 Terrestrial Ecology 139
10.1 Applicable Requirements 139
10.1.1 National Standards 139
10.1.2 Lenders Requirements 140
10.2 Baseline Conditions 141
10.2.1 Regional Context 141
10.2.2 Site Conditions 141
10.2.3 Areas of Ecological Importance around Project Site 142
10.2.4 Flora 143
10.2.5 Fauna 156
10.2.6 Ecosystem Services 161
10.3 Potential Impacts, Mitigation and Management 162
10.3.1 Area of Influence (AoI) 162
10.3.2 Receptors 162
10.3.3 Construction Phase Impacts 163
10.3.4 Impacts Assessment Summary – Ecological impacts during Construction 164
10.3.5 Operation Phase Impacts 166
10.3.6 Impacts Assessment Summary - Ecological impacts during Operation 166
10.4 Monitoring 167
11 Water Resources 169
11.1 Applicable Requirements 169
11.1.1 National Requirements 169
11.1.2 Lender Requirements 169
11.2 Observations and Baseline Conditions 170

11.2.1 Baseline Conditions 170
11.2.2 Survey Methodology and Site Observations 173
11.2.3 Sensitive Receptors 173
11.3 Potential Impacts, Mitigation and Management 173
11.3.1 Construction Phase Impacts 173
11.3.2 Operation Phase Impacts 175
11.3.3 Monitoring 176
12 Topography, Geology, and Soil 178
12.1 Applicable Requirements and Standards 178
12.1.1 National Standards 178
12.1.2 Lenders Requirements 178
12.2 Observation and Baseline Conditions 180
12.2.1 Baseline Conditions 180
12.2.2 Site Conditions 184
12.2.3 Sensitive Receptors 186
12.2.4 Survey Methodology 187
12.2.5 Results and Analysis 189
12.3 Potential Impacts, Mitigation and Management 189
12.3.1 Construction Phase 189
12.3.2 Monitoring 194
13 Solid Waste and Wastewater 195
13.1 Applicable Requirements and Standards 195
13.1.1 National Standards 195
13.1.2 Lenders Requirements 198
13.2 Survey Methodology 200
13.3 Baseline Conditions 200
13.3.1 Solid Waste Management in Uzbekistan 200
13.3.2 Solid Waste Management in Fergana 201
13.3.3 Hazardous Waste 203
13.3.4 Medical Waste 203
13.3.5 Wastewater 203
13.4 Waste Handling Capacity and Management Available in Fergana 204
13.4.1 Non-Hazardous Waste 204
13.4.2 Medical Waste 204
13.5 Potential Impacts, Mitigation and Management 205
13.5.1 Receptors 205
13.5.2 Construction Phase Impacts 206

13.5.3 Impact Assessment Summary – Waste and Wastewater Management during Construction ... 208
13.5.4 Operational Phase Impacts ... 211
13.5.5 Impacts Assessment Summary – Solid Waste and Wastewater Management during Operation ... 220
13.6 Monitoring ... 223
14 Landscape and Visual ... 225
14.1 Applicable Requirements and Standards ... 225
14.1.1 National Standards ... 225
14.1.2 Lender Standards ... 225
14.2 Observations and Baseline Conditions ... 225
14.2.1 Baseline Conditions ... 225
14.2.2 Sensitive Receptors ... 227
14.3 Survey Methodology ... 228
14.4 Potential Impacts, Mitigation, and Management ... 228
14.4.1 Construction Phase Impacts ... 228
14.4.2 Operation Phase Impacts ... 229
14.5 Monitoring ... 231
15 Traffic and Transportation ... 232
15.1 Applicable Requirements and Standards ... 232
15.1.1 National Standards ... 232
15.1.2 Lenders Standards ... 232
15.2 Observations and Baseline Conditions ... 232
15.2.1 Baseline Conditions ... 232
15.3 Sensitive Receptors ... 233
15.4 Potential Impacts, Mitigation and Management ... 234
15.4.1 Construction Impacts ... 234
15.4.2 Operation Impacts ... 235
15.5 Monitoring ... 237
16 Archaeology and Cultural Heritage ... 239
16.1 Applicable Requirements and Standards ... 239
16.1.1 National Standards ... 239
16.1.2 Lender Requirements ... 239
16.2 Sensitive Receptors ... 240
16.3 Baseline and Site Conditions ... 240
16.3.1 Baseline Conditions ... 240
16.3.2 Site Conditions ... 240
16.3.3 Survey Methodology and Findings ... 242

16.4 Potential Impacts, Mitigation and Management 244
16.5 Monitoring 244
17 Socio-economic 245
17.1 Applicable Requirements 245
17.1.1 National Requirements 245
17.1.2 Lender Requirements 246
17.2 Methodology 247
17.2.1 Study Area 247
17.2.2 Assessment Approach 249
17.2.3 Data Collection 249
17.3 Baseline Conditions 250
17.3.1 Regional Overview 250
17.3.2 Population Demographics 253
17.3.3 Household Demographics 256
17.3.4 Social Protection and Vulnerable Groups 256
17.3.5 Education Profile 259
17.3.6 Economic Activity 261
17.3.7 Employment and Labour Migration 262
17.3.8 Income and Expenditure 263
17.3.9 Healthcare Services 265
17.3.10 Accommodation, Living Conditions and Household Amenities 267
17.4 Summary of Stakeholder Engagement Findings 269
17.5 Potential Impacts, Mitigation, Management and Residual Impacts 272
17.5.1 Social Sensitive Receptors 272
17.5.2 Construction Phase 273
17.5.3 Operation Phase 283
17.6 Monitoring 288
18 Community Health and Safety 291
18.1 Applicable Standards and Regulatory Requirements 291
18.1.1 National Regulations 291
18.1.2 Human Rights 293
18.1.3 Lenders Requirements 294
18.2 Baseline Conditions 297
18.2.1 Community Health Baseline 297
18.2.2 Regional Healthcare Context - Fergana Region 298
18.2.3 Community Health Conditions 299
18.2.4 Worker transport 299

18.2.5 Traffic Impact assessment ... 299
18.2.6 Emergency Healthcare and Public Health Preparedness ... 300
18.2.7 Community Safety and Traffic Conditions ... 300
18.2.8 Gender-based Violence, Harassment & Exploitation ... 301
18.3 Area of Influence and Receptors ... 303
18.3.1 Area of Influence ... 303
18.3.2 Receptors ... 304
18.4 Potential Impacts, Mitigation, Management & Residual Impacts ... 305
18.4.1 Construction Phase ... 305
18.4.2 Operational Phase ... 317
18.5 Monitoring ... 325
19 Labour and Working Conditions ... 329
19.1 Applicable Requirements & Standards ... 329
19.1.1 National Regulations ... 329
19.1.2 Lender Requirements ... 332
19.2 Baseline Conditions ... 335
19.2.1 Construction Labour in Uzbekistan ... 335
19.2.2 Employment, Migration, and Livelihood Dynamics ... 335
19.2.3 Labour Market Profile ... 337
19.2.4 Labour Rights Enforcement and Institutional Capacity ... 337
19.2.5 Employment Practices and Working Conditions ... 338
19.2.6 Forced Labour ... 339
19.2.7 Child Labour ... 340
19.2.8 Occupational Health and Safety ... 342
19.2.9 Gender and Vulnerable Workers in the Labour Market ... 342
19.2.10 Labour Accommodation and Living Conditions ... 343
19.2.11 Retrenchment Policy and Practice in Uzbekistan ... 343
19.1 Area of Influence and Receptors ... 344
19.1.1 Area of Influence ... 344
19.1.2 Receptors ... 345
19.2 Potential Impacts, Mitigation, Management & Residual Impacts ... 346
19.2.1 Construction Phase ... 346
19.2.2 Operation Phase ... 359
19.3 Monitoring ... 367
20 Human Rights Impact Assessment ... 371
20.1 Applicable Requirements & Standards ... 371
20.1.1 National Regulations ... 371

20.2 Human Rights Risk Screening and Assessment Methodology 376
20.2.1 Human Rights Risk Screening 376
20.2.2 Methodology 377
20.2.3 Human Rights Risk Scan 378
20.2.4 Residual Risk 381
20.3 Baseline Conditions 389
20.4 Potential Impacts, Mitigation, Management & Residual Impacts 394
20.4.1 Construction Phase 394
20.4.2 Impact Assessment Summary – Human Rights during Construction 400
20.4.3 Operation Phase 405
20.4.4 Impact Assessment Summary – Human Rights during Operation 410
20.5 Monitoring 413
21 Media Review and Public Perception Assessment 418
21.1 Media Coverage Review 418
21.2 Public Perception Regarding Healthcare Benefits 419
21.3 Perceptions and Concerns Regarding Consolidation of Existing Healthcare Institutions 419
21.3.1 Patients and Healthcare Users 419
21.3.2 Healthcare Employees 419
21.3.3 Local Communities 420
21.4 Media and Perception Risk Assessment 420
22 Assessment of Cumulative Impacts 421
22.1 Cumulative Impacts Scoping 421
22.1.1 Identification of VECs 421
22.1.2 Neighbouring Projects (Past, Present and Future) 425
22.1.3 Anthropogenic Activities 425
22.2 Assessment of Cumulative Impacts 426
22.2.1 Air Quality 426
22.2.2 Noise 428
22.2.3 Wastewater infrastructure and the Syr Darya River 429
22.2.4 Solid Waste Infrastructure 430
22.2.5 Contribution to Healthcare Services and Employment Opportunities 432
22.2.6 Traffic and Transportation 434
22.2.7 Workers' Influx 435
23 References 439

Tables in Text

Table 2-1 Key Project Information 4
Table 2-2 Project Tentative Execution Schedule 4
Table 2-3 Sensitive Receptors 17
Table 2-4 Project space utilisation 25
Table 2-5 The Hospital Bed Allocation per Department 27
Table 2-6 Critical Load Demand and Supply 47
Table 2-7 Waste segregation and handling procedures 52
Table 4-1 International Protocols and Conventions 64
Table 4-2 ILO Convention Ratified by Uzbekistan 65
Table 4-3 Main National Institutions and Roles 66
Table 6-1 Overview of the ESIA Process 76
Table 6-2 Receptor Sensitivity Criteria 77
Table 6-3 Criteria for Magnitude of Impacts 79
Table 6-4 Criteria for Determining Significance of Effects 80
Table 6-5 Definition of Significance of Effects 80
Table 7-1 Ambient Air Quality MPC (mg/m^3) 83
Table 7-2 WHO Ambient Air Quality Standards (µg/m^3) 84
Table 7-3 EC Ambient Air Quality Standards (µg/m^3 unless stated) 85
Table 7-4 Air Quality Baseline Results 87
Table 7-5 Potential Air Quality Receptors 88
Table 7-6 Impact summary and mitigation measures – Operation phase 93
Table 8-1 Construction Phase GHG Emissions 101
Table 8-2 Greenhouse Emissions from Purchased Electricity during Construction 102
Table 8-3 Construction Phase – Climate Change Impacts and Mitigation Measures 104
Table 8-4 Calculated Emissions from Purchased Electricity during the Operation Phase 105
Table 8-5 Operation Phase – Greenhouse Gas Emissions Impacts and Mitigation Measures 106
Table 8-6 Physical Risks Screening 107
Table 8-7 Operation Phase – Physical Risks Impacts and Mitigation Measures 117
Table 8-8 Climate Hazard Matrix for the Operational Phase 119
Table 8-9 Preliminary NCC Compatibility Review 121
Table 9-1 Noise Limits under SanPiN No.0331-16 124
Table 9-2 Work Environment Noise Limits 124
Table 9-3 National Vibration Standards 124
Table 9-4 WHO Guideline for Community Noise 125
Table 9-5 Noise Monitoring Location Coordinates 126

Table 9-6 Noise Monitoring Results in Comparison to the Applicable Standards 131
Table 9-7 Sensitive Noise Receptors 131
Table 9-8 Noise Level of Typical Construction Equipment 133
Table 9-9 Cumulative Noise Assessment 133
Table 9-10 Construction Phase - Impacts and Mitigation Measures 134
Table 9-11 Operation phase – Impacts and Mitigation Measures 137
Table 9-12 Noise Monitoring Requirements 138
Table 10-1 Floral survey sampling locations 143
Table 10-2 Critical Habitat Screening against Criteria 1- 3 147
Table 10-3 Floral species recorded during the survey 153
Table 10-4 Avifaunal species recorded or reported from the Project landscape 157
Table 10-5 Herpetofaunal species reported from the landscape 160
Table 10-6 Potential Terrestrial Ecology Receptors 162
Table 10-7 Impact summary and mitigation measures – Construction phase 164
Table 10-8 Impact summary and mitigation measures – Operation phase 166
Table 11-1 Water Resources Sensitive Receptors 173
Table 11-2 Construction Phase – Water Resources Impacts and Mitigation Measures 174
Table 11-3 Operation Phase – Water Resources Impacts and Mitigation Measures 176
Table 11-4 Water Resources Monitoring Requirements 176
Table 12-1 Dutch Standards for Soil and groundwater Contamination (2013) 178
Table 12-2 Topography, Soil and Geology Receptors 186
Table 12-3 Soil sampling locations coordinate 187
Table 12-4 Soil Quality Analysis Result 189
Table 12-5 Aspects and Impacts – Topography, Geology, and Soil during Construction ... 190
Table 12-6 Impact Assessment Summary – Topography, Geology, and Soil during Construction 191
Table 12-7 Impact Assessment Summary – Topography, Geology, and Soil during Operation 193
Table 12-8 Monitoring Requirements for Soil and Groundwater 194
Table 13-2 Construction Phase – Solid Waste and Wastewater Management Impacts and Mitigation Measures 208
Table 13-1 Hazardous Waste Streams Composition 212
Table 13-3 Health Care Facilities Typical Waste and Treatment Option 216
Table 13-4 Operation Phase – Waste and Wastewater Management Impacts and Mitigation Measures 220
Table 13-5 Waste Management Monitoring – Construction and Operation 223
Table 14-1 Visual and Landscape Receptors 227
Table 14-2 Construction Phase – Landscape and Visual Impacts and Mitigation Measures 229

Table 14-3 Operation Phase – Landscape and Visual Impacts and Mitigation Measures ..230
Table 14-4 Monitoring Measures for Landscape and Visual Impacts 231
Table 15-1 Distribution of traffic accidents across Uzbekistan in 2023 (Urokov, et al.,2025) 233
Table 15-2 Traffic and Transportation Receptors 233
Table 15-3 Construction Phase – Traffic and Transport Impacts and Mitigation Measures 235
Table 15-4 Operation Phase – Traffic and Transport Impacts and Mitigation Measures 237
Table 15-5 Monitoring Measures for Traffic and Transportation 237
Table 16-1 Sensitive Receptors – Archaeological and Cultural Heritage 240
Table 16-2 Archaeological and Culturally Significant Locations in the area 242
Table 16-3 Impact Assessment Summary – Archaeology and Cultural Heritage during Construction 244
Table 16-4 Monitoring Measures for Archaeological & Cultural Heritage 244
Table 17-1: Applicable National Legislation 245
Table 17-2 Stakeholder Consultation Activities 250
Table 17-3: Regional Population Demographic Indicators 251
Table 17-4 Summary Demographics of the Affected Mahallas 255
Table 17-5 Local Area Demographics 255
Table 17-6 Household demographics of Affected Mahallas 256
Table 17-7 Social Protection and Vulnerable Groups in Fergana City 257
Table 17-8 Social Protection and Vulnerable Groups in the Affected Mahallas 258
Table 17-9 Social Benefits Received by Surveyed Households 259
Table 17-10: Education Profile of Study Area 260
Table 17-11: Business Profile of Fergana City and the Affected Mahallas 261
Table 17-12 Employment and Labour Migration in Fergana City and the Affected Mahallas 262
Table 17-13 Employment Status of the Working-Age Population in the Affected Mahallas 263
Table 17-14 Surveyed Household Average Monthly Income 264
Table 17-15 Surveyed Household Average Expenditure 264
Table 17-16 Healthcare Services 265
Table 17-17 Household Perceptions of Healthcare Quality, Accessibility and Transport 266
Table 17-18 Access to services 267
Table 17-19 Access to water sources 268
Table 17-20 Heating sources during winter (multiple selection) 268
Table 17-21 Asset Ownership by Income Group 269
Table 17-22 Summary of stakeholder engagement findings 270
Table 17-23 Social Sensitive Receptors 273
Table 17-24 Summary of Construction Impacts, Mitigation and Management Measures ...280

Table 17-25 Summary of Operation Impacts, Mitigation and Management Measures.....287
Table 17-26 Monitoring Indicators 289
Table 18-1 E&S impact receptors – Community Health, Safety, and Security 304
Table 18-2 Construction Phase Impact Significance, Mitigation & Management Measures and Residual Impacts.....311
Table 18-3 Community Health Safety: Impact Significance, Mitigation & Management Measures and Residual Impacts – Operation 321
Table 18-4 Community Health, Safety and Security Monitoring Measures - Construction & Operation 325
Table 19-1 Sectors and Work Streams Employing Child Labour in Uzbekistan 340
Table 19-2 Mechanisms for Governmental Coordination of Child Labour Eradication Requirements Set out in Uzbekistan's Legal Framework 341
Table 19-3 E&S Impact Receptors – Labour and Working Conditions 345
Table 19-4 Labour and Working Conditions: Impact Significance, Mitigation & Management Measures and Residual Impacts – Construction.....355
Table 19-5 Labour and Working Conditions: Impact Significance, Mitigation & Management Measures and Residual Impacts – Operation 363
Table 19-6 Labour and Working Conditions Key Monitoring Indicators.....367
Table 20-1 Applicable PSs in relation to human rights 372
Table 20-2 Qualitative Human Rights Risk Rating Criteria 378
Table 20-3 Human Rights Screening, Risk Assessment and Mitigation Framework.....383
Table 20-4 Impact Assessment Summary – Human Rights during Construction 400
Table 20-5 Impacts Assessment Summary – Human Rights during Operation.....410
Table 20-6 Human Rights Monitoring Requirements (Construction and Operations).....415
Table 21-1 Media and Perception Risk Assessment 420
Table 22-1 VECs Considered for Cumulative Impact Assessment.....421
Table 22-2 Assessment of Cumulative Impacts on Air Quality 427
Table 22-3 Assessment of Cumulative Impacts on Noise 428
Table 22-4 Assessment of Cumulative Impacts on Wastewater Infrastructure 430
Table 22-5 Assessment of Cumulative Impacts on Solid Waste Infrastructure 431
Table 22-6 Assessment of Cumulative Impacts on Healthcare Services and Employment Opportunities 433
Table 22-7 Assessment of Cumulative Impacts on Traffic and Transportation 434
Table 22-8 Assessment of Cumulative Impacts from Workers' Influx.....436

Figures in Text

Figure 2-1 Regional Context of the Project Location 7
Figure 2-2 Project Location Showing the Local Road Network Near the Project 8
Figure 2-3 On-Site Building Access (Red Arrow) To Hospital Block.....9

Figure 2-4 Historical Satellite Imagery Showing Development of the Eco City Over Time.... 11
Figure 2-5 Site Land Use Changes (2002 – 2024) (*Image Source: Google Earth, accessed April 2026*) 12
Figure 2-6 Conditions within the Project Development Footprint 13
Figure 2-7 Surrounding Conditions of the Development Area Showing Fenced Off Boundaries Near the Site 14
Figure 2-8 Observed Temporary Laydown Areas Near the Project Site 15
Figure 2-9 Current Conditions of the Surrounding Environment near the Internal Eco City Road 16
Figure 2-10 Fly Tipped Waste Observed 2 Km from the Project Boundary 17
Figure 2-11 Sensitive Receptors in Relation to the Project site 18
Figure 2-12 Fergana Eco City Hospital Design Concept 19
Figure 2-13 First Floor Hospital Blocks Layout 24
Figure 2-14 Schematic representation of the utilities network near the Project site. 35
Figure 2-15 Temporary Construction Areas 37
Figure 2-16 Construction workforce 38
Figure 2-17 Septic Tank System 42
Figure 2-18 FM Co. Structure 44
Figure 7-1 Air Quality Monitoring Location and Potential Receptors 86
Figure 8-1 Average Monthly Climate Conditions in the Fergana region for 1991-2020 (WBCCKP, 2026) 99
Figure 8-2 Projected average maximum surface air temperature anomaly for Fergana, Uzbekistan (Ref. 1995-2014) per scenario. (WBCCKP,2026) 111
Figure 8-3 Annual maximum surface temperature for 2020-2039 (left) and 2040-2059 (right) for Fergana (Ref. 1995-2014) SSP5-8.5, Multi-Model Ensemble 112
Figure 8-4 Projected Precipitation in Fergana, Uzbekistan (Ref. Period: 1950-2014) per scenario; Multi-Model Ensemble 115
Figure 9-1 Noise Monitoring Locations 127
Figure 9-2 Noise Monitoring Equipment Installation Within the Identified Monitoring Locations 128
Figure 9-3 Ongoing construction activities observed near the Project site 129
Figure 9-4 Morning flight departure observed from site at Fergana Internation Airport 130
Figure 10-1 Areas of Ecological Importance within 20 km radius of the Project 142
Figure 10-2 Flora survey sampling locations 144
Figure 10-3 Some of the Sampling Plots 145
Figure 10-4 Habitats within the Project area 146
Figure 10-5 Habitats observed within the Project area 155
Figure 10-6 Walking transects conducted during faunal survey from 22nd to 24th April 156
Figure 10-7 Fauna observed during the survey 161

Figure 11-1 Transboundary surface hydrology of Fergana Valley (Soliev et al., 2015).....171
Figure 11-2 Hydrogeological map of Uzbekistan (Rakhmatullaev et al., 2012).....172
Figure 12-1 Topography of the Fergana Valley Region.....181
Figure 12-2 Geological Map of Uzbekistan Relative to the Project Area (red outline) (UzGashkliti, 2025).....183
Figure 12-3 Soil Classification of the Project Area.....184
Figure 12-4 Topographical Conditions of the Project Area (UzGashkliti,2025). 185
Figure 12-5 Construction Debris Observed within the Project site 186
Figure 12-6 Soil Sampling Locations 188
Figure 13-1 Fergana Solid Waste Disposal Site Location 202
Figure 14-1 Active construction observed near the Project site.....226
Figure 14-2 Development surrounding the Eco City development footprint. 227
Figure 16-1 The location of Fergana City and nearest Cultural Heritage Sites 241
Figure 17-1 The Mahallas within 2.5 km Relative to the Project Site.....248
Figure 17-2 Fergana City Population Growth 253
Figure 17-3 Fergana City Age Composition.....254
Figure 17-4 Education Institutions in Fergana City.....260
Figure 17-5 Education Profile of Surveyed Households 261
Figure 17-6 Labour migrants abroad vs returned in the past 12 months.....263
Figure 17-7 Challenges to Accessing Healthcare.....267

Acronyms and Abbreviations

Abbreviation	Full Description
AAQM	Ambient Air Quality Monitoring
CAFM	Computer-Aided Facilities Management
CCTV	Closed Circuit Television
CCRA	Climate Change Risk Assessment
COM	Cabinet of Ministers
CCU	Cardiac Care Unit
DFC	United States International Finance Corporation
ICU	Intensive Care Unit
IFC	International Finance Corporation
ICT	Information and Communication Technology.
ICUs	Intensive Care Unit
iHFG	International Health Facility Guidelines
E&S	Environmental and Social
EBRD	European Bank for Reconstruction and Development
EDGE	Excellence in Design for Greater Efficiencies
EHS	Environmental Health and Safety
EPC	Engineering, Procurement, and Construction
EIA	Environmental Impact Assessment
EP	Equator Principles
ESIA	Environmental and Social Impact Assessment
ESR	Environmental and Social Requirements
FACP	Fire Alarm Panels
FDAS	Fire Detection and Alarm System
FM	Facility Management
GIS	Geographic Information System
GIIP	Good International Industry Practice
GHG	Green House Gas
HVAC	Heating, Ventilation, and Air Conditioning
HPZ	Health Protection Zone
HSE	Health, Safety and Environmental
IPCC	Intergovernmental Panel on Climate Change
ILO	International Labour Organization
IT	Information Technology
JV	Joint Venture
KOC	KOC Construction Mekanik Elektrik FE LLC

Abbreviation	Full Description
MDAs	Ministries, Departments and Agencies
MEEPCC	Ministry of Ecology, Environmental Protection and Climate Change
MoEF	Ministry of Economy and Finance
MoH	Ministry of Health
MRI	Magnetic Resonance Imaging
NCECC	National Committee on Ecology and Climate Change
NFPA	National Fire Protection Association
NTS	Non-Technical Summary
ORs	Operating Rooms
PC	Project Company
PPPA	Public-Private Partnership Agreement
PPP	Public-Private Partnership
PAVA	Public Address and Voice Alert
SD	Safety Data Sheets
SEE	State Environmental Expertise
SPV	Special Purpose Vehicle
UHC	Universal Health Coverage
UN	United Nations
UNFCCC	United Nations Framework Convention on Climate Change
US	United States
VOC	Volatile Organic Compound
WBG	World Bank Group
WHO	World Health Organisation

1 Introduction

1.1 Background Information

The Ministry of Health (MoH) of the Republic of Uzbekistan with support from the Ministry of Economy and Finance (MoEF) intend to develop the proposed Fergana Regional Hospital, here in referred to as the 'Project', to be developed within the Fergana Eco City in Uzbekistan in line with a dedicated Presidential Decree. The Project is being developed as a Public-Private Partnership (PPP) under Uzbekistan's Law on PPPs.

The key PPP parties will comprise the MoH as the Public Partner and Vision International Investment Company (Vision Invest) together with Azerbaijan Uzbek Investment company KOC Construction Mekanik Elektrik FE LLC (KOC) to form Vision Invest-KOC Joint Venture (JV) consortium partners as the Private Partner (the Developer), whilst the Ministry of Economy and Finance will be the Procurer. The Private Partner will design, finance, construct, equip, and maintain the hospital and equipment (8-years for equipment maintenance) for which they will be compensated, subject to compliance and the fulfilment of obligations under the PPP agreement (PPPA). The MoH will be responsible for the provision of clinical services and any other services that fall outside the scope of the Private Partner. At the end of the PPPA term of 20 years, the Private Partner will transfer the hospital and its equipment to the MoH.

Uzbekistan has developed its National System Strategy 2030 which is integrated as part of the broader Uzbekistan 2030 agenda which aims to achieve Universal Health Coverage (UHC) by expanding state health insurance, focusing on reducing out-of-pocket expenses and improving access to quality care, and implementing evidence based policies by collaborating with the World Health Organisation (WHO) 2025 – 2030 strategy to strengthen health systems, reduce health inequalities, and combat non-communicable diseases. Additionally, this strategy aims to ensure sustainable, high-quality, and accessible healthcare services for all citizens. In line with this, the MoEF has collaborated with the International Finance Corporation (IFC) on identifying and addressing the public healthcare needs of Uzbekistan.

SLR has been engaged by Vision Invest as their Environmental and Social (E&S) consultant with key scopes of work relating to the pre-financial close Environmental and Social Impact Assessment (ESIA) and related E&S assessments and the National Environmental Impact Assessment (EIA), with support from locally based consultancy Oqtavia CAC LLC, herein referred to as Oqtavia.

1.2 Project Rationale

Fergana is a densely populated regional hub within Uzbekistan's Fergana Valley that has over 300,000 residents and a rapidly growing metropolitan area thus it faces acute healthcare challenges amid economic expansion and demographic shifts. The valley's population has increased by over 20% since 2015 driven by urbanization, industrial growth in textiles, agriculture, and energy sectors, and improved life expectancy now averaging 74 years.

The development of the proposed Project is envisioned to address several gaps including job creation, reducing disease burden on the city and further reducing referral rates to Tashkent by significant margines. The development of this healthcare facility aligns with Uzbekistan's "Healthcare 2030" strategy and WHO Sustainable Health goals, enhancing equitable access, cutting treatment costs through localized care, and supporting Fergana's role as a Silk Road economic node. Without intervention and development of this facility, the risk of widening health inequities and hindering socioeconomic development increases.

1.3 Purpose and Objective of the ESIA

The project will require a national EIA to be completed and approved by the environmental authority prior to commencement of the Project construction activities.

The Developer is also seeking an amount of project finance from financial Institutions who have their own internal environmental & social investment policies/standards or may be members of voluntary agreements such as the Equator Principles (EP). At this stage, it is understood that IFC, European Bank for Reconstruction and Development (EBRD) and United States (US) International Finance Corporation (DFC), are involved in discussions relating to provisions of finance. Based on the requirements of these institutions, a process for undertaking an ESIA to assess potential impacts and determine suitable mitigation measures will be necessary as a process to reach financial close.

At a broad level, the primary objectives of the ESIA are as follows:

- Provide details of the Project design and construction and operational processes and requirements;
- Identify sensitive receptors in the Project's areas of influence;
- Review of relevant regulatory and legislative framework of Uzbekistan that are applicable to the Project, including national laws, applicable international regulations and standards, and lenders requirements;
- Assessment of the existing environmental and social baseline conditions prior to the development of the Project through a review of available existing data and the undertaking of baseline surveys;
- Assessment of the Project’s environmental and social impacts for the construction, operational, decommissioning, and post closure activities such as rehabilitation and restoration;
- Assessment of the Project’s alternatives;
- Determination of applicable mitigation and management measures to be implemented in order to avoid or minimise potential adverse impacts and enhance beneficial impacts;
- Preparation of a framework for which the construction and operational phase management systems and plans can be developed and implemented.

1.4 Structure of the ESIA

To align the ESIA with the requirements for environmental and social assessment established by the various lenders and good practice, the ESIA report is proposed to be presented in the following format developed by SLR:

- **Volume 1**: Non-Technical Summary
  - It is the Non-Technical Summary (NTS) of the ESIA, including the main outcomes, and conclusions;
- **Volume 2**: ESIA - Main Text, Tables and Figures
  - Comprises of the main text of the ESIA and full impact assessment, with mitigation, management and monitoring measures identified;
- **Volume 3**: Framework for Environmental & Social Management
  - Provides the Framework for Environmental and Social Management; and
- **Volume 4**: Appendices

- Comprises all technical appendices relevant to the studies and ESIA.

1.5 National EIA

A Project specific Stage I EIA (ZVOS) will be submitted to the National Committee on Ecology and Climate Change (NCECC) of the Republic of Uzbekistan (which replaced the earlier Ministry of Ecology, Environmental Protection and Climate Change (MEEPCC) as the national environmental permitting agency) by SLR's sub-consultant, Oqtavia with support from the Public Partner.

As part of the national EIA process, planned activities of certain types of projects in Uzbekistan are subject to public hearings which is a requirement since December 2020. Such recommendations are described in the Resolution of the Cabinet of Ministries of the Republic of Uzbekistan 541 "On further improvement of the mechanism for assessing the environmental impact". A public hearing and consultation session as per the local regulation was conducted for the Project on 13 May 2026.

It is noted that a Stage III 'Statement on Environmental Consequence' is required to be submitted, and approved, prior to commencement of Project operations.

2 Project Description

2.1 Project Overview

The Project is the construction and operation of an 800-bed hospital on a greenfield site with a total built-up area of approximately 110,000 m², which will be comprise of various critical zones such as operating theatres, intensive care units, inpatient wards, laboratories, and support facilities. The PPPA term is for 20 years, the Private Partner will transfer hospital and its equipment to the MoH at the end of this period. The Project will function as a public hospital where patients from the surrounding communities and nearby cities will be treated.

The Fergana Region is comprised of 15 districts, also known as Rayons, that consist of 4 cities with a total population approximately of 3.8 million people. There are no other public facilities providing tertiary medical care treatments in the Region.

The key Project information is summarised on the following table.

Table 2-1 Key Project Information

Project Title	Fergana Eco City Hospital
Public Partner	Ministry of Health
Private Partner	Vision Invest & KOC (joint venture)
Project Company	To be established under the Vision Invest & KOC JV
EPC Contractor	KOC Construction Mekanik Elektrik LLC FE
Facility Management Company	To be established as a joint venture between Rekeep World (51%) and Vision Invest (49%)

2.2 Project Milestones and Agreements

Key milestones for the project are outlined below.

Table 2-2 Project Tentative Execution Schedule

Agreement	Date
PPPA signing	14th April 2026
Financial Close	06th December 2026
Notice to Proceed	06th December 2026
Project Commercial Operational date	31st September 2029

2.3 Project Parties

The proposed Project will be established under Uzbekistan's Law on PPP through a PPPA as part of the wider Fergana Eco City masterplan development. The respective responsibilities of the relevant partners are detailed below.

2.3.1 Public Partner

The Public Partner, the MoH, will remain responsible for the provision of clinical services and any other services that fall outside the scope of the Private Partner. At the end of the PPPA term of 20 years, the Private Partner will transfer the hospital and its equipment to the MoH. The Public Partner responsibilities, during the term of the PPA agreement, will include but not be limited to the following:

- **Regulatory compliance**: Compliance with all Laws and Consents applicable to Public Partner relating to Project Operations,
- **Clinical services**: Provision of all clinical and medical services within the Project not attributed to the Private Partner,
- **Non-clinical support services**: Provision of non-clinical support services including but not limited to catering, cleaning, portering, laundry, hospital security, external grounds maintenance,
- Provision of site access rights and ensuring Private Partner is not wilfully impeded in performance of its obligation and providing utilities up to the site boundary, and
- **Systems**: Providing all Hospital Information Systems software and Information Technology (IT) applications (operating proprietary systems such as nurse call and fire alarms).

2.3.2 Private Partner

The Private Partner will be responsible for the design, construction, financing, equipment, commissioning, maintenance and management of the Project. The Private Partner responsibilities include, during the term of the PPPA, will include but not be limited to the following:

- **Design and construction**: All aspects of the works design and construction to satisfy Public Partner's Construction requirements and Public Partner requirements, including compliance with all applicable laws, and obtaining all necessary consents,
- **Equipment**: Procurement, installation, integration and commission groups of medical equipment and maintenance thereof for a period of 8 years, which will be sub-contracted to the equipment manufacturer who will also be supplying all equipment,
- **IT infrastructure**: Providing the IT infrastructure for the Facilities,
- **Systems**: Providing and operation of automatic control system for building services,
- **Special Systems**: Providing and operation of specialist systems including hardware and software where a system is proprietary with integrated hardware and software (e.g. fire alarm and nurse call systems), and
- **Operations**: Provision and management of the services throughout the operational term.

2.3.3 SPV Project Company

The joint venture of Vision Invest, Azerbaijan Uzbek Investment Company (AUIC), and KOC will establish a Special Purpose Vehicle (SPV) Project Company (PC) that will assume the responsibilities of the Private Partner under the PPP. The Project Company SPV has not been established at this stage. The PC will have a General Manager, supervisors and other dedicated staff based on-site.

2.3.3.1 EPC Contractor

The PC will appoint KOC; the Engineering, Procurement, and Construction (EPC) Contractor with overall responsibility for delivery of the Project's construction under the Private Partner's PPP obligations.

2.3.3.2 Facilities Management during Operations

For operational activities, Vision Invest and Rekeep World Srl will form a new Facility Management Company (FM Co) that will be contractually engaged by the PC to undertake certain operational responsibilities under the private partner's designated requirements of the PPP.

The FM Co. will employ a workforce that will provide 24/7 coverage of facilities management at the hospital to ensure that maintenance and rectification of issues are undertaken within contracted timelines. During Project operations, the FM Co. will be responsible for the engineering-based services including, but not limited to the following:

- HVAC
- Plumbing
- Elevators
- Public addressing systems
- CCTV maintenance
- Firefighting systems
- Boilers
- Standby systems (EDG)
- Civil repairs (carpentry, painting, flooring etc.)

2.4 Project Location and Scale

The development footprint proposed for the Project within the Eco city boundary is located approximately 3 km to the west side of the Fergana International airport[1], and 6 km away from the Fergana City centre in the Fergana region. Fergana City is both the administrative centre and the capital of the Fergana Region, which is also referred to as *Farg'ona viloyati* in Uzbek, which lies in the southern part of the Fergana Valley, east of Uzbekistan.

The hospital site lies within the 300-hectare Eco City masterplan on previously undeveloped, non-agricultural land that was formerly part of a military training area. The 8-hectare plot allocated for the hospital is boarded by Eco City zoning which includes residential, commercial and institutional developments located near the amphitheatre.

The hospital is expected to form a central component of the Eco City development, helping to improve healthcare provision in the region while serving as a model for future PPP-based healthcare infrastructure in Uzbekistan.

The regional context of the Project location is shown on the following figure.

[1] Distance from the airport building; 1km from the airport runway.

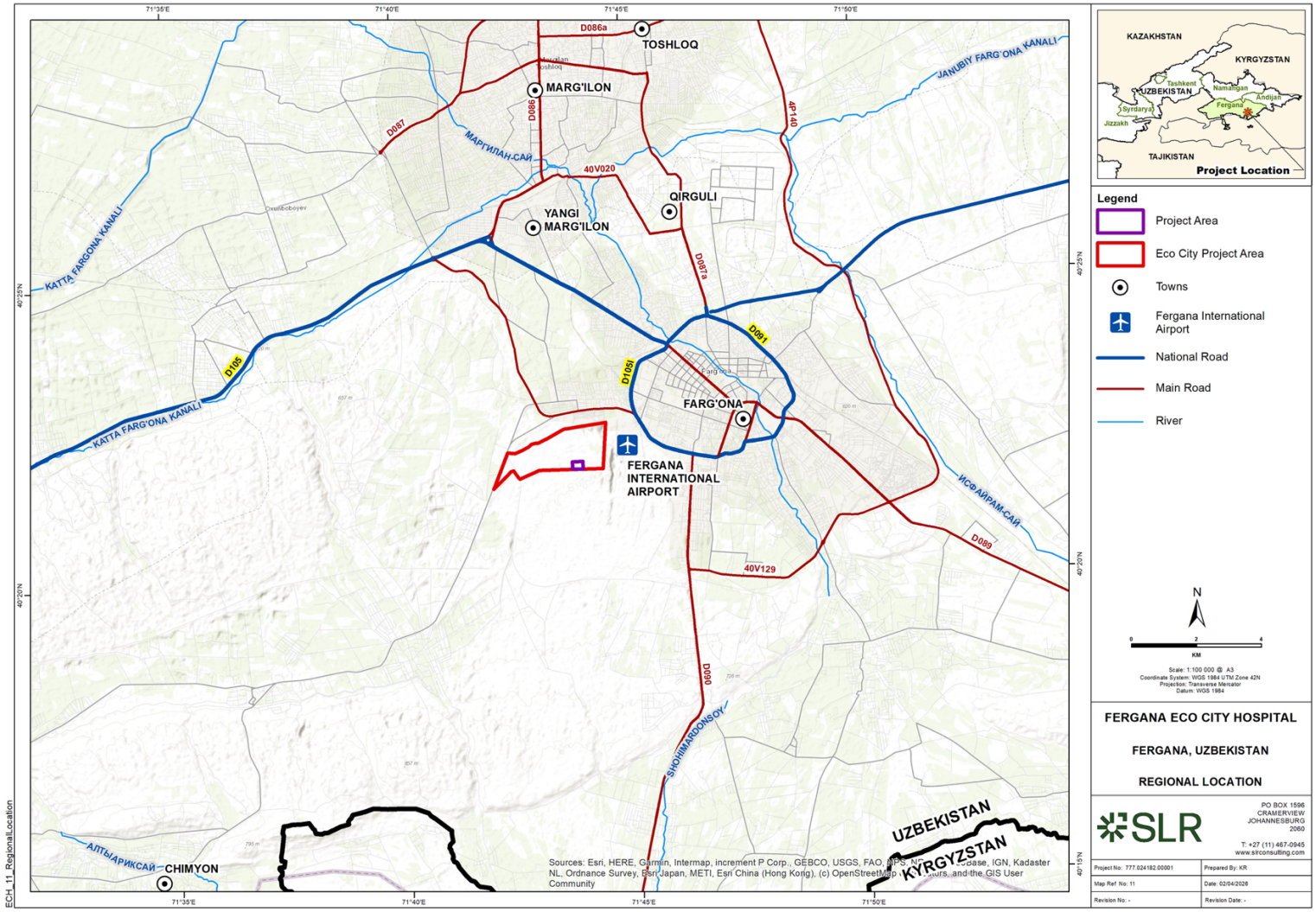


Figure 2-1 Regional Context of the Project Location

2.4.1 Project Site Access

The proposed hospital will be strategically developed and designed to be accessible from all the residential and commercial areas of the Fergana city. As shown on the following figure, the Project is surrounded by an extensive national road network from which it will benefit. The Project will define the internal access roads to the Project footprint at a later stage.

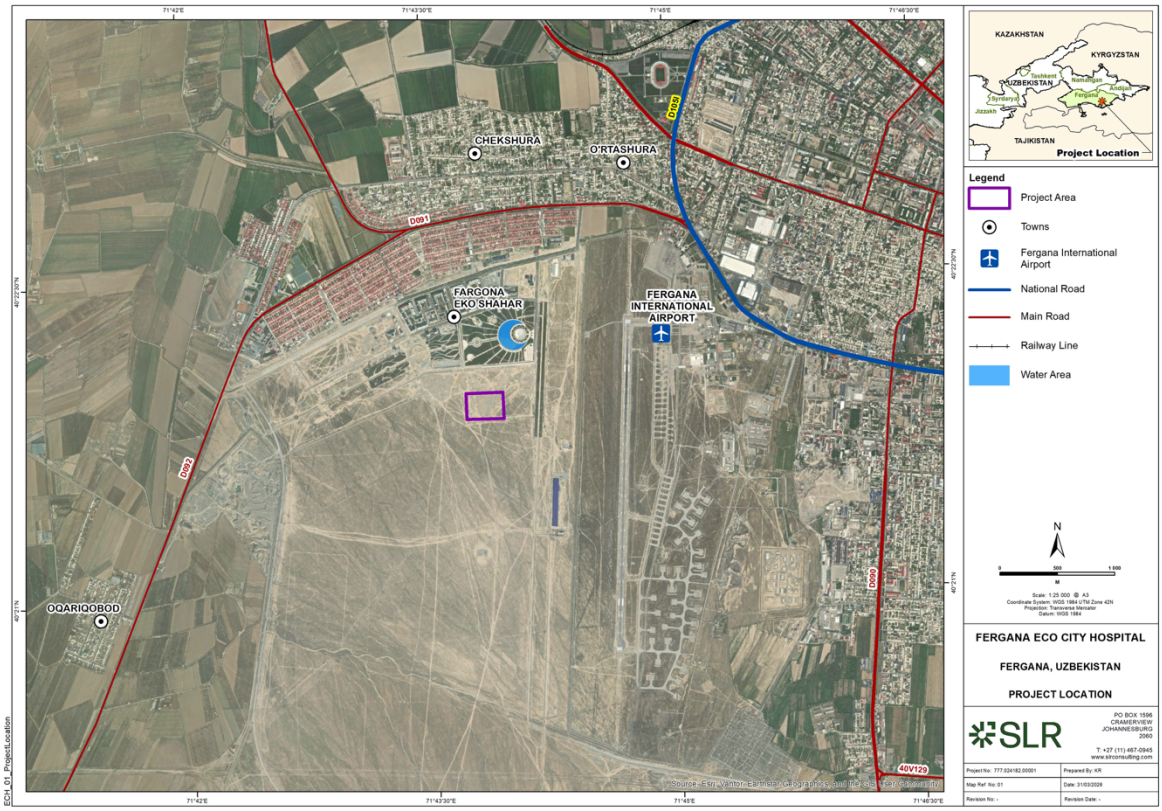


Figure 2-2 Project Location Showing the Local Road Network Near the Project

Access to the Hospital building will be through the delineated access points as shown using the red arrows on the following figure.

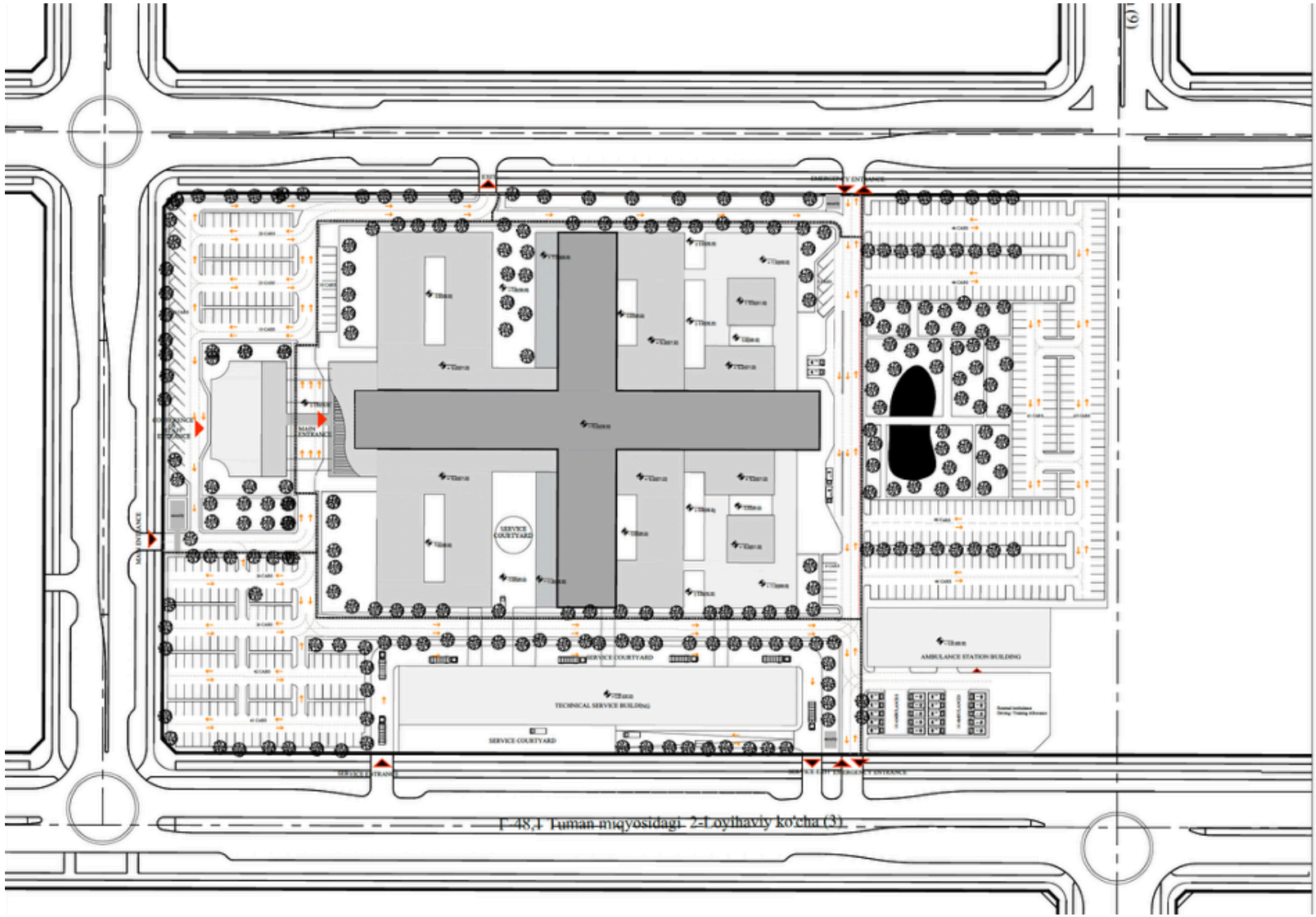


Figure 2-3 On-Site Building Access (Red Arrow) To Hospital Block

2.5 Land Use and Site Conditions

2.5.1 Land Ownership

The Project development footprint is located on government owned land. The land portion was handed over from the Ministry of Defence to the Fergana city administration with the right of permanent use at the discretion of the city Khokimiyat (the body of local self-government).

According to Order No. 133 of the Ministry of Defence of the Republic of Uzbekistan dated 26 February 2021, the land parcel previously comprising of military camp No. 49 was returned to the district reserve, in accordance with Decision No. 114 of the Eastern Military District Command under the District Governor. Subsequently, under Decision No. 156 of the Fergana Region Governor dated 21 April 2021, the land parcel was allocated for the development of the Eco City masterplan.

2.5.2 Land Use and Site Conditions

The Project development footprint is currently zoned as non-agricultural land. The area was previously part of the Military Unit No. 49 (settlement Okbilol) under the command of the Eastern Military District of the Ministry of Defence of Uzbekistan. The military area did not contain any permanent structures due to its proximity to residential zones and the Fergana International Airport, and it was also not used for storage of munitions. The land is understood to have been used for military drills, with fencing to prevent civilian access.

Historical satellite images of the site and surroundings are shown on the following figure where it can be observed that as of December 2021, no meaningful development within the Eco City had taken place, besides the delineation of development boundaries (north of the Project site).

It is evident that significant development had undertaken within the Eco City area as of April 2025, with the construction of structures to the north, the amphitheatre, other green space and road infrastructure. At this time, there was also evidence of more prominent tracks and some earthworks having occurred at the Project site and within immediate surrounding areas.

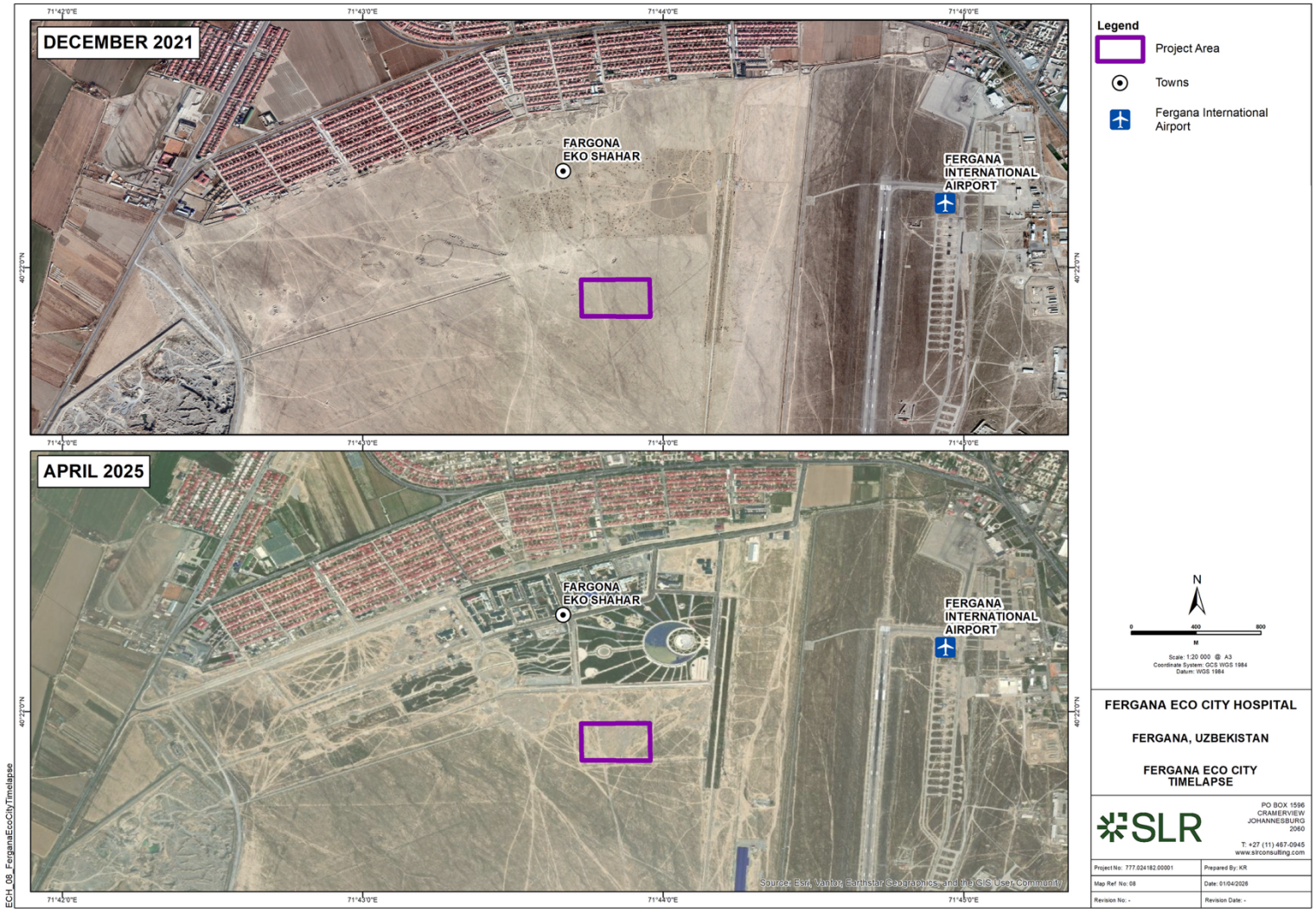


Figure 2-4 Historical Satellite Imagery Showing Development of the Eco City Over Time

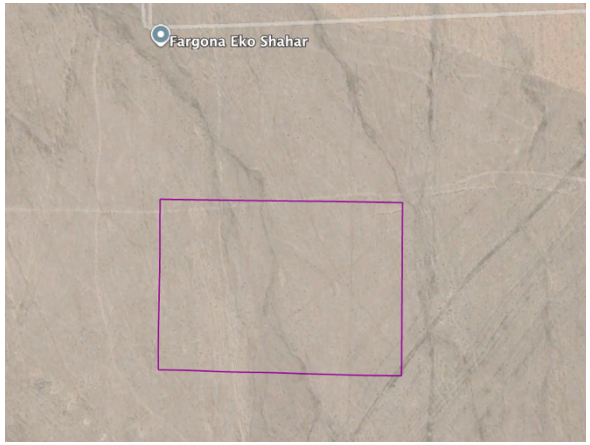
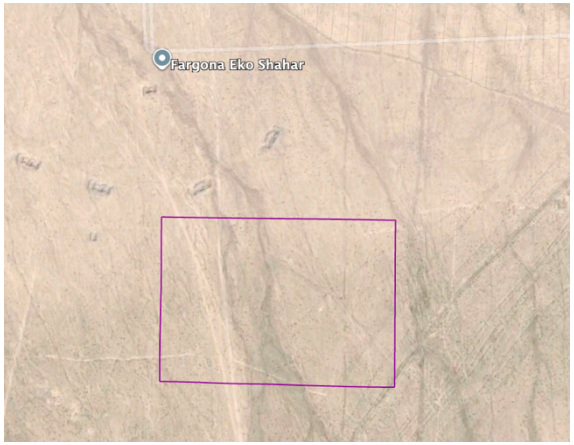
		
October 2002 – No specific land use observed, just tracks	**August 2011** – No specific land use observed, just tracks	**April 2015** – Some form of excavation in place, assumed for military activities
March 2019 – Further excavations and temporary structures in place, assumed for military purposes	**December 2021** – temporary structures removed, excavations still in place	**August 2024** – major land clearance and levelling of the site and evidence of a possible trial pit on-site

Figure 2-5 Site Land Use Changes (2002 – 2024) (*Image Source: Google Earth, accessed April 2026*)

The review of historical satellite imagery indicates that the Project site and surrounding area have remained largely undeveloped over the past two decades, with no evidence of formal agricultural, residential or commercial land use until recently in the wider Eco City development. Historical satellite imagery from between 2002 and 2011 shows a largely undisturbed landscape with potential shallow drainage channels/areas, with some vehicle tracks, suggesting only transient use.

From around 2015 onwards, there is evidence of more defined disturbance, including excavations and features consistent with the previous military-related activities. This pattern continues through 2019.

A key change in 2024, included a major transition towards broader Eco City site preparation, including within the proposed hospital site, with evidence of land clearance, levelling and potential trial excavation works.

During the initial site visits undertaken in March 2026, no land users were observed within the Project development site and there was no evidence of on-going or previous land use, with the exception of land levelling activities that had taken place.

The current conditions of the Project development footprint are shown on the flowing figure with evidence of limited vegetation growth, in lower lying soils/depressions.

Figure 2-6 Conditions within the Project Development Footprint

2.6 Surrounding Area

Surrounding Conditions

The proposed hospital site is strategically located within the broader Eco City masterplan area on an 8-hectare development site, in proximity to other planned residential and commercial mixed-use complexes comprising approximately 8-16 storey buildings.

Site visits were undertaken by Oqtavia on 18 and 31 March 2026, during the scoping phase to evaluate the current status of the site and surrounding environment, and to provide context on baseline conditions within the development footprint and adjacent areas.

Figure 2-7 Surrounding Conditions of the Development Area Showing Fenced Off Boundaries Near the Site

The initial site visits revealed that there is minimal existing completed development in the immediate vicinity of the project, with the main nearby feature being the Eco City amphitheatre, located approximately 377 m to the north of the Project footprint. The wider area shows evidence of early-stage preparation works, including fenced and cordoned-off plots linked to other parcels within the Eco City development.

There was the presence of contractors (for other developments) within nearby areas, approximately 200 m away from the Project boundary, indicating early site preparation. However, no construction was observed within the Project site itself, with limited works by other projects in immediate surrounding areas.

There was a small temporary construction camp observed approximately 200m north of the site (between the Project site and the Eco City amphitheatre) with approximately 8 containers accommodating a handful of Chinese nationals. This accommodation is understood from informal discussions, to be there for another construction project. The observed temporary containers are shown in the following figures.

Figure 2-8 Observed Temporary Laydown Areas Near the Project Site

Site conditions of the surrounding area near the internal Eco City access road located approximately 222 m from the Project boundary.

Figure 2-9 Current Conditions of the Surrounding Environment near the Internal Eco City Road

During the baseline survey site visits, it was observed that there has been illegal waste dumping and heaps of excavated materials mixed with other general wastes present approximately 2 km away from the Project boundary.

Figure 2-10 Fly Tipped Waste Observed 2 Km from the Project Boundary

2.7 Sensitive Receptors

The sensitive receptors are outlined in the following table.

Table 2-3 Sensitive Receptors

ID	Receptor	Distance from Project	Receptor Type
R-1	Fergana International Airport	3 km	Transport
R-2	Teamdress workwear	1 km	Industrial
HR-1	Eco City Residence	562 m	Residential
HR-2	Nearby Community	1 km	Residential

R – Receptor

HR – Human Receptor

In addition to the above identified receptors, it is noted that there is on-going site preparation works and/or construction activities with evidence of observed temporary laydown areas and presence of other contractors near the Project site, The sensitive receptors in relation to the Project boundary are shown on the following figure.

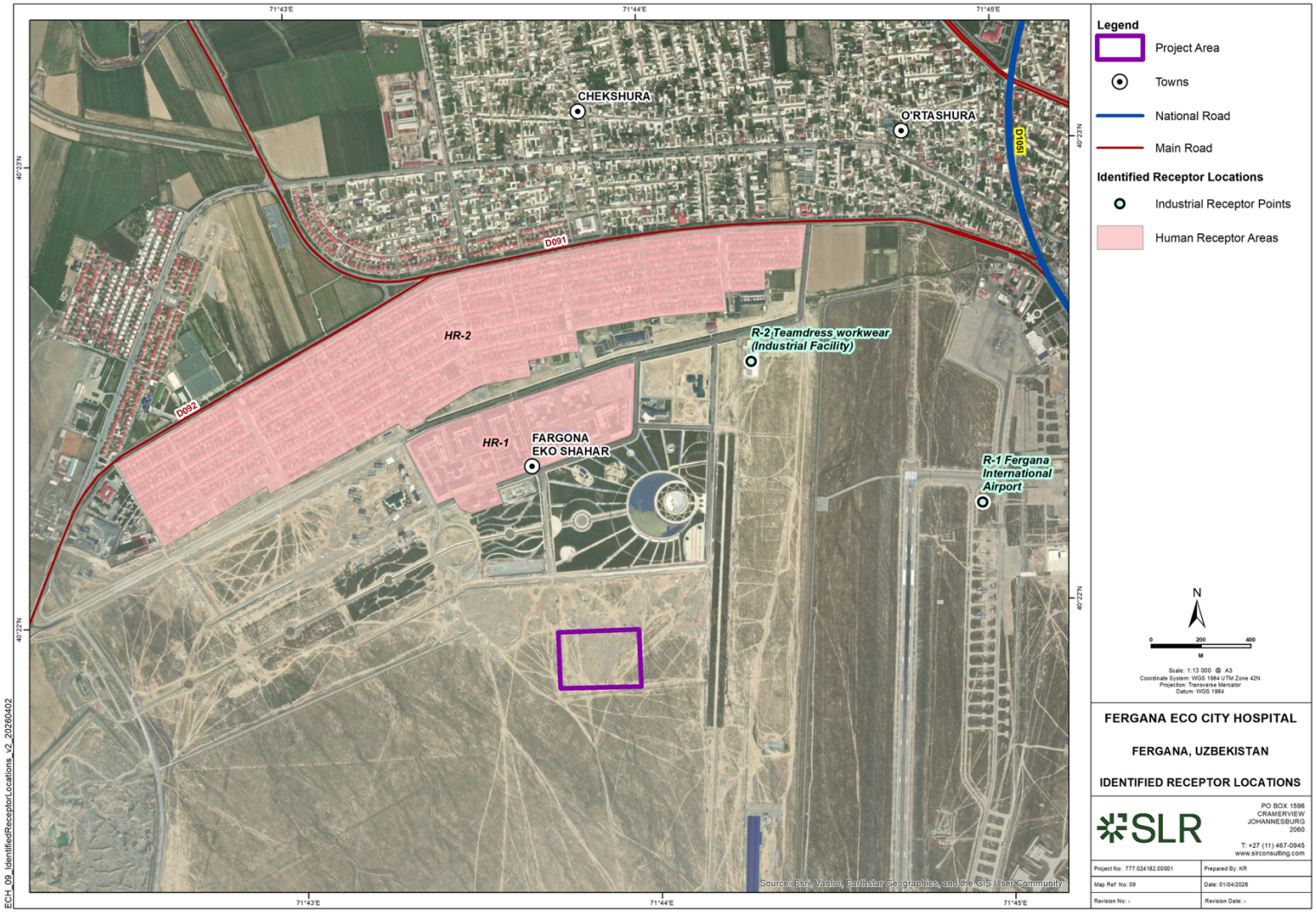


Figure 2-11 Sensitive Receptors in Relation to the Project site

2.8 Project Facilities

The hospital is designed to have multi specialities in-house to cater to the population in the Fergana Region and its surrounding areas. The Fergana Eco City Hospital's design will incorporate Uzbekistan's vibrant architectural legacy with a forward-looking approach to healing and innovation. The architectural design draws on classic arches, colonnades, and lattice patterns, it honours harmony and artistry through modern materials, open glass façades, and eco-friendly elements. Thus, creating an iconic structure that merges cultural heritage with state-of-the-art healthcare. The structural layout incorporates a landscaped area of approximately 38,373 m^2, with a total green area of approximately 9,553 m^2, accounting for approximately 25% of total landscaping in line with national requirements. An architectural rendering of the proposed hospital is shown in the following figure.

Figure 2-12 Fergana Eco City Hospital Design Concept

The interior design will use the building itself as a healing tool guided by colour psychology, using dynamic tones to energise public areas while calm hues promote relaxation in clinical zones. The Project will use the “Daylight Everywhere” principle to ensure constant natural light and visual connection to nature. Blending culture, nature, and technology, the design inspires trust, pride, and tranquillity, making the hospital a space that heals both body and mind.

The Project is designed to have the following features

- Main block of the hospital complex — 19,670 m²
- Conference hall block — 1,105 m²
- Emergency medical center — 1,444 m²
- Underground technical block — 3,866 m²
- Reserve zone — 1,050 m²
- Development blocks — 3,000 m²
- Garden-park zones — 15,000 m²
- Green zone with shrubs — 3,500 m²
- Roads and sidewalks — 33,630 m²

- Technical block — 2,700 m²
- Parking — 320 spaces
- Staff parking — 90 spaces
- Security checkpoint
- Fountain

2.8.1 Healthcare Environment and Innovations

Based on information provided by the Client, the Project incorporates several healthcare environment features and innovative design measures. These are described in the following subsections.

2.8.1.1 Patient-Centred Design

The hospital will embody a patient-centred philosophy that prioritises comfort, dignity, and independence for all users, including the elderly, those with special needs and other vulnerable groups. Its layout will feature intuitive navigation, efficient clinical adjacencies, and distinct zoning to ensure privacy, safety, and social interaction. Healing spaces will emerge from uplifting interiors, recreational areas, and inclusive waiting and treatment zones. Families and caregivers will benefit from dedicated rest and accommodation areas to build emotional resilience. In all, the hospital will weave together physical, emotional, and social wellbeing.

2.8.1.2 Healing and Therapeutic Environment

The hospital design is envisioned as a healing and restorative environment, where architecture, interior design, and landscape are unified to promote recovery, wellbeing, and emotional comfort and will incorporate the following.

- **Holistic and Functional Design Approach**: A clear, intuitive layout ensures smooth flow, comfort, and reduced stress, with natural tones and balanced proportions enhancing warmth and calm.
- **Integration of Nature and Sensory Harmony**: Daylight, greenery, and tactile materials create a soothing, biophilic environment that promotes emotional stability.
- **Synergy Between Functionality and Aesthetics**: Modern efficiency meets Uzbek-inspired elegance, combining cultural identity with operational performance.
- **Restorative and Emotionally Supportive Spaces**: Healing gardens and bright interiors reduce anxiety and support recovery through uplifting, tranquil settings.
- **Welcoming and Intuitive Arrival Experience**: Open, naturally lit entrances foster comfort and orientation from the first impression.
- **Acoustic Balance and Environmental Wellbeing**: Quiet, thermally balanced spaces with efficient ventilation sustain comfort and healing throughout the hospital.

2.8.1.3 Sustainability

- **Design Optimization**: Reducing energy demand through efficient planning, orientation, and passive design measures.
- **Renewable Integration**: Incorporating a rooftop solar PV array to generate up to 10% of the hospital's energy needs.

- **Efficient Operation**: Ensuring optimal performance through smart management and system control.
- **Aligned with IFC Excellence in Design for Greater Efficiencies (EDGE) principles**: The design will incorporate energy and water efficient systems, sustainable materials, and optimized lifecycle performance to create a durable, environmentally responsible, and high-performing healthcare facility.

The Project EPC Contractor will obtain EDGE certification pending the completion of the hospital building infrastructure building.

2.8.1.4 Accessibility Design Principles

- All main entrances, service entrances, and emergency entrances will be equipped with ramps designed in accordance with accessibility standards: maximum slope of 6%, adequate width, and handrails.
- Threshold-free floor transitions, sensor-operated automatic doors, and non-slip surface finishes are applied at all entrances.
- Designated disabled parking spaces will be located in parking lots and main access roads, positioned closest to entrance doors.

Vertical Circulation – Staircases

- Non-slip tread surfaces,
- Double-sided handrails, and
- Guiding tactile floor surfaces.

Accessible Toilets and Washrooms

Accessible toilets will be provided on every floor and within each major functional unit. These spaces include:

- A minimum turning diameter of 150 cm
- Wall-mounted toilets with foldable support rails
- Low-height sinks and mirrors
- Sensor-operated faucets and emergency call buttons

2.8.1.5 Future Flexibility and Technological Adaptability

- **Adaptability & Scalability**: The Project will be designed for long-term functionality with flexible layouts and modular systems that allow seamless upgrades without major structural changes.
- **Infrastructure Preparedness**: Electrical and Information and Communication Technology (ICT) systems include reserve capacity and vertical shafts to accommodate future technologies, automation, and digital health integration.
- **Structural Flexibility**: Engineered for higher loads in key areas (imaging, surgery, diagnostics) to support advanced medical equipment and future specialties.
- **Horizontal Expansion**: Site planned with external access to service units and reserved areas for future building extensions, ensuring safe, efficient expansion.
- **Standard Modulation**: Unified axis system allows modular organization and easy reconfiguration of clinical zones, supporting future functional or technological changes without disrupting operations.

2.8.1.6 Earthquake Resilience

- **Seismic Design Compliance**: The Project is classified as a critical facility designed to remain fully operational after major earthquakes. The structure complies with the 2024 Seismic Construction Regulations and adopts a base-isolated structural system with seismic isolators under all main columns, ensuring stability and functionality in a first-degree seismic zone.
- **Fire Safety Strategy**: Fire protection will be integrated from the early design stage, addressing patient evacuation, safe assembly zones, smoke control, and fire-resistant zoning to ensure safety in a 24/7 operational environment.
- **Escape Routes and Exits**: A dual-direction escape system is provided on all floors with no single-exit spaces. Maximum escape distance is 45 m on service floors. Corridors are at least 2.4 m wide, fire-rated, and connected to open courtyards and assembly zones for safe evacuation.
- **Fire Stairs and Lobbies**: Each main block includes pressurized fire stairs located near elevator cores, equipped with natural or mechanical smoke extraction. Fire lobbies of at least 20 m² on inpatient floors allow bed evacuation and act as smoke barriers.
- **Fire Zoning**: Functional areas such as outpatient, diagnostic, inpatient, and surgical zones are separated by fire-rated partitions, with each floor divided into independent fire compartments according to use and area.
- **Smoke Control Systems**: High-risk areas (e.g., operating theatres, Intensive Care Unit (ICUs), laboratories, Magnetic Resonance Imaging (MRI) rooms) include smoke detection, exhaust, and pressurization systems. Operable façade windows in atrium-facing zones enable natural smoke evacuation.
- **Horizontal Evacuation**: All escape routes are designed for stretcher and wheelchair access, with wide corridors and doorways. Emergency lighting and signage ensure guided, safe evacuation during emergencies.

2.8.2 Project Design and Layout

The Project will be equipped with a three-part base, a central functional core that supports four extending wings that house the inpatient wards and intensive care units, creating an efficient and well-organized vertical and horizontal circulation system. This configuration is envisioned to minimize circulation distances, resulting in a compact, functional, and easily navigable design. Independent of the main hospital structure, a technical service building is located on the south side, housing all electromechanical systems. On the west side, a conference hall is positioned, featuring both an independent entrance and internal access through the administrative block.

The Project will be developed to also facilitate medical education, such that the proposed development incorporates dedicated academic and telemedicine facilities to advance medical education, training, research, and remote consultations. These elements align with the hospital's core goal of providing superior healthcare by cultivating an optimal setting for scholarly achievement, lifelong professional growth, and cutting-edge clinical methods. Through state-of-the-art resources and infrastructure, the setup seeks to empower medical staff with essential expertise and capabilities to enhance performance and patient results. The Hospital will further be equipped with the following systems. The overall Project layout is attached as **Appendix A**

The proposed hospital will have specialty healthcare services such as cardiac surgery, neurosurgery, organ transplant etc. The Project is designed to have 8 floors for which the breakdown of the layout is detailed below.

The first basement design will be distinct and incorporate the following service lines,

- Facility Management section to include the following
  - Storage areas,
  - Telecoms and IT rooms,
  - Computer server rooms,
  - Work repair areas,
- Service Courtyard to include the following
  - Loading and unloading bays of approximately 247.68m^2,
  - Waste exit area of approximately 27.44m^2,
  - Medical waste area of approximately 36.90m^2,
  - Domestic waste storage area of approximately 75.62 m^2,
  - Oxidizing waste areas of approximately 39.60m^2 and 52.01m^2 respectively,
  - Ignitable waste of approximately 36.90m^2, and
  - Non-chemical reaction waste of approximately 36,90m^2.
- Central Decontamination Unit,
- Mechanical Areas,
- Electrical Areas,
- Mortuary Unit Area,
- Material Management Unit,
- Kitchen and Dining, and
- Laundry and Linen Unit.

The Project basement layout is also included in **Appendix B** containing the Project floor plans. The first basement will also be equipped with technical service tunnels connecting to the two technical service areas covering approximately 874.60m^2 and 1977.60m^2 respectively, each equipped with staircases, respectively within the service courtyard. The service courtyard will be separated by a 295.20m^2 service tunnel that will serve as a service vehicle driveway. Additionally, the first floor of the hospital building is designed to have three main sections at the base level (1st,2nd,3rd floors), accommodating the outpatient clinics, diagnostic and treatment units, and the Emergency Department. The first floor is designed to constitute three blocks to house the different healthcare services detailed as follows;

- Block I – Administrative Block,
- Block II – Outpatient and Day Care Block, and
- Block III – The Critical Care Block.

A schematic representation of the first-floor representation is shown on the following figure.

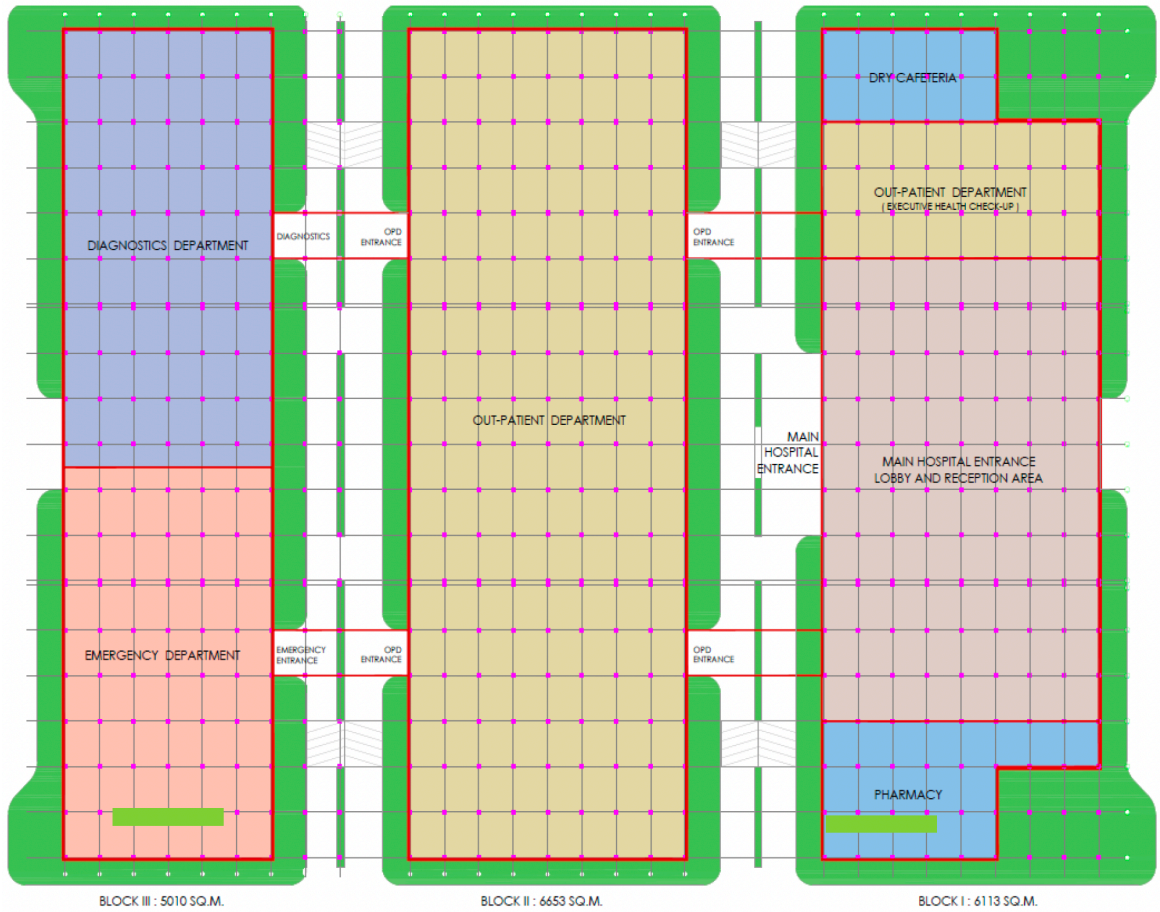


Figure 2-13 First Floor Hospital Blocks Layout

Within the above-mentioned blocks, the first floor will comprise of the following departments,

- Main Reception and Lobby Area,
- Outpatient Department and Polyclinics,
- Imaging Diagnostics,
- Blood Bank,
- Clinical Laboratory Department,
- Renal Dialysis,
- Emergency Department, and
- Burn Unit Department.

In addition to the above, the first floor will be equipped with an ambulance station building located outside the actual hospital building, but within the hospital Project boundary near the parking area.

Entrances from the north and south arterial roads provide direct access to the above-mentioned key functions. The comprehensive layout showing the parking areas, multiple entry points with traffic direction flow, and an exit including emergency exit, is included in **Appendix A**.

Additionally, the hospital floor layouts are included in **Appendix B**. The second floor and third-floor layouts are also distinctly planned. The second floor is envisioned to comprise of the following,

- Main hospital department reception and lobby area of approximately 570.04m^2,
- Outpatient department/polyclinics,
- Endoscopy,
- Cardiac Department and Cath labs, and
- Operation.

The third-floor layout is planned to include the following,

- Administrative department,
- Education department consisting of classrooms, simulation rooms, training rooms, etc.
- Kitchen and Dining Area,
- Technical Area of approximately 5 327,95m^2.

It is to be noted that the Project layout and design from the fourth floor to the nineth floor will be unison and will comprise of an ICU, and Patient Ward.

2.8.2.1 Bed Allocation

The Proposed development will be first of its kind in the region to have a capacity of 800 beds compared to other existing hospitals where the largest of which has approximately 400 beds. It is anticipated that the total built up area per bed will be 93 square metres. The Project has been designed with optimum space utilisation accounting for future expansions. The space allocation of the Project is detailed In the following table.

Table 2-4 Project space utilisation

Department	Total Area Required
Main Hospital Reception - Lobby Area	3,997
Out-Patient (Polyclinics) Department	15,169
Diagnostics Department	2,717
Emergency Department	2,393
Dialysis Department	1,441
Endoscopy Department	957
Cath-Lab and Coronary Care Unit	1,623
Clinical Laboratory Department	858
Blood Bank Department	489
Operation Theatre Complex	7,533
Intensive Care Units	6,373
Total In-Patient Department Built-Up-Area	19,048
Total Administration Department Build-Up Area	19,048
Total Materials Management Department Built-up area	5,825
Total Central Sterile Services Department (CSSD)	1,072

Department	Total Area Required
Total Central Kitchen and Dining Area	655
Central Kitchen and Dining	870
Total Mortuary Built-up area	226
Total Hospital Engineering and Maintenance/ Staff Built-up area	3,105

The Fergana Eco City hospital is envisioned to require superspecialists such as specialty doctors and specialty nurses in larger numbers. This is because the Project is anticipated to have higher level of care and undertake more complex surgeries and treatment procedures in-house compared to the existing hospitals in the region. To support these services, the hospital is planned to have a capacity of 800 beds comprising of 160 ICU beds to accommodate patients requiring critical and specialised care, and 640 single, double, and ward beds for general inpatient services.

The bed allocation per department is shown on the following table.

Table 2-5 The Hospital Bed Allocation per Department

Category	Criteria	Description	No of beds units
Bed Mix Integration	In-Patient and Intensive Care Beds	Inpatient beds	640
		Burns ICU	6
		Medical ICU	24
		Surgical ICU	24
		Cardiac Care Unit (CCU)	10
		Cardiothoracic Vascular (CTVS) ICU	6
		Orthopaedics/Trauma ICU	20
		Neuro ICU	6
		Neuro-surgery ICU	10
		Transplant ICU	6
		High-Definition Unit (HDU)	48
	Other beds	Non-census beds (total)	126
		Emergency beds:	
		1.1.a. Triage/resuscitation	10
		1.1.b Observation beds	26
		1.1.c. Isolation beds	4
		1.2 pre-and post-operative beds	40
		1.3 Pre/post Cath beds	4
		1.4 Dialysis	30
		1.5 Endoscopy	12
Operation Theatres (OT)	OT Complex	Major OTs (total)	17
		General OT	7

Category	Criteria	Description	No of beds units
		Cardiac OT	2
		Urology OT	2
		Orthopedics OT	2
		Neuro OT	2
		Transplant OT	2
		Minor OTs	5
		Treatment/Procedure rooms	10
Diagnostic Services	Radiology and Imaging	Magnetic Resonance Imaging (MRI) 1.5 tesla	1
		Computed Tomography (CT) scan 64 slice	1
		X-ray (800 mA)	1
		X-ray (500 mA)	2
		Ultrasound Sonography (USG)	4
		Mammography	1
		Bone Mineral Densitometry (DEXA) scan	1
		Orthopantomograph (OPG) – Dental Xray	1
	Cardiology and Neurology, Urology Facilities	Cath Laboratory	2
		Electrocardiogram (ECG)	4
		Treadmill Test (TMT)	2
		Echocardiograph	2
		Electroencephalograph	1
		Electromyograph/NCV	1
		Urodynamic Laboratory	1

Category	Criteria	Description	No of beds units
	Clinical Lab Medicine	Lithotripsy Laboratory	1
		Pathology	1
		Haematology	1
		Serology	1
		Histopathology	1
		Immunohistochemistry	1
		Microbiology	1
		Molecular biology	1
Clinical and Support Services	Outpatient Department (OPD) and Support Facilities	OPD rooms	60
		Vitals rooms	7
		Blood bank	1
		Physiotherapy	1
		Occupational therapy	1
		CSSD	1
		Pharmacy	Outpatients – 1 Inpatients – 1
		Kitchen and dining area	1

2.8.2.2 Fire Safety Protection System

To minimise the risk of fire, the project will comply with national life and fire safety regulations and internationally recognized Life & Fire safety (LFS) codes, such as NFPA, as required by the WBG General EHS Guidelines and IFC Life and Fire Safety Good Practice Note for Hospital (2017). The risk of fire in health care facilities is significant due to the storage, handling, and presence of chemicals, pressurized gases, boards, plastics, and other flammable substrates. Uzbekistan does not have local fire safety guidelines for hospital buildings thus the Project will adopt the National Fire Protection Association (NFPA) guidelines/codes (NFPA 99, NFPA 13 and NFPA 14) and 'Life and Fire Safety' in the General EHS IFC Guidelines along with local Uzbekistan guidelines for designing the fire safety aspects in the master planning stage of the proposed multidisciplinary hospital.

It is envisioned that the Project will develop a Life & Fire Safety Plan in full compliance with the requirements of the national LFS code and standards and internationally recognized LFS Code (e.g., US NFPA) prepared by Life & Fire Safety expert. At minimum, the Project will be equipped with the following:

- Fire water tank with a capacity of 200,000 litres as a standard requirement. The fire water tank holds the water capacity as a primary firefighting element to enable the provisions of fire hydrant systems, automatic sprinkler systems etc. The source of water to the underground fire water tank is through the existing water services within the Fergana Region.
- Fire driveway will have 6 m wide fire vehicular movement along and around the periphery of the Hospital building. This has been done to enable emergency and direct access of the fire extinguishers to each side of the building facades.
- The hospital building complex is divided into blocks that are interlinked to one another via gangways over and across the driveways, the floor heights are therefore considered in confirmation to the minimum driveway height clearance required of fire vehicles or extinguishers. The clear height required for fire movement is 5.4 m as per the master plan.
- The proposed hospital building has multiple fire exit points to facilitate the distribution of fire zones which are all separated by fire doors within the building.
- The shafts and other holes from one floor to another will be lined with fire retardant material.

Fire Detection and Alarm System

The Project will be designed with a fire detection and alarm system (FDAS) integrated into centralised monitoring. The main components of the FDAS are outlined below

- Addressable fire alarm panels (FACP) with modular expansion
- Smoke, heat, flame, beam detectors in respective areas
- Manual call points, optical signalling devices, sounders; and
- Gas leak detectors in medical gas zones and generator rooms.

2.8.2.3 Indoor Air Quality

Hospital management will adopt a strict "No Smoking" policy for the entire building and incorporate Minimum Efficiency Reporting Value (MERV) 13 filters and CO_2 sensors which have been reported to boost fresh air delivery by 30%. High-quality fresh air plays a vital role in hospital environments, directly supporting patient recovery and healing, therefore the

construction will utilise low Volatile Organic Compound (VOC) materials in paints, sealants, and adhesives, while all Heating, Ventilation, and Air Conditioning (HVAC) ducts and vents will be properly sealed to prevent dust infiltration into the system.

2.8.2.4 Indoor Climate Systems

The Project is located within an area that experiences average temperatures of approximately +38°C in summer and as low as -12°C in winter. Therefore, both cooling and heating loads are anticipated to be high. The hospital building will be compliant with insulation standards in line with TS 825, and will be equipped with zone control systems, and heat recovery systems, coupled with automated control. Systems are designed to be as centralized as possible, easy to maintain, modular and interchangeable with standard parts. Comprehensive detailing of the hospital's HVAC system is outlined below.

HVAC Systems

The hospital's HVAC system will be designed as a centralized system, focusing on user comfort, air quality, energy efficiency, and hygiene requirements. The system's key components are as follows,

- Six air-cooled chillers, each with a capacity of 2000 kW, and absorption chillers.
  - Four (absorption) chillers will be active and two will be redundant (N+2),

Air-cooled chillers serve critical areas such as operating rooms and intensive care. However, absorption chillers, are utilised to cool public areas and are also used in hot water production. The cooling circuit will be dual circuit, with primary/secondary circulation pumps controlled by an inverter

The overall chiller capacities required are anticipated to be approximately 12MW.

Heating System

The heating system is based on hot water supplied by the external network from the city central heating network. Hot water from the mains is passed through plate heat exchangers and transferred to the building's secondary circuit. This secondary circuit is supported by N+1 redundant pumps. The usage areas of hot water are under three main headings: fan-coil and AHU coils, domestic hot water boilers and heat source of absorption chillers.

2.8.2.5 Lighting System

The lighting systems of the hospital have been designed to fulfil high-efficiency, human-centric, and safety-oriented criteria in accordance with international (IEC, EN, ISO, NFPA) and national standards. The lighting design supports patient comfort, staff performance, infection control, and emergency visibility, while reducing energy consumption and facilitating smart building integration. The Project's lighting system will be compliant with the following general lighting standards,

- EN 12464-1 / EN 12464-2 for Indoor and outdoor workplace lighting
- EN 1838 for emergency lighting
- IEC 60598 Series for luminaires
- NFPA 101 & 70 for emergency and life-safety lighting
- Uzbekistan National Building Codes 2023 (Hospital Edition)

The lighting system of the hospital is designed to attain optimised luminance levels per room function and achieve glare reduction in treatment and diagnostic zones. Additionally, reach the following targets,

- High CRI (>85) for medical accuracy
- Unified Glare Rating (UGR) below 19 in workspaces

Furthermore, the lighting system will be equipped with colour temperature zoning, with 4000K for clinical areas, 3000K for patient rest, and 6000K for technical areas.

Emergency Lighting

The Project will be equipped with emergency lighting designed in compliance with EN 1838 and NFPA 101. The emergency lighting is envisioned to operate for over 3 hours in rare occasions of power loss. Emergency lighting will be distributed across all exits, corridors, staircases, fire zones, and patient transfer paths.

The emergency lighting system will be equipped with a central self-test systems integrated via BMS with a luminaire type of maintained and non-maintained types as per area risk classification.

The Project will, as part of the energy efficient and sustainable building ethos, have the following,

- Luminaires will all be LED with a power factor of over 0.95 and THD of less than 10%,
- The Project will be equipped with automatic daylight harvesting and adaptive scheduling,
- The Solar contribution will be characterised by non-critical façade and pathway lighting optionally connected to GES-fed circuits, and
- LEED & WELL Compatibility; the Project design supports energy efficiency credits under both certifications.

2.8.2.6 Voice Alert Systems

The Project will be designed to have voice alerts and communication systems. These systems are important because they support safe communication, rapid response, and emergency coordination, additionally they serve as essential operational and life-safety infrastructure that helps protect patients, staff, and visitors during normal operations and emergencies. The various voice alert systems are outlined below.

Public Address and Voice Alert (PAVA) System

The Public Address and Voice Alarm system is important because it enables clear, timely, and intelligible instructions to be broadcast across the hospital, including during emergencies. It reduces confusion during evacuation, supports phased or zone-based evacuation, and improves the speed and orderliness of occupant response.

The PAVA system will be characterised by loudspeakers that will be ceiling-mounted (indoor) with weatherproof horn speakers (external). For provision of redundancy, the PAVA system will be equipped with dual power input, battery backup (24 hours idle + 30 min full-load speech).

Nurse Call System

The nurse call system allows patients to summon clinical assistance, improving response times and supporting routine care, escalation, and patient safety. It is particularly important in inpatient wards, emergency areas, and critical care settings where delays in communication can affect treatment outcomes. The nurse call system will have the following features:

- Bedside pull cords, patient handset, bathroom pull switches;
- Corridor light indicators and room displays; and
- Wireless handset for mobile alerts to nurses.

Code Blue System

The Code Blue function is essential for immediate alerting during life-threatening events such as cardiac or respiratory arrest. It ensures that the resuscitation team is notified without delay and that the highest-priority clinical response is triggered, which is directly linked to patient survival. The code blue system will have the following features;

- Emergency button stations in ICUs, Operating Rooms (ORs), wards, and
- Audible/visual alarm plus paging system interface

Logs will be fed into HIS (Hospital Information System), nurse dashboard panels

2.8.2.7 Access and Surveillance Systems

CCTV Surveillance System

The Project will be equipped with a comprehensive surveillance system with cameras to cover the dome (indoor area), the entrance area, the outdoor area, and perimeter. In addition to camera surveillance, the Project will be equipped with a video surveillance system with a live feed to the security command centre. The video surveillance will cover the entry gates, ICU area, Operating Rooms area, lifts, emergency exits, parking, and public zones. This system will have a minimum 30-day archival storage.

Access Control and Intrusion Detection

The hospital will be access controlled and equipped with card readers and keypad terminals at all critical doors. In addition to this, sensitive departments will have electric strikes and magnetic locks installed.

To facilitate intrusion detection, the Project will have motion sensors, door & window contacts, vibration sensors, and perimeter intrusion sensors with zoning. The intrusion detection system will be equipped with an alarm management system centralised through the security room and notification system.

2.8.3 Design Standards

The proposed Fergana Eco City Hospital is envisioned to be developed in compliance with the following detailed design standards.

The Project is designed to encompass eco-friendly and energy efficiency principles through the establishment of environmentally friendly and energy efficient building as per EDGE norms. Furthermore, industry best practices have been incorporated into the master plan in accordance with international standards like the International Health Facility Guidelines (iHFG), ASHRAE, NFPA, etc. to incorporate evidence-based hospital planning & service engineering aspects. Compliance with local bye laws and construction standards has been incorporated into the Project design in compliance with Snip standards followed in Uzbekistan. An overview of the above mentioned is discussed in detail below.

2.8.3.1 Uzbekistan Standards (SNiP)

The Uzbekistan SNiP is a standard that covers construction, covering loads, fire safety, sanitation, energy efficiency, and structural reliability. Recent rules like Minister of

Construction Order № 01/2-79 (Nov 2024) detail medical facility design requirements; projects must meet local byelaws for permissions.

2.8.3.2 EDGE Certification

EDGE is developed by the IFC as a green building standard for emerging markets. It requires at least 20% savings in energy, water, and embodied energy in materials as a requirement to obtain certification. EDGE advanced is another tier of certification that requires compliance with 40% and above of energy savings. The Project's compliance with EDGE will be pursued by the EPC Contractor at the later development stages of the Project.

2.8.3.3 International Health Facility Guidelines (iHFG)

iHFG provides comprehensive, open-source briefing and design guidelines for healthcare facilities worldwide, covering hospitals, clinics, and support spaces like labs and pharmacies. It includes functional planning units, over 500 room data sheets, schedules of accommodation, and customizable elements for country-specific needs, aiding accurate briefing, documentation, and costing.

2.8.3.4 ASHRAE Standards

ASHRAE Standard 170 (ANSI/ASHRAE/ASHE) sets ventilation requirements for healthcare, specifying air change rates, pressure relationships, temperatures, humidity, and filtration for 60+ space types like ORs and isolation rooms. It's enforced by Joint Commission and CMS for infection control and is key for new or modified facilities post-2016.

2.8.3.5 NFPA Standards

NFPA 99 is a Health Care Facilities Code that addresses electrical, gas, and mechanical systems for patient safety, including risk assessments and essential systems. NFPA 101 (Life Safety Code) covers fire prevention, evacuation, sprinklers (mandatory for high-rises by 2028), and exit systems in hospitals.

2.9 Associated Facilities

Most lenders align on a definition that associated facilities are facilities that are not funded as part of the project and that would not have been constructed or expanded if the project did not exist and without which the project would not be viable. The proposed hospital development is part of the wider Fergana Eco City masterplan; thus, the Project will benefit from a wide range of utility infrastructure that form part of the public infrastructure networks. On site infrastructure includes interfaces with water, wastewater effluent, electricity, heating and road networks. The Project specific associated infrastructures are outlined below, many of which will require some form of development within the Eco City as currently planned separate to the project.

The utility infrastructure networks form part of the Eco City development, and they are being developed without this project, however the project is required to interface with it for the hospital to be operationally viable[2]:

- **Electrical Networks**: A total of 15 km of external and 28 km of internal networks have been installed, along with substations, 2 distribution points and 15 transformer stations. The nearest substation is located approximately 700 m away from the Project site. For redundancy purposes, in the event of service interruptions (e.g. strikes or other outages), the Project is required to connect to two substations via separate cables routed along different physical alignments. It is anticipated that these

[2] Source: IFC presentation, 18 June 2025. As provided by Vision Invest.

connections will be installed within the current and future road corridors of the Eco-City.

- **Potable Water:** A network of 12.1 km of external and 5.1 km of internal pipelines have been laid, along with fifteen wells and two 500 m³ reservoirs. A drinking water network comprising of a 400 mm diameter main pipeline is located 450 m from the boundary of the site to which the Project is envisioned to be connected to.
- **Effluent Management:** Approximately 10.9 km of external and 3.3 km of internal wastewater pipelines have been installed. The main effluent network comprising of a 500 mm diameter pipe is located approximately 1000 m from the boundary of the site through which the Project is envisaged to connect to. The provisions of the pre-treatment of wastewater prior to discharge to municipal sewerage system had not been confirmed at the time of writing this report.

  The local effluent treatment facility has been confirmed to have the capacity to be able to accommodate additional loads, including those from the proposed hospital as per the PwC Project feasibility report, subsequent meeting with the utility provider (with lenders and their advisors) and in further engagement.
- **Road Network:** A 1.5 km of external and 5.3 km of internal roads have been constructed.
- **Heating:** Approximately 5.8 km of external and 11.2 km of internal heating pipelines have been installed, and a 21 MW boiler house has been constructed.

Figure 2-14 Schematic representation of the utilities network near the Project site.

2.10 Construction Activities

Construction of the Project will be undertaken by KOC Construction Mekanik Elektrik LLC FE, hereafter referred to as the EPC Contractor. It is envisioned that the Project's

construction phase will last for 3 years. The EPC Contractor will be contractually responsible for the construction phase of the Project, with oversight from the Project Company. The EPC Contractor will engage various sub-contractors who will be responsible for specific elements of the construction, installation of equipment and commissioning elements.

The EPC Contractor will be fully responsible for day-to-day environmental, social, health, safety and security management and implementation during the construction phase prior to operational handover of Project elements at commissioning and operational phase to the Project Company.

The Project Company (as the owner) will retain oversight of the EPC Contractor during this phase.

2.10.1 Key Construction Activities

The Project will include considerable civil works. The main civil works required for the construction phase will consist of the following:

- Site development,
- Site preparation,
- Internal road design and construction,
- Support structures for equipment and other facilities,
- Service water, sewage, drainage, storm water and wastewater systems, and
- Boundary fences.

2.10.2 Temporary Construction Areas

The laydown areas will be located within the Project footprint and will comprise of the following construction facilities.

- Temporary site offices made of 2 blocks and 2 floors of approximately 9 m x 30 m dimensions;
- Mess halls / canteen areas made of 2 blocks and 2 floors of approximately 9 m x 30 m dimensions;
- Dormitory blocks made of 9 blocks and 2 floors of approximately 9 m x 30 m dimensions;
- Warehouse and tool charging area of approximately 20 m x 40 m;
- Wash place of approximately 6 m x 20 m, envisioned to be equipped with domestic water and septic pump auxiliaries, water holding tank and septic WC tank; and
- Heating plant of approximately 9 m x 30 m to further comprise of generator and transformer auxiliaries.

Additionally, the Project will be equipped with a social activity area to constitute of the following,

- Guest area to include a recreation area of approximately 24 m x 6 m;
- A market area of approximately 6 m x 9 m; and
- A barber area of approximately 3 m x 9 m;

The layout of the temporary construction areas is shown on the following figure.

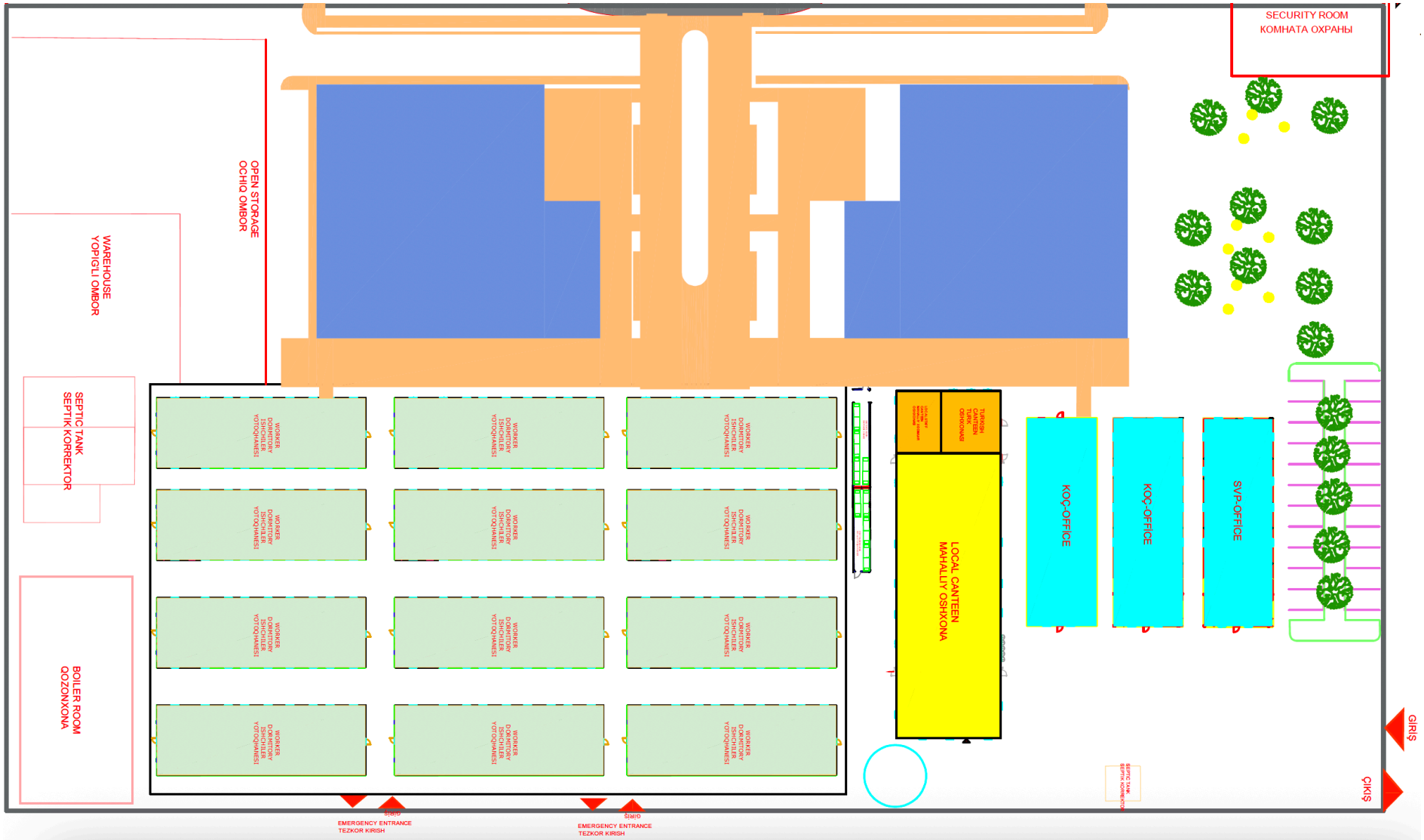


Figure 2-15 Temporary Construction Areas

2.10.3 Construction Workforce

The Project construction phase will be undertaken over a period of 3 years, the construction workforce demands per month over that period is as shown on the following figure. At its peak the total workforce is expected to be 1,865, which will coincide with a midway of construction.

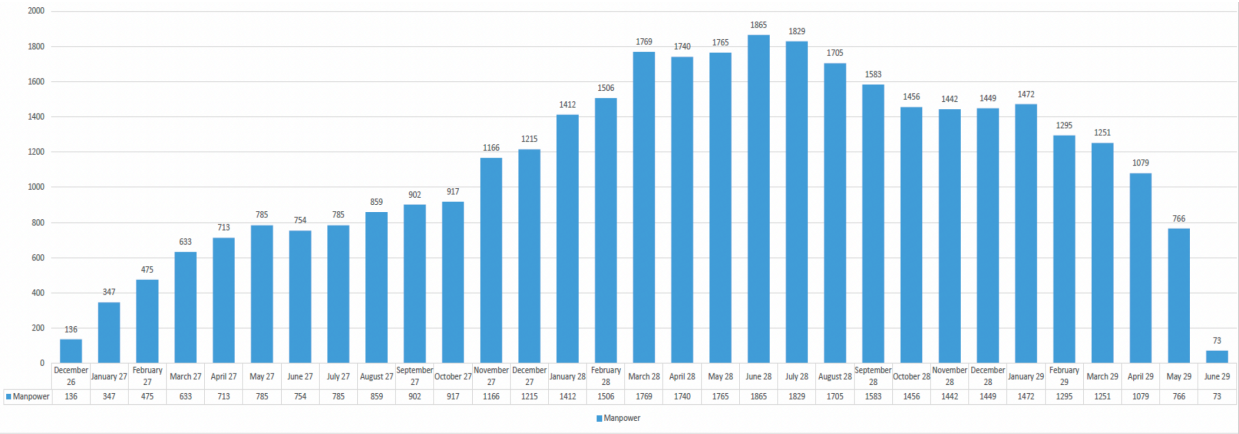


Figure 2-16 Construction workforce

2.10.4 Construction Worker's Accommodation Facilities

The majority of the construction workforce is expected to be sourced from the local region and, as such dedicated workers accommodation is not expected to be extensive. However, there remains the potential for limited worker accommodation to be provided, depending on final workforce arrangements, which are yet to be confirmed. Senior management and specialist personnel may be accommodated in rented apartments within Fergana city, in proximity to the Project site. The Project workforce accommodation has been confirmed to be located within the Project site.

2.10.5 Transportation Requirements

Road network

At the time of writing this report, the road network that will be utilised for inland logistics of Project materials was not yet finalised.

It is to be noted that the Project intends to procure all Project related raw materials, equipment, and utilities locally within Uzbekistan. Therefore, utilisation of ports is not anticipated, however, in the event that ports and airports are required, the nearest port and/or airport will be utilised as detailed below.

Ports

The nearest seaports for international maritime shipments are Novorossiysk Port located in Russia, and Baku Port in Azerbaijan on the Black and Caspian Seas, respectively, both connected to Uzbekistan through rail and road corridors.

For the Project, Baku Port could be the preferred maritime gateway given its proximity to the Caspian-rail axis and onward land-bridge routes into Uzbekistan. The nearest significant port for transport is Andijan Port, located approximately 35 km away, which can be used for shipping goods.

Airport

Closest airport is the Fergana International Airport located approximately 3 km away from the Project site providing domestic and limited international connections. However, for the delivery of larger-scale project cargo the Fergana International Airport may not have capacity to be utilised, thus diversion through Tashkent International Airport can be a viable option due to wider routes and freight handling capacity.

2.10.6 Utility Requirements

The EPC Contractor will be responsible for all construction utilities including but not limited to power supply, potable water, firefighting supplies and systems and waste management and temporary medical and worker welfare facilities.

2.10.6.1 Water Requirements

The estimated daily water consumption requirements for the construction phase are outlined below.

- Domestic water usage is anticipated to require approximately 16,500 litres;
- Potable water will require approximately 3,300 litres;
- Sanitary facilities will require approximately 69,300 litres;
- Wetting down of roads will require approximately 15,000 litres;
- Concrete curing water consumption will require approximately 3.5 l/m²; and
- Other construction activities will require approximately 5,000 litres.

2.10.6.2 Power Requirements

Power requirements during the construction phase is anticipated to be approximately 8.2 GWh, with an average consumption of approximately 358,730.15 kWh per month. However, it is to be noted that the monthly power requirements will vary depending on demand in line with the construction schedule and related works to be carried out.

2.10.6.3 Chemicals & Fuels

The chemicals anticipated to be utilised during the construction phase are as outlined below.

- Diesel fuel
- Engine and hydraulic oils
- Paints and solvents consisting of;
  - approximately 76,500 L of paint,
  - 750 kg of epoxy resin,
  - 21,300 kg of lead material (wall cover),
  - 1,700 kg road paint,
- Concrete admixtures; and
- Cleaning chemicals.

The quantities of the above chemicals will cover the necessary provisions throughout the construction phase. It is envisaged that chemicals will be delivered to the site by authorized suppliers in sealed containers or tanker trucks, confirmation of third-party contractors were not available at the time of writing this report.

A dedicated chemical storage area will be established on site where all chemicals will be stored in designated storage areas with proper labelling and Safety Data Sheets (SDS) made available. The chemical storage area will include the following:

- Impermeable flooring
- Secondary containment system (bund wall)
- Separate storage for incompatible chemicals
- Adequate ventilation
- Firefighting equipment

These measures will be implemented to prevent environmental contamination.

2.10.7 Waste

2.10.7.1 Solid Waste

The EPC Contractor will be responsible for the overall waste management on site during construction. Designated solid waste collection areas will be established on site in compliance with environmental regulations, and wastes will be segregated and stored according to their categories. Solid wastes generated during the construction phase will primarily be managed in accordance with the applicable local environmental regulations. Recyclable wastes such as metal, plastic, and cardboard will be collected separately.

The transportation and final disposal of wastes will be carried out by waste management companies licensed by the relevant local authorities. Disposal activities will take place at licensed disposal facilities located in the Fergana region.

During the construction phase waste generation per day is anticipated to be as outlined below.

- Domestic Waste 550 kg
- Cardboard/Paper Waste 150 kg
- Plastic Waste 110 kg
- Wood Waste 300 kg
- Metal Waste 220 kg

Hazardous wastes anticipated to be produced include tins of solvents, glues, oily rags, etc. Additionally, the overall paint waste anticipated for the duration of the construction phase is estimated to be approximately 3,825 litres.

2.10.7.2 Wastewater

For the management of wastewater, the EPC Contractor will develop a Wastewater Management Plan to ensure that wastewater generated from the construction site is managed in a safe, hygienic, and environmentally responsible manner and in compliance with applicable environmental regulations and project HSE requirements.

Sources of wastewater anticipated from the construction site are as follows;

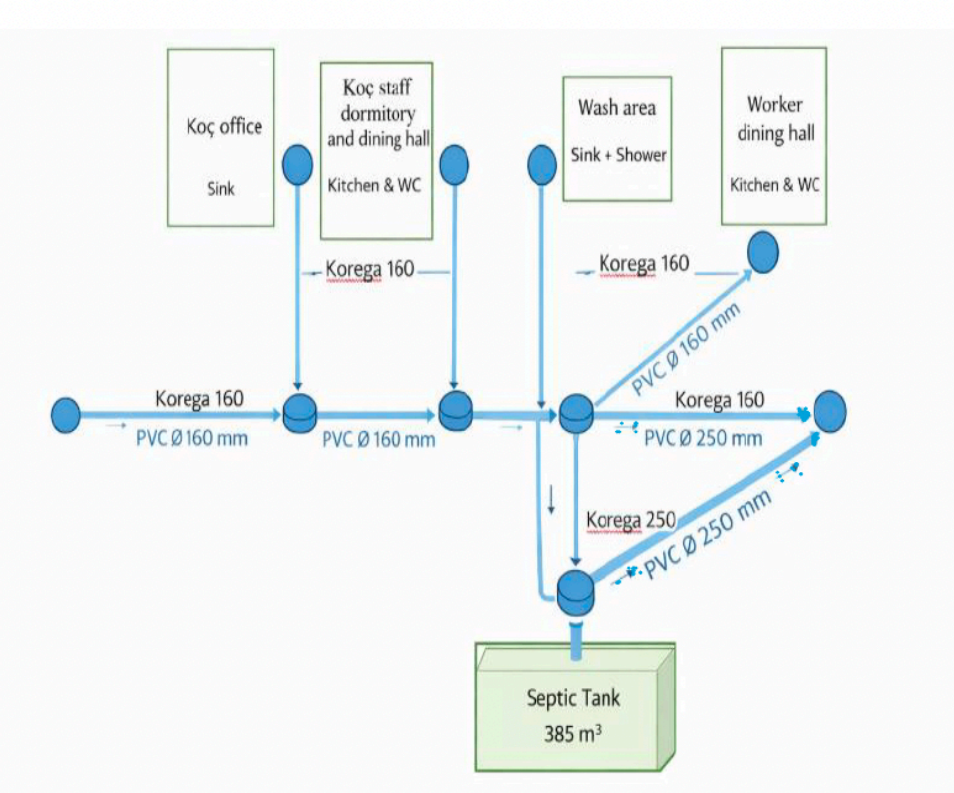
- Domestic Waste
- Sanitary Waste

It is intended that domestic and sanitary wastewater generated from the construction site will be collected through a controlled underground drainage system, temporarily stored in a watertight septic tank, and periodically removed by a licensed vacuum tanker contractor for transportation to an authorised wastewater treatment or disposal facility. Wastewater will be

temporarily stored in two watertight reinforced concrete tanks of 385 m^3 and 975 m^3 capacity respectively.

In additional to the above, it is anticipated that the concrete washout water will be generated during the construction period. The management of this wastewater source was not available at the time of writing and will be provided once determined by the Client.

The septic tank system to be utilised by the Project is shown on the following figure.



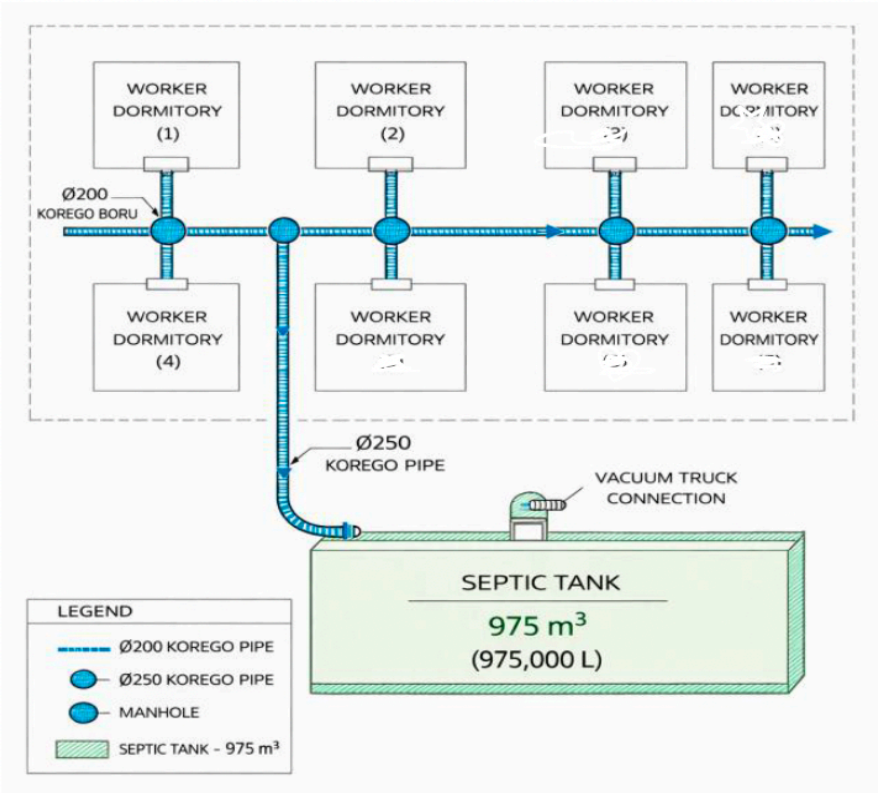


Figure 2-17 Septic Tank System

2.11 Operations and Maintenance

2.11.1 Key Operation Activities

There is a distinct split in responsibilities during operations between the public and private partner. The overview of responsibilities of both the Private Partner and the Public Partner have been outlined in Section 2.3. A split contrast of roles and responsibilities inclusive of liability classification are outlined below.

2.11.1.1 Public Partner

The Public Partner will be responsible for procuring and administering all clinical related services for the duration of Project operation phase as per the PPPA.

2.11.1.2 Private Partner

During the operation phase, the Private Partner will be responsible for the day-to-day management of operational functions of the hospital facility, equipment and machinery together with the relevant subcontractors.

Facility Management Company

The Facility Management Company (FM Co.) is intended to be established as a joint venture between Rekeep World having 51% of shareholding and Vision Invest allocated 49% of shareholding. This partnership combines Rekeep's international expertise in healthcare facilities management with Vision Invest's regional experience in PPP infrastructure operations.

The FM Co. will provide non-clinical services for the duration of the Project term. The FM Co. will comprise of two team distinctions consisting of the Hard FM team and the Soft FM team. It is anticipated that the respective teams will have specified scopes of works and responsibilities for the hospital operation activities as outlined below.

Hard FM Team

Main scope is to keep assets and systems reliable pertaining to,

- Asset and building fabric,
- MEP Systems (HVAC, Water, Medical Gases, etc),
- BMS & CAFM (Monitoring, Control & Data Integrity),
- Statutory Compliance,
- Help Desk Services.

Soft FM Team

Main scope is to create a safe, clean and comfortable environment pertaining to,

- Cleaning Services
- Waste Management
- Landscaping & Grounds
- Pest Control
- Hospitality Support
- Laundry Services
- Catering Support

The services scope of the FM Co. will cover Hard Facilities Management (HFM) and Helpdesk Services for a period of 20 years, inclusive of Medical Equipment Services (MES) for a period of 8 years in full compliance with Project requirements and performance standards. All services to be provided by the FM Co. will be managed through a centralised Computer-Aided Facilities Management (CAFM) system and a 24/7 Helpdesk to provide integrated monitoring, fault management, and performance reporting.

The FM Co. will deliver Service requirements through an integrated operational framework designed to maintain high standards of safety, reliability, and efficiency across all hospital systems. This model combines in-house service delivery framework encompassing engineering, maintenance, and medical equipment management functions under a unified management team with carefully selected specialist subcontractors to ensure technical precision and sustainable performance throughout the concession period. The overall organizational relationship and operational hierarchy is illustrated in the following figure.

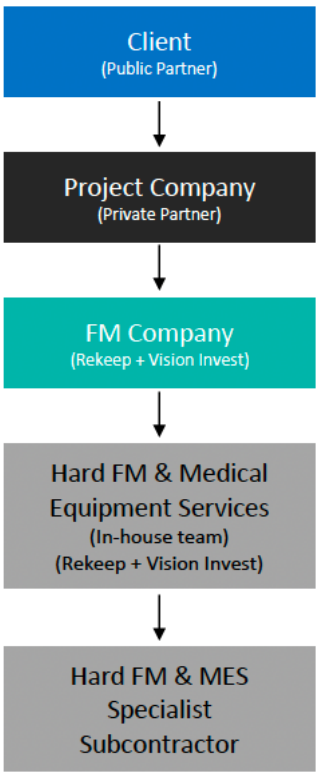


Figure 2-18 FM Co. Structure

The FM Co. will deliver Hard FM services and Medical Equipment Services using a hybrid approach combining experienced in-house teams and outsourced specialist services, ensuring 24x7 availability of qualified resources on site. The distribution of services is detailed below.

In-house Services

- HVAC Maintenance and Management Services
- Plumbing Maintenance & Management Service
- Electrical Maintenance & Management Service
- Civil Maintenance Service & Management Service
- Medical Equipment
- Lifecycle Management

- 24X7 Help Desk Service

Outsourced Services

- Water Tank cleaning
- Legionella & Water Quality Testing
- Indoor Air Quality testing
- Emergency Lighting & UPS
- Automatic Doors Maintenance
- Diesel Generator Maintenance
- Power Factor Correction
- Diesel Fuel Tank & Pumps
- Automatic Transfer Switch Maintenance
- Building Management System
- Fire Alarm & Protection System
- ELV System Maintenance
- Elevators Maintenance
- Medical Gas System Maintenance
- Façade Cleaning (Soft service)
- Pest Control (Soft service)

2.11.2 Utility Requirements

The Project requires a significant and reliable supply of utility requirement to maintain constant and efficient delivery of medical services. The estimated utility requirements for the operation phase based on the information provided by the client are detailed below.

2.11.2.1 Water Requirements

Water for the operations phase of the Proposed development will be sourced from the national water grid. The envisaged daily requirements are detailed below:

- Total water quantity of 676 m^3 per day is required for domestic water utilisation, and
- A total water quantity of 150 m^3 per day is required for Irrigation purposes.

A minor softening unit, to reduce water consumption, is considered for incorporation in the design, if required.

Water Supply and Distribution

The preliminary sizing of the clean water booster system, domestic hot water (DHW) heat exchangers, and storage boilers has been carried out in accordance with EN 806-3, DIN 1988-300, ASHRAE, and CIBSE design guidelines.

The Project water supply system will be provided by the city network and includes booster systems, redundant tanks to comprise of 1x100 m^3 stainless steel clean water tank and 2 reinforced concrete or galvanized steel water tanks, and softening systems.

Domestic water will be delivered to the buildings from a single point with a central booster system. In addition to the above, the Project will have a domestic hot water system that will

comprise of eight (8) boilers, each with a capacity of 2,000 litres, and two (2) hot-water storage tanks of 5 m³ each.

Hot water will be supplied either through a centralized boiler system or through individual electric water heaters dedicated to each toilet group. The domestic hot water system will utilize plate heat exchangers for water heating, with storage provided in dedicated boiler tanks. A hot-water recirculation pump will be incorporated to maintain consistent water temperature throughout the system and to ensure the immediate availability of hot water at consumption points. In cases of prolonged inactivity, an auxiliary circulation pump will reheat the stored water to prevent temperature loss. The storage temperature of the domestic hot water will be maintained between 65°C and 70°C to minimize the risk of Legionella growth. Additionally, a weekly thermal disinfection cycle will be programmed to raise the boiler temperature to 75°C for one hour during midnight hours. Distribution to end-use points, the domestic hot water will be mixed through a three-way thermostatic mixing valve to limit outlet temperatures to a maximum of 51°C for user safety.

All domestic hot and cold-water plumbing will be executed using PPRC piping, ensuring durability, corrosion resistance, and compliance with hygiene standards. A solar energy system will be integrated to supplement the domestic hot water production system. Solar collectors will be installed on the project building roof to harness solar energy, thereby reducing the dependency on conventional energy sources for water heating.

The solar thermal system will operate in conjunction with the central domestic hot water system to ensure optimal efficiency and continuous hot water availability. In the event that hot water demand is insufficient to utilize the full solar energy generated, appropriate safety measures will be implemented to prevent excessive temperature rise within the solar circuit.

The solar system will be hydraulically connected to the existing boiler and storage tank arrangement, allowing for coordinated operation. The control system will automatically manage the interaction between the solar collectors and boiler tanks, prioritizing solar energy use when available and switching to boiler operation as required. This integrated design approach will ensure energy efficiency, operational safety, and compliance with sustainability objectives by maximizing renewable energy utilization within the hospital's domestic hot water system.

2.11.2.2 Power Requirements

The power utility requirements during the operational phase are detailed below.

Electrical Systems

Due to the nature of the Project which requires uninterrupted power delivery to critical systems, the Project will be equipped with a sophisticated and comprehensive electrical system that ensures limited down-time of power supply by further incorporating renewable integration parameters to ensure robust and future-ready electrical infrastructure.

The electrical load forecasting and design criteria for the Project has been defined based on international benchmarks, local regulatory compliance, and facility-specific demand characteristics. The Project will be equipped with Medium Voltage (MV) supply infrastructure which has been designed to meet Tier-III healthcare power reliability standards, with dual utility interfaces, full redundancy, and future scalability.

The Project will thus have approximately 21.6 MW of installed power which exceeds the projected demand power of approximately 14.4 MW.

The hospital comprises high-dependency medical departments requiring uninterrupted, clean power delivery. To sustain this, the Project will have approximately 12.8 MW of diversified power to power the critical load which is estimated to have a load capacity of

approximately 65% of the diversified load. The distribution of the critical load is presented in the following table.

Table 2-6 Critical Load Demand and Supply

Department/Zone	Quantity	Unit Load (kW)	Total Load (kW)
ICU Beds	17 units	7.2 (demand)	122.4
CICU Beds	140 beds	6.0	840.0
Isolation Rooms	8 beds	6.0	48.0
MRIs	17 rooms	12.0	204.0
Fixed X-Ray Systems	10 units	160.0	1,600.0
Mobile X-Ray Units	3 units	120.0	360.0
Elevators	2 units	120.0	240.0
Life Safety Systems	9 units	15.5	139.5
IT and Data Centres	N/A	N/A	~500.0
Other Critical	N/A	N/A	~450.0
Total Critical Load	**~5,200.0 kW**		

National Grid

The power utility requirements for the Project will be supplemented by the national grid, where power will be evacuated. The Project will be equipped with Medium Voltage (MV) supply infrastructure which has been meticulously designed to meet Tier-III healthcare power reliability standards, with dual utility interfaces, full redundancy, and future scalability. The Project will evacuate power from the national grid through a 35 kV, 50 Hz, 3-phase system in compliance with Uzbek Grid 2023 codes.

Power will be evacuated from the national grid to the Project through dual incoming utility feeders originating from two independent regional substations. The feeder structures will be equipped with the following:

- Loop-in/Loop-out topology with interlocked Ring Main Units (RMUs) ensures operational flexibility during fault conditions or maintenance.
- Bus Coupling Scheme provides fast manual or remote reconfiguration.

Transformer System

The Project will further be equipped with a transformer and redundancy system. The transformer system for the Fergana Regional Hospital is designed to ensure uninterrupted and efficient power distribution across critical, essential, and general-purpose loads. The sizing strategy aligns with international best practices and references comparable benchmarks, scaled for 105,000 m² gross floor area and 800 bed capacity.

Based on the projected demand load of 16,000 kVA and applying a conservative transformer loading cap of 57% per unit for operational safety and thermal stability, the maximum permissible load per transformer is 2500 kVA × 57% = 1425 kVA. Thus, the total number of transformers required is: 16,000 kVA ÷ 1425 kVA ≈ 11 dry-type transformers with N+1 configuration. This configuration ensures uninterrupted operation even during scheduled maintenance or fault in any one unit, in accordance with IEC 60076 and system resilience principles.

The main hospital block will be equipped with 5 transformers, and the technical services block will be equipped with 6 transformers.

Protection System

For primary protection, the transformers may have SF6 gas-insulated (to be confirmed) circuit breakers with digital overcurrent + earth fault relays on the MV side. For secondary protection on the LV side, there will be Molded Case Circuit Breakers (MCCBs), ACBs with Zone Selective Interlocking (ZSI).

Additionally, the Project will be equipped with modular a metal-clad SF6 gas-insulated switchgear, that is IEC 62271-200 compliant Metal-enclosed modular panel system comprising an air-insulated compartment structure and SF6 gas-insulated load break switches and circuit breakers (IEC 62271-200).

Uninterrupted Power Supply

Hospitals operate 24/7 and cannot be subjected to momentary power loss as even brief interruptions can endanger patients, stop procedures, and disrupt life-support equipment. Uninterruptible Power Supply (UPS) and Isolated Power Supply (IPS) systems are therefore not optional backup items; they are core resilience measures that protect patient safety, equipment integrity, clinical continuity, and data availability. Together, they form a layered power protection strategy that keeps essential hospital functions operating until normal supply or generator power is fully restored.

To ensure constant power supply at the hospital, the Project will be equipped with an UPS and IPS systems to support all mission-critical medical, IT, life-safety, and diagnostic subsystems. A hospital needs UPS and IPS systems to keep life-critical services running safely during power disturbances and outages. The UPS system provides instant backup power for no-break loads, while the IPS system supports isolated and protected power for sensitive areas such as operating theatres and critical care units. The UPS and IPS systems will be designed to comply with NFPA 99, NFPA 110, HTM 06-01, and IEC 60364-7-710 standards. To ensure efficiency, these systems will be monitored and controlled through integrated with hospital-wide SCADA and EMS platforms, real time monitoring and remote diagnostics.

Renewable Energy Integration

To meet national renewable targets and enhance operational sustainability. The Project will have a Solar Photovoltaic (PV) system that is envisioned to contribute to approximately 10% of the overall diversified demand, accounting for approximately 1,280 kW of power.

The solar PV will be equipped with mono-crystalline panels of 650 Wp efficiency. The solar PV panel array is envisioned to cover approximately 3,200 – 3,500 m² (based on 1.6 – 1.8 m²/panel) to be installed on the hospital rooftop using ballast-type mounting system, equipped with wind-resilient anchorage. The proposed Solar PV is envisioned to comprise of the following:

- Panel Quantity Required: ~1,968 modules
- Inverters: Multi-string hybrid inverters with SCADA monitoring
- Connection: AC-coupled to the main LV panel, equipped with anti-islanding protection

Back-up Power

The Project will utilise water cooled, turbo-charged Tier-II compliant generators. Generator rooms and auxiliary systems will be located on the ground floor, inside enclosed acoustic-

rated generator rooms further equipped with critical grade silencers that are deemed hospital compliant.

The Project is anticipated to utilise approximately four (4) generator units dedicated to fire and life-safety loads based on total diversified demand (12.8 MW) and critical load (5.2 MW). The back-up power system is anticipated to run for a minimum 12 hours at critical load; full details are presented as follows:

- The main hospital building will have 3 × 2000 kVA diesel generators equipped with fresh air intake & louver-controlled exhaust, and
- The fire and safety genset will have 1 × 1250 kVA diesel generator, equipped with fire-rated motorised dampers.

The generators are designed to be utilised in emergency situations such as

- Utility power failure where these generators will provide full backup to critical loads,
- Brownouts or unstable supply conditions, and
- Emergency events requiring life-safety power continuity for fire systems, evacuation systems, etc.

The Project generator system will be equipped with a stainless-steel exhaust with a fireproof insulation and back-pressure regulation. The generators will discharge above the building parapet at safe dispersal height.

Back-up Fuel

The Project is envisioned to have 24 hours of on-site fuel (main gensets) and 48 hours for the fire-life safety generator. The back-up fuel system will be a centralised automatic fuel transfer system (AFTS) from main diesel tank to individual daily tanks, with SCADA integrated.

Heat

It is envisioned that heating requirements will be met primarily through district heating system, supported by solar thermal systems, with fuel-oil boilers serving as backup during utility outages.

2.11.3 Waste

Waste management for the operational phase is engineered to deliver absolute compliance, operational control, and clinical risk mitigation, ensuring that waste management is executed as a critical support function to patient care and hospital operations rather than a peripheral service. The roles and responsibilities of the PPP partners differ for the management of wastes during the operational phase, detailed below.

- **The FM Co.**
  - The FM Co. shall assume full accountability for the operational planning, execution, control, and continuous improvement of all non-clinical waste management processes within the facility. The scope encompasses strategic oversight, operational delivery, and regulatory compliance assurance, ensuring seamless coordination with clinical stakeholders and external authorities.
- **The MoH**
  - The MoH will be responsible for the management of all clinical wastes and related processes in line with their scope.

The hospital will implement strict waste management measures throughout the operational phase to enforce infection control through the following objectives;

- Zero cross-contamination through strict segregation and handling protocols
- Safe management of infectious and hazardous waste streams
- Full alignment with hospital Infection Prevention & Control (IPC) programs

Protection of patients, staff, and visitors from exposure risks will take precedence through the implementation of robust PPE, training, and safe handling procedures.

2.11.3.1 Waste Management Procedures

The responsibilities for waste management will vary depending on the Public and Private Partners and their respective scope and responsibilities.

The FM Co.

The FM Co. will engage appropriately licensed third parties for waste collection for which the variable waste collection and the disposal thereof will be outlined when agreements are in place.

Responsibilities of the FM Co. pertaining the management of non-clinical waste management entail the following.

- Implementation of a hospital-wide waste segregation system aligned with risk categories and color-coding standards,
- Provision, operation, and maintenance of all waste handling infrastructure, including bins, containers, trolleys, and storage facilities,
- Execution of scheduled and on-demand waste collection services, ensuring no accumulation or operational disruption,
- Management of internal logistics and controlled transport routes, minimizing exposure and contamination risks,
- Operation of secure, compliant temporary waste storage areas with controlled access and environmental safeguards,
- Interface management with licensed third-party contractors for hazardous, medical, and radioactive waste treatment and disposal,
- Establishment of a digital waste tracking and manifest system, ensuring full traceability and regulatory reporting,
- Delivery of training, competency development, and awareness programs for all relevant personnel,
- Monitoring and reporting of performance metrics, KPIs, and compliance indicators, and
- Continuous enhancement through data-driven optimization and best practice integration.

The FM Co. will function and operate as the custodian of waste management compliance and operational integrity, ensuring that all downstream processes are executed safely, efficiently, and in strict accordance with regulatory and international standards.

Therefore, in compliance with the statutory requirements governing healthcare waste management within the Republic of Uzbekistan, the FM Co. will ensure

- Full compliance with all regulatory approvals, permits, and licenses,

- Maintenance of comprehensive documentation and reporting systems for regulatory submissions,
- Immediate response and corrective action in case of any compliance deviation, and
- Proactive engagement with regulatory bodies to ensure continuous alignment with evolving legislation.

This regulatory alignment ensures that the hospital operates within a fully compliant, risk-controlled, and legally robust framework, eliminating exposure to environmental or legal liabilities. Furthermore, the FM Co. has developed a Waste Management Procedure that is compliant with the following:

- World Health Organisation (WHO) – Guidelines on the safe management of healthcare waste,
- Basel Convention – Principles for environmentally sound management and disposal of hazardous waste,
- International Infection Prevention and Control (IPC) protocols, and
- Global healthcare facility management benchmarks and sustainability frameworks.

MoH

The MoH will carry out the management of clinical waste by enforcing baseline segregation, disinfection, and localized treatment, in accordance with national sanitation laws currently in place.

Waste Segregation Procedures

For the overall management of waste, the Project will integrate a waste management strategy in line with the waste hierarchy as outlined below.

- Reduce (Source Minimization):
  - Optimization of procurement practices to limit overstocking and expired materials
  - Adoption of just-in-time inventory systems for pharmaceuticals and consumables
  - Digitalization of records to minimize paper waste
- Reuse (Controlled Reutilization):
  - Safe reuse of non-contaminated materials where permitted (e.g., transport containers, pallets)
  - Reprocessing of approved medical devices strictly under clinical governance
- Recycle (Resource Recovery):
  - Segregation of recyclable streams (plastics, cardboard, metals) from general waste
  - Collaboration with licensed recycling vendors in Uzbekistan's growing waste recovery sector

This strategy will be implemented to ensure waste volume reduction at source, minimizes environmental impact, and supports Uzbekistan's transition toward a circular economy model.

Additionally, the Project will implement a waste segregation at source system that is high-control, audit-ready segregation model aligned with Uzbekistan practice and international healthcare standards for the entire lifecycle as follows,

- Segregation at Point of Generation: Waste separated immediately where generated (bedside, OT, lab bench). No secondary sorting allowed,
- No Mixing of Waste Streams: Strict prohibition of hazardous & general waste mixing. Supervisory audits per shift,
- One Bin – One Waste Type: Dedicated containers for each category. Visual control & labelling to eliminate cross-contamination,
- Immediate Disposal: No temporary holding outside designated bins. Routine patrol checks. Infection risk minimised,
- Traceability: Waste tagged to department/source. Barcode/label system will be implemented where applicable. Full audit trail.

The confirmed variable waste sources disposal and handling methods are as detailed below, it is also anticipated that additional hazardous waste will be produced, which will enquire its specified handling methods.

Table 2-7 Waste segregation and handling procedures

Colour Code	Waste Category	Container Specification	Labelling Requirement	Handling Protocol
Black / Green	General Waste	Standard bins with liners	"General Waste"	Municipal disposal
Yellow	Infectious / Pathological	Leak-proof, foot-operated bins	Biohazard symbol + dept. label	Incineration
Red	Contaminated Plastics	Autoclavable bags/containers	"Contaminated Plastic"	Sterilization
Blue / White	Sharps	Rigid, puncture-proof containers	Biohazard + Sharps warning	Incineration
Brown	Chemical / Pharmaceutical	Sealed chemical-resistant containers	Hazard label + MSDS reference	Hazardous disposal
Shielded Containers	Radioactive Waste	Lead-lined / shielded bins	Radiation symbol + isotope details	Controlled storage/disposal

2.11.3.2 Solid Waste & Medical Waste

Solid Waste

The hospital solid waste management will be conducted in accordance to SanPiN No. 2.1.790-10. Solid waste will consist of hazardous and non-hazardous waste streams as defined and classified below, with projected estimates outlined.

Medical Waste

Medical waste is regulated according to the primary regulation, SanPiN No. 0317-15 "Sanitary-epidemiological requirements for medical waste management" (approved by Chief State Sanitary Doctor Order No. 163 on December 9, 2010, updated 2015). This regulation establishes mandatory sanitary-epidemiological requirements for all stages of medical waste

handling, including collection, temporary storage, disinfection, neutralization, and transportation.

Medical waste streams are those that are generated during the diagnosis, treatment, immunisation or research activities that may be contaminated with infectious agents such as bodily fluids or hazardous materials.

2.11.3.3 Sewage and Wastewater

Sewage and wastewater systems will be designed to serve all wet areas and kitchen zones within the building, ensuring hygienic and efficient waste disposal. Separate piping networks will be provided for wastewater generated from sinks, showers, floor drains, and toilet fixtures. Kitchen wastewater lines will be routed through grease (oil) separators prior to their connection to the main municipal sewage network, in order to prevent oil and grease discharge into the main sewage network.

All wastewater piping will be fabricated from high-quality PE or U-PVC materials, in compliance with IPC and TS standards. Each sanitary fixture will be equipped with appropriately sized traps (siphons). Cleaning access points will be provided on all horizontal runs exceeding 45° in angle or of extended length, and non-return check valves will be installed at the connections of wastewater lines to the main municipal sewage network to prevent backflow. In locations where the floor level is below the external municipal sewage network level, self-contained hygienic sewage lifting pumps will be installed above the floor level to ensure reliable drainage.

Dedicated sewage pits will be constructed in the parking areas for the drainage of sprinkler discharge water, each equipped with a pair of sewage pumps configured as one duty and one standby unit that will pump to the main municipal sewage network.

Sewage generated from sterilization and laboratory zones will be collected through separate drainage lines designed for high-temperature and chemically aggressive effluents. Wastewater from these areas will be routed through neutralization units prior to discharge into the main manhole.

Similarly, wastewater from conical sinks in soiled utility rooms, decontamination zones, and autopsy areas will be independently collected, and subsequently discharged into the main sewage network.

The Project operational activities are anticipated to result in the estimated wastewater of approximately 575 m³/day, with assumed 85% return to sewer. The wastewater streams are expected to consist of the following:

- Domestic sanitary wastewater of approximately 380 m³/day;
- Laundry wastewater of approximately 105 m³/day;
- Kitchen wastewater from food preparation and dishwashing areas) of approximately 50 m³/day, anticipated to be routed through grease separators prior to discharge; and
- Medical/laboratory wastewater from sterilization areas, laboratories, decontamination rooms, autopsy areas, soiled utility rooms, of approximately 40 m³/day, anticipated to be subjected to neutralization prior to discharge.

The anticipated wastewater streams will be collected through separate internal piping networks and discharged into the external municipal sewer system.

2.11.4 Rainwater System

Rainwater that may fall on the building roofs will be collected through roof drains and directed to the main rainwater drainage network. The number, location, and layout of roof drains, as well as the terrace slopes, have been determined in coordination with the architectural design to ensure efficient water flow and prevent ponding.

In elevator shafts, sump pits equipped with submersible pumps will be installed to collect and discharge any accumulated water into the main sewage system, ensuring protection against flooding and water ingress.

A comprehensive rainwater drainage system will be implemented, consisting of both primary and overflow (flood) siphonic drainage networks. These systems will be connected to external manholes using HDPE piping, designed to withstand long-term hydraulic loads and ensure reliable performance. For smaller terraces, inner courtyards, and open parking areas, a conventional gravity drainage system will be applied for rainwater collection.

2.11.5 Medical Gas System

The Project will be equipped with a centralised medical gas system that will be designed and implemented in accordance with HTM 02-01 standards to ensure the safe and reliable supply of medical gases throughout the hospital's clinical and support areas. The system will provide the following gases and services:

- Oxygen (O_2),
- Nitrous Oxide (N_2O),
- Medical Compressed Air – 4 Bar (MA4),
- Medical Compressed Air – 7 Bar (MA7),
- Carbon Dioxide (CO_2),
- Vacuum (VAC),
- Anaesthetic Gas Scavenging System (AGS), and
- System Overview.

The medical gas installation will comprise production, storage, distribution, safety, and monitoring sub-systems that serve to ensure continuous operation, redundancy, and compliance with healthcare safety standards.

2.11.5.1 Production, Distribution and Storage

Oxygen will be supplied through a dual liquid oxygen tank system (2 × 10,000 litres) located externally adjacent to the technical service building,

VAC will be generated by a dry-type vacuum pump group with an N+1 redundancy configuration to ensure uninterrupted operation,

Medical Air (MA4/MA7) will be produced using oil-free compressors equipped with dryers and buffer tanks (3 × 5 bar setup) to maintain clean, moisture-free air, and

Nitrous Oxide (N_2O) and Carbon Dioxide (CO_2) will be delivered through high-pressure manifold systems dedicated to operating theatres and critical treatment zones.

All medical gas pipelines will be seamless, degreased copper tubes compliant with EN 13348, with protective coating and identification marking as per HTM standards. Gas route piping will be installed through ceiling voids and wall cavities with appropriate thermal insulation and mechanical protection.

2.11.5.2 Gas System Location

The central medical gas plant will be located within the technical services building, with oxygen tanks positioned externally for safety and ease of refilling. Gas pipelines will be routed to the main hospital building via the underground service gallery, ensuring protection, accessibility, and compliance with hospital safety protocols.

This configuration ensures a fully compliant, redundant, and maintainable medical gas infrastructure; supporting patient safety, operational efficiency, and adherence to international healthcare engineering standards.

2.11.5.3 Monitoring and Alarm System

The Project building will be fitted with Zone Control Panels to be installed on each floor and at critical service areas to monitor line pressures and valve positions. Additionally, there will be an alarm integration into the system that will monitor pressure drops, gas leaks, and valve activation continuously and integrated into the Building Management System (BMS) for central supervision. Furthermore, the system will have Nurse Station Alerts where local and centralised visual and audible alarm indicators will notify staff of any system anomalies or pressure deviations.

2.11.6 Operational Workforce

The anticipated Project workforce required for the Operational Phase of the Project is outlined below.

2.11.6.1 Public Partner (MoH)

Details relating to the operational workforce of MoH are to be fully determined by MoH.

It is possible (but to be determined) that the operation of clinical services of the Project may require a level of integration and consolidation of operational workforce to be sourced from other healthcare facilities operating in the region.

According to the feasibility study undertaken by PwC (dated August 2024), the consolidation of clinal workforce could result in 2,584 personnel comprising of senior doctors or residents, nurses, admin staff, and paramedical staff, sourced from the following hospitals:

- Fergana Branch of the Republican specialised Urology Scientific and Applied Medical Center to provide approximately 89 staff,
- Fergana Branch of the Republican Endocrinology Centre to provide approximately 233 staff,
- Republican specialized Cardiology Scientific-Practical Medical Centre to provide approximately 113 staff,
- Fergana Regional Multidisciplinary Medical Centre to provide approximately 697 staff, and
- Fergana Branch of the Republic Scientific Centre for Emergency Medical Care to provide 1,142 staff.

It is to be noted that the exact number of required clinical services personnel is yet to be determined by the MoH, thus the above stated project is subject to change and based on indications from MoH may only be determined in mid-2027.

2.11.6.2 Private Partner – FM Co.

The FM Co. is envisioned to require approximately 84 personnel of manpower during the operational phase to comprise of the following 71 personnel for Hard FM and 13 Personnel for Medical Equipment Services.

During the operational phase, the Private Partner will operate through the FM Co. The FM Co workforce will maintain a continuous on-site presence of qualified engineers and technicians across all disciplines by employing a 3-shift pattern to ensure 24-hour coverage. The shifts will be structured as presented below:

- Day Shift (6am to 3pm): PPM & Reactive Maintenance,
- Afternoon Shift (1pm to 10pm): PPM & Reactive Maintenance, and
- Night Shift (10pm to 7am): Dedicated response for critical reactive maintenance, emergency faults, and exceptional PPMs required for areas with night operations.

This structure will serve to ensure the hospital receives full technical support 24x7, with preventive tasks concentrated during the day and rapid fault response available at all times. All programmed maintenance will be carried out within the facility's normal working hours to minimize disruption to hospital operations. Activities that may cause disturbance to staff, patients, or adjacent departments will only proceed after obtaining permit to work from the Public Partner.

Access to operational areas will be strictly controlled and conducted in accordance with the hours of operation and all relevant safety protocols.

It is understood the that workers will be employed by and with responsibility for contracting, labour law alignment etc., under their respective employers, which consist of the PC, MoH (responsible for employing all clinical staff), the FM Company, and/or related sub-contractors (responsible for building and equipment operations and maintenance) per discipline and outlined responsibilities per pillar of Project functioning sectors.

The FM Co. workforce transition strategy entails an 80:20 staffing ratio will be implemented (80% local personnel and 20% expatriate) to ensure effective transfer of international best practices and technical skills. This ratio will be gradually transitioned to a 100% local workforce within two years for the technical level and within five years for the management level.

3 Project Alternatives

In line with ESIA good practices, an overview of reasonably feasible technical and commercial alternatives, including a “no project” scenario have been assessed.

The purpose of this assessment is to demonstrate that environmental and social considerations have been integrated into project planning and decision-making, and that the preferred option represents an appropriate balance between environmental, social, technical and commercial factors.

It is however noted that the Project has been developed through a competitive tender process, under which a number of key parameters have already been defined. Vision Invest, as the selected bidder, responded to a prescribed functional specification, including the required project size, capacity, general description and an allocated site.

Accordingly, the range of alternatives that can reasonably be considered is constrained by the tender requirements and the commitments made during the bidding stage. The assessment of alternatives therefore focus on those elements where flexibility remains, such as design optimisation, layout, construction methodologies and technology choices, while also considering the “no project” scenario.

The alternatives considered for the Project are discussed below.

3.1.1 No Project Alternative

The No Project alternative assumes that the proposed Fergana Eco City Hospital would not be developed.

This would result in the loss of the anticipated public health benefits associated with the Project at a regional scale. In particular, tertiary healthcare infrastructure is currently lacking in the Fergana region, and the Project is expected to modernise healthcare services, improve service quality and capacity, and support a more balanced provision between primary and tertiary care. It would also impact national progress towards Uzbekistan’s Healthcare 2030 goals for universal health coverage and the strengthening of the healthcare system.

In the absence of the Project, this gap in healthcare provision would remain, requiring patients to continue travelling significant distances to access specialised treatment, with associated cost, time and accessibility constraints. As such, these strategic objectives may not be realised or delayed.

In terms of land use, while the Project would not be developed, the site forms part of the broader Fergana Eco City masterplan and it is likely that the allocated plot would be developed for an alternative use. Accordingly, the land would likely still be subject to development-related impacts (depending on the alternative land use), including the loss of ecological function.

On balance, the No Project alternative is not considered to be a viable option, as it would not align with national healthcare development priorities and would forgo key benefits such as employment generation, associated economic activity, improved healthcare outcomes and enhanced regional service provision.

3.1.2 Location Alternatives

It is noted that the Project forms part of the wider Fergana Eco City masterplan, which has also been strategically planned to ensure suitable access within the community and the wider region. The selection of the site ultimately aligns with broader strategic healthcare infrastructure planning in Uzbekistan, including for the Fergana region with a population of

approximately 3.8 million people across 15 districts (rayons), including four major cities. Prior to this Project, there are currently no public facilities in the region providing tertiary care treatment, and the proposed hospital is therefore expected to serve a wide catchment area, addressing a key gap in healthcare provision and reducing the need for patients to travel long distances outside the region.

It is further noted that the 8-hectare project plot is located on previously undeveloped, non-agricultural land that was formerly used as a military training area, avoiding the need for agricultural land conversion or impacts relating to physical and economic displacement as the land was under government ownership.

4 Regulatory Framework

4.1 National Regulations

4.1.1 Constitution of Uzbekistan

The Constitution of Uzbekistan has been amended following a referendum that took place on 30th of April 2023. Key constitutional reforms include:

- Uzbekistan is a legal, social, and secular state.
- Human rights may be restricted in order to maintain social morality and public order (for instance, homosexualism, considering cultural and religious perceptions of majority of population).
- Land can be private property (it is expected that more cases of owning land will be allowed, compared to the previous years when ownership status was granted in very few case).
- Prohibition of death penalty.

Moreover, the following articles of the Constitution may be applicable for provisions relating to environmental and social aspects:

Article 30. No one shall be convicted, punished, deprived of property, or any other right on the basis of a law that is not publicly promulgated.

Article 40. Everyone shall have the right, both individually and collectively, to submit applications, proposals, and to lodge complaints with competent state bodies and organizations, citizens' self-governing bodies, officials and public representatives. Such applications, proposals and complaints shall be considered in accordance with the procedure and within the time-limit specified by law.

- Article 41. Everyone shall have the right to own property. The privacy of bank operations, deposits, and accounts, as well as the right to inheritance shall be guaranteed by law.
- Article 42: Everyone shall have the right to decent work, to free choice of profession and occupation, favourable working conditions that meet the requirements of safety and hygiene, to fair remuneration for work without any discrimination and not below the established minimum wage, as well as the right to unemployment protection in the manner prescribed by law. The minimum wage shall be determined taking into account the need to ensure a decent standard of living for a person. It shall be prohibited to refuse to hire women, dismiss them from work and reduce their wages on the basis of pregnancy or having a child.
- Article 44: Any forced labour shall be prohibited, except as punishment under the court decision, or in some other Instances specified by law. Any form of child labor that poses a threat to the health, safety, morality, mental and physical development of the child, including those that prevent him or her from getting an education, shall be prohibited.
- Article 49: Everyone shall have the right to a favorable environment, reliable information about its condition. The State shall create conditions for the implementation of public control in the field of urban planning activities in order to ensure the environmental rights of citizens and prevention of harmful environmental impact. Draft urban planning documents shall be subject to public discussion in the manner prescribed by law. The State, under the principle of

sustainable development, shall implement measures to improve, restore and protect the environment, maintain ecological balance.

- Article 58. Women and men shall have equal rights. The State shall ensure equal rights and opportunities for women and men in the administration of public and state affairs and in other spheres of social and state life.
- Article 61. It is the duty of citizens to protect the historical, spiritual and cultural scientific and natural heritage of the people of Uzbekistan. The historical, spiritual, cultural, scientific, and natural heritage shall be protected by the state.
- Article 62. Citizens shall be obliged to protect the environment.
- Article 65. The basis of the economy of Uzbekistan, evolving to enhance the well-being of citizens, shall be a property in its various forms. The State shall create the conditions for the development of market relations and fair competition, and guarantee the freedom of economic activity, enterprise and labour, taking into account the priority of consumer rights. Equality and legal protection of all forms of property shall be ensured in Uzbekistan. Private property shall be inviolable. An owner may not be deprived of his or her property except in the cases and according to the procedure prescribed by law and on the basis of a court decision.
- Article 66. An owner, at his/her discretion, shall possess, use and dispose of his/her property. The use of any property must not be harmful to the environment or violate the rights and legitimate interests of other persons, society and the state.
- Article 68. The land, its minerals, waters, flora and fauna, other natural resources shall constitute the national wealth and shall be rationally used and protected by the state. Land may be privately owned on the terms and in the manner prescribed by law, which ensure its rational use and protection as national wealth.

4.1.2 Law on Nature Protection, 1992 (as Amended in 2024)

This law is the key national environmental law for the protection of the environment and the sustainable use of resources and the right for the population to a clean healthy environment. This law states legal, economic, and organisational basis for the conservation of the environment and the rational use of natural resources.

Article 24 of this law states that the State Environmental Expertise (SEE) is a mandatory measure for environmental protection, preceded to decision making process. In addition, the law prohibits the implementation of any Project without approval from SEE.

It should be noted that Article 53 of this law confirms that if an international treaty concluded by the Republic of Uzbekistan establishes rules other than those provided for by the legislation of the Republic of Uzbekistan on nature protection, the rules of the international treaty shall be applied, except in cases where the legislation of the Republic of Uzbekistan establishes stricter requirements.

4.1.3 Law on Environmental Control, 2013 (as Amended in 2024)

The law generally provides for the protection of the environment and natural (ecosystem) resources in Uzbekistan. The main objectives of this law include:

- Prevention, detection, and suppression of violation of legislative requirements relating to environmental protection and rational use of natural resources.

- Monitoring the state of the environment, identifying situations that can lead to environmental pollution, irrational use of natural resources, pose a threat to the life and health of citizens.
- Determination of compliance with environmental requirements of any ongoing economic development activities.
- Ensuring compliance with the rights and legitimate interests of legal entities and individuals performing their duties in relation to environmental protection and sustainable use of natural resources.

The Article 7 of this law states that, the objects of environmental control are:

- Land, its subsoil, waters, flora and fauna, and atmospheric air;
- Natural and man-made sources of impact on the environment; and
- Activities, action, or inaction that may lead to pollution of the environment and irrational use of natural resources, create a threat to the life and health of citizens.

4.1.4 Law “On Ambient Air Protection” (1996, amended in 2024)

This law specifies regulations on air protection and its objectives. It also includes standards, quality and negative impact, norms, and requirements on fuels and lubricants, the production and operation of vehicles and other machinery and equipment, ozone layer protection requirements, the obligations of enterprises, institutions and organizations toward air protection, and compensations for damages from air pollution.

4.1.5 Law “On Wastes” (2002, amended in 2023)

This law addresses waste management, exclusive of emissions and air and water pollution, and confers authority to the NCECC concerning inspections, coordination, and environmental expertise. It also establishes certain parameters regarding locations for waste disposal. The key objective of this law is to prevent negative effects of solid wastes on people’s lives and health, as well as on the environment, reduce waste generation, and encourage rational use of waste reduction methods in household activities.

4.1.6 Law “On Water and Water Use” (1993, amended in 2024)

This law regulates water relations, and efficient water use by the population and economy. The law regulates the protection of water from pollution and depletion, prevention, and elimination of harmful impacts on water, the improvement of water bodies, and the protection of the rights of enterprises and institutions, organizations and dehkan farms and individuals in the field of water relations.

4.1.7 Law “On the Protection and Use of Flora" (2016, amended in 2024)

This law regulates relations in the field of protection and use of the plant world growing in natural conditions, as well as wild plants contained in the conditions of culture for their reproduction and conservation of genetic resources.

4.1.8 Law “On Protection and Use of the Wildlife" (2016, amended in 2024)

This law regulates relations in the field of protection, use, restoration and reproduction of wildlife in order to ensure the conditions of its existence, conservation of species diversity, integrity of natural communities and habitat.

4.1.9 Law “On Protected Natural Areas" (2004, amended in 2022)

The purpose of this Law is to regulate relations in the field of organization, protection and use of protected natural areas.

4.1.10 Environmental Audit Law No. ZRU-678 (2021, amended in 2024)

The Environmental Audit Law was adopted to regulate environmental audits in the field of environmental protection and rational use of natural resources, including voluntary or mandatory environmental audits. The Law states that ‘an environmental audit can be carried out on a voluntary form by businesses with low or insignificant (local) risk of environmental impact and on a mandatory form on an annual basis for businesses with high and medium risk of environmental impact’.

An environmental audit is not a substitute for environmental control; however, in case of a positive conclusion of the audit, a business entity is not subject to an inspection by the State Committee on Ecology and Environmental Protection for one year, except for accidents and emergencies, as well as in connection with the investigation of criminal cases or by order of the President of the Republic of Uzbekistan or the Cabinet of Ministers of the Republic of Uzbekistan. The environmental audit is carried out on the basis of a contract concluded between the environmental auditing organisation and the client of the environmental audit. The Law comes into force in March 2022.”

4.1.11 Presidential Decree No. 5863 on Environmental Protection Strategy (2019, amended in 2024)

The Strategy contains measures to preserve the environment (atmospheric air, water, land, soil, subsoil, biodiversity, protected areas) from anthropogenic impact and other negative factors, expand protected areas, and improve the environmentally safe system of waste management.

The Strategy approved 24 target tasks until 2030, which aim to increase the area of forest plantations, restoration and reclamation of disturbed lands, rational use of water resources, reduction of emissions into the air, protection and reproduction of biological resources, and improvement of the waste management system.

Through the implementation of the Strategy, the following are expected to be achieved:

- Increasing the area of forest plantations on the Uzbek part of the dried Aral Seabed from 28% (0.9 million ha) to 60% (2 million ha);
- Reduction of pollutant emissions by 10% (from 2.492 million to 2.243 million tonnes);
- Converting 80% (about 6,500) of public transport to natural gas and electric propulsion;
- Increasing the area covered by forest from 3.2 million to 4.5 million hectares;
- Increasing the area of protected areas from 3.5 percent (1.5 million hectares) to 12 percent (5.4 million)
- Increasing the coverage of solid domestic waste collection and transportation services from 48% (16 million people) to 100%;
- Increasing solid domestic waste processing from 18% (1.3 million tonnes) to 65% (4.6 million tonnes).

4.2 Other Environmental Laws and State Regulatory Standards

The following laws focused on the protection of specific environmental/ natural resource elements are in effect and applicable to the Project.

- The Law “On the sanitary and epidemiological well-being of the population” (2015, as amended in 2023);
- The Resolution of the Cabinet of Ministries of the Republic of Uzbekistan №541 “On further improvement of the environmental impact assessment mechanism’ (2020, as amended in 2024);
- The Resolution of Cabinet of Ministries of the republic of Uzbekistan №820 “On measures to further improve the economic mechanisms for ensuring nature” (2018, as amended in 2021);
- The Resolution of the Cabinet of Ministers of the Republic of Uzbekistan No 14. “On approval of the regulation on the procedure for the development and agreement of projects with environmental standards” (2014, as amended in 2018);
- Resolution of Cabinet of Ministers of Republic of Uzbekistan No.95 “On approval of general technical regulations of environmental safety” (2020, as amended in 2022);
- SanN&R No 0350-17 - Sanitary rules and norms for the protection of atmospheric air in places of the Republic of Uzbekistan;
- SanN&R No 0339-16 - Sanitary rules and norms for planning and development of populated areas of Uzbekistan;
- SanN&R No 0255-08 - Main criteria for hygienic assessment of the water bodies contamination for assessing health risks for population in Uzbekistan;
- SanN&R No 0202-06 - The procedure for issuing permits for special water use, development and approval of projects of maximum permissible discharges (MPD) of substances entering with wastewater into water bodies and on the terrain;
- SanN&R No 0293-11 - Hygienic standards list of maximum permissible concentrations (MPC) of pollutants in the atmospheric air of populated areas on the territory of the Republic of Uzbekistan;
- SanN&R No 0212-06 - Hygienic assessment of the degree of soil pollution of different types of land use under specific conditions of Uzbekistan;
- SanN&R No 0183-05 - Hygienic requirements for the quality of the soil in settlements areas in specific natural and climatic conditions of Uzbekistan;
- KMK 3.01.02-00 - Construction safety;
- O'zDSt 1057:2004 - Vehicles. Safety requirements for technical conditions;
- CR&N No 2.01.08-96 - Noise protection; and
- CR&N No 3.01.02-00 - Construction Safety Standards.

4.2.1 Laws Relating to Labour and Employment

The following laws pertain to the recruitment and management of labour in Uzbekistan, and the protection of labour rights within the workplace.

- Labour Code of the Republic of Uzbekistan (1996, as amended in 2025)
- Law “On the employment of the population” No. 642 (2020, as amended in 2025)
- Decree of the Cabinet of the Ministers No. 965 "On the Measures of Further improvement of the Procedure of Establishment and Reservation of Minimum Number of Job Places for the Job Placement of Persons who are in need of Social Protection and Face Difficulties in Searching Employment and Incapable of Competing in Labour Market with Equal Conditions" (2017, as amended in 2020)

- Decree No. 964 "On the Measures for further improvement of the Activity of Self-Government Bodies Aimed at Ensuring Employment, firstly for the Youth and Women" (2017)

4.2.2 Laws Relating to Archaeology and Cultural Heritage

The laws pertaining to the exploration, protection and preservation of archaeological resources and cultural heritage sites in Uzbekistan are listed below.

- Constitution of the Republic of Uzbekistan, the Criminal Code of the Republic of Uzbekistan;
- Law No. ZRU-229 “On protection and use of the objects of archaeological heritage” (2009, as amended in 2019); and
- Law No. 269-II “On the Protection and Use of Cultural Heritage Sites (2001.

4.3 Management of Public Grievances

The Law LRU-445 “On amendments to Amendments and additions to the Law of the Republic of Uzbekistan "On appeals of individuals and legal entities" (2017). The purpose of this Law is to regulate the procedures and relations concerning appeals submitted by individuals and legal entities to state bodies, state institutions, and their officials. It also applies to organisations with state participation and citizen self-governance bodies.

However, this Law does not apply to appeals governed by specific procedures established under other legislative frameworks, including those related to administrative liability, civil, criminal, and economic procedural laws, as well as criminal-executive legislation and other relevant legal acts.

In addition to the above, the Law of the Republic of Uzbekistan ‘Regarding Appeals of Individuals and Legal Entities’ No 378 (2014, as amended in 2017), regulates the appeals of individuals and legal entities to state bodies as well as to their officials. Appeals can be oral, written, or electronic and regardless of their form and type are of equal importance. A people’s ‘Reception Office’ is tasked with organising a direct dialogue with the population, ensuring the functioning of an effective system of appeals aimed at the full protection of their rights, freedoms and legitimate interests. Any applications are considered within 15 days from date of receipt, and any additional consideration is completed within 1 month.

4.4 International Conventions and Protocols

Uzbekistan is signatory to a number of effective international conventions pertaining to environmental management, social sustainability, climate change and human rights. The nationally binding E&S commitments enshrined in these accords will apply to the Project, as listed on the table below.

Table 4-1 International Protocols and Conventions

Name of International Protocol/Convention	Signed/ Ratified	Relevance to the Project
UN Framework Convention on Climate Change	Accession: 20 June 1993	The Project will need to comply with all national standards for GHG emissions in order to contribute to Uzbekistan’s targets.
Kyoto Protocol to UNFCCC	Ratified: 12th October 1999	
Paris Agreement to UNFCCC	Signed: 19th April 2017	

Name of International Protocol/Convention	Signed/ Ratified	Relevance to the Project
Montreal Protocol on Substances that Deplete the Ozone Layer (with London, Copenhagen, Montreal amendments)	Accession: 10th June 1998	The Project will support Uzbekistan's contribution towards the protection of the ozone layer by refraining from use of ozone depleting substances.
Vienna Convention on the Protection of Ozone Layer	Accession: 18 May 1993	
UN (Rio) Convention on Biological Diversity	Accession: 19th July 1995	The Project will implement mitigation and management measures to ensure conservation and protection of terrestrial ecology, if identified.
Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)	Accession: 10th July 1997	The Project staff and workers will be strictly forbidden from trading in any wild flora and fauna found in the Project site or outside the Project boundaries.
Convention on Migratory Species of Wild Animals	1 May 1998	The project will implement mitigation and management measures to ensure conservation of terrestrial and avian migratory species where identified.
Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal	Accession: 7th February 1996	The Project will be required to adhere to all national and international standards for hazardous waste generation and management.
United Nations Convention to Combat Desertification	Ratified: 31 August 1995	The Project will not result in accelerated desertification through sourcing of its materials and will contribute to sustainable development.
Paris Convention on Protection of the World Cultural and Natural Heritage	Succession: 13th January 1993	The Project will implement mitigation and management measures where items/sites/monuments of cultural or natural heritage are identified within or near the Project boundaries and notify the relevant authorities immediately.
Stockholm Convention on Persistent Organic Pollutants	Accession: 28th June 2019	The Project will implement control measures to eliminate any use of chemicals under Annex A and B and reduce the unintentional release of those under Annex C.

In addition to the national labour requirements, the Republic of Uzbekistan has also ratified the following International Labour Organization (ILO) conventions.

Table 4-2 ILO Convention Ratified by Uzbekistan

ILO Conventions	Date Ratified
Convention No 29 on Forced Labour adopted in 1930	13th July 1992
Convention No 87 on Freedom of Association and Protection of the Right to Organise, adopted on 17th of June 1948	12th December 2016
Convention No 98 on the Right to Organise and Collective Bargaining adopted on 8th of June 1949	13th July 1992
Convention No 100 on Equal Remuneration adopted 6th of June 1951	13th July 1992
Convention 111 on Discrimination (Employment and Occupation) adopted 4th of June 1958	13th July 1992
Convention 138 on Minimum Age adopted 6th of June 1973	6th March 2009

ILO Conventions	Date Ratified
Convention 182 on the Worst Forms of Child Labour adopted 17th June 1999	24th June 2008
Convention C105 on the Abolition of Forced Labour Convention, 1957	15th Dec 1997
C187 Promotional Framework for Occupational Safety & Health Convention, 2006	14th September 2021
C081 Labour Inspection Convention 1947	19th Nov 2019
Protocol 29 – to the Forced Labour Convention	16th September 2019

4.5 Institutional Framework

Key organisations with responsibility for environmental management in Uzbekistan are:

- Cabinet of Ministers of the Republic of Uzbekistan (COM).
- National Committee on Ecology and Climate Change (NCECC).
- The Centre for State Ecological Expertise, which is under the MEEPCC.
- The Cabinet of Ministers of the Republic of Uzbekistan governs the executive body in the Republic of Uzbekistan following the Constitution of the Republic of Uzbekistan (Article 98), and the Law of the Republic of Uzbekistan "On the Cabinet of Ministers of the Republic of Uzbekistan" (new edition of 2019).

The National Committee on Ecology and Climate Change (NCECC) is the main regulating body of state administration on environmental protection issues. The primary responsibilities of the NCECC include ensuring the implementation of a unified state policy on environmental safety, environmental protection, and the use and reproduction of natural resources; and enforcing state control over the compliance of ministries, state committees, departments, enterprises, institutions, and organisations, as well as individuals, with respect to the use and protection of land, mineral resources, water, forests, flora and fauna, and atmospheric resources.

The Centre for State Ecological Expertise's activities are directly related to the evaluation of materials for EIA and the issuance of documents determining compliance with environmental requirements for planned or executed business and other activities, as well as determining the admissibility of the implementation of the object of environmental expertise. They function under the MEEPCC.

Due to the cross-cutting nature of sustainable development and the environment, virtually all other state bodies have some responsibility towards them. Other Ministries, Departments and Agencies (MDAs) related to E&S impact management will also contribute to the Project.

Table 4-3 Main National Institutions and Roles

NAME OF INSTITUTION	MAIN ROLE
National Committee on Ecology and Climate Change	The National Committee is responsible for managing environmental monitoring for industrial facilities. It reviews and issues technical conditions for construction and operation of facilities, both planned and existing.
Sanitary and Epidemiological Welfare and Public Health Service of The Republic of Uzbekistan	Responsible for determining the Health Protection Zone (HPZ) under the Ministry of Health. The HPZ applicable for the Project is determined this government organisation.

4.6 National EIA Requirements

A new Law "On environmental expertise, environmental impact assessment and strategic environmental impact assessment" NoLRU-1036 dated January 24th 2025 and entered into the force in August 2025 and further National EIA assessment will be conducted based on the new law requirements. Meantime the Project's National EIA will be conducted as per requirements of COM Resolution No.541.

Local regulations in Uzbekistan establish the procedure of environmental impact assessment that consists of three main stages. In addition, based on the nature of Project, it should be categorised as per classification prescribed in Resolution of Cabinet of Ministries N541 "On further improvement of the environmental impact assessment mechanism".

The national Environmental Impact Assessment (EIA) procedure for various development projects is mandated by the following legislation:

- Law "On Environmental Expertise" No.73-II (2000 as amended in 2021) on 29.04.2021).

Before start of any construction works it is necessary to obtain permission – positive conclusion from Ministry of Natural resources of Uzbekistan for Stage I, and if required from Stage II.

Commissioning and operation of Projects is possible only after receipt of permission – positive conclusion for Stage III.

The environmental assessment stages and their required results are summarized as follows:

- **Stage I**: A Preliminary Environmental Impact Statement shall be prepared during preparation of a proposed project prior to any fund allocation for development.
- **Stage II**: An Environmental Impact Statement shall be carried out on a basis of a conclusion of the environmental expertise issued at the first stage of the assessment. The second stage of the assessment is also submitted to the CSEE, and the conclusion must be received before the start of construction.
- **Stage III**: State Environmental Consequences is the final stage of the SEE process and shall be carried out prior to the project start. The report will include (i) a detailed description of changes to be made to the project design as a result of the CSEE review during the first two stages of the environmental assessment process, (ii) comments received during public consultations, (iii) environmental standards applicable to the project, (iv) environmental monitoring requirements related to the project, and (v) the key opinion.

4.6.1 Project Categorisation

According to the requirements referenced in the official guidance rely on the Law of the Republic of Uzbekistan "On Environmental Expertise" and Cabinet of Ministers Resolutions No. 14 of January 21, 2014, and No. 541 of September 7, 2020, this Project has been classified as a Category 2 project.

The proposed Project is classified as a Category II activity under the environmental impact assessment framework of the Republic of Uzbekistan, as it falls within the list of medium-risk activities subject to state environmental expert review and mandatory public consultation prior to implementation. In accordance with the requirements of the Law of the Republic of Uzbekistan "On Environmental Expertise" and Cabinet of Ministers Resolution No. 541 of 7 September 2020, the Project documentation has been prepared to reflect the applicable

environmental assessment requirements, including verification of the project category, public hearings, site suitability, and supporting technical documentation.

4.6.2 Public Participation in National EIA

Based on changes in the national legislation regarding the national EIA process, public consultation is now a mandatory part of the first EIA stage.

According to the Resolution of the Cabinet of Ministries of the Republic of Uzbekistan on "Further Improvement of the Environmental Impact Assessment Process" No. 541 dated 7th September 2020, the procedure of conducting public consultations is as follows:

- Annex 3 of the Resolution No 541 – Rules and regulations for conducting public consultations states that public consultations should include discussions and decision making regarding planned activities (for construction of any facility) that may have negative impacts on the environment.
- A non-technical summary regarding any planned project activity that is categorized as I & II group (in accordance with national requirements for categorization) shall be prepared. The NTS should include information about the following:
  - Brief description of the project.
  - Technology solutions and alternative options for the project.
  - Current state of the environment at the selected project site.
  - A brief assessment of socio-economic conditions.
  - Brief description of the causes and type of negative impacts on the environment as a result of the project.
  - Forecast and assessment of possible changes in the state of the environment, socio-economic conditions.
  - Forecast and assessment of project and non-project risks.
  - Measures to prevent, minimise and/or compensate for adverse impacts; and
  - Assessment of possible significant adverse cross-border impacts.
- A public consultation shall be based on the review of non-technical summary by providing equal rights to all participants to express their concerns, opinions, and suggestions.
- The following entities shall be considered as part of public consultations:
  - Representatives of local departments of State Committee on Ecology and Environmental Protection who will be considered as observers of public consultations.
  - Local municipalities (considered as the responsible organisation for organising and inviting participants to the meetings).
  - NGOs'.
  - All organisations interested in the project.
  - Local communities.
  - Mass media.
- Expenses, if any, related to the public consultations are to be financed by the Project Developer.

In addition to the above national requirements on conducting public consultations, the Law of the Republic of Uzbekistan 'Regarding Appeals of Individuals and Legal Entities' No 378 dated 3.12.2014 (with amendments on 17th August 2017), regulates the appeals of individuals and legal entities to state bodies as well as to their officials. Appeals can be oral, written, or electronic and regardless of their form and type are of equal importance. A people's 'Reception Office' is tasked with organising a direct dialogue with the population, ensuring the functioning of an effective system of appeals aimed at the full protection of their rights, freedoms and legitimate interests. Any applications are considered within 15 days from date of receipt, and any additional consideration is completed within 1 month.

5 Lenders Requirements

Project financing will be sought from international financial institutions, with the International Finance Corporation (IFC), European Bank for Reconstruction and Development (EBRD), and the United States (U.S) Development Finance Corporation (DFC), currently identified as a prospective lender. The Project will be required to comply with the applicable environmental and social requirements of the lenders.

5.1 IFC Performance Standards

The IFC Performance Standards and World Bank Group EHS Guidelines are applicable on IFC financed Projects. The IFC Performance Standards (PS) (2012) are outlined below.

- PS1 - Assessment and Management of Environmental and Social Risks and Impacts;
- PS2 - Labour and Working Conditions;
- PS3 - Resource Efficiency and Pollution Prevention;
- PS4 - Community, Health, Safety & Security;
- PS6 - Biodiversity Conservation and Sustainable Management of Living Natural Resources;
- PS7 – Indigenous People; and
- PS8 - Cultural Heritage.

Note: *IFC PS5 on Land Acquisition and Involuntary Resettlement is not expected to be triggered by the Project. The site forms part of land that was previously under government control and designated for military use and has since been allocated for development as part of the Eco City masterplan. As such, the land has remained under state ownership and has not been subject to private or informal occupation.*

As is outlined herein, based on site observations and available information, there is no evidence of current or historical land users, including residential, agricultural or livelihood-based activities within the Project footprint. The site is largely barren and has been subject to prior clearance and levelling, with access historically restricted due to its former military designation. Accordingly, the Project will not involve physical or economic displacement, land acquisition from private users, or restriction of access to land or resources.

In addition to the IFC PSs outlined above, the following guidelines will be followed:

- IFC Good Practice Handbook on the Use of Security Forces: Assessing and Managing Risks and Impacts (2017);
- IFC Stakeholder Engagement: A Good Practice Handbook for Companies Doing Business in Emerging Markets, 2007; and
- IFC Good Practice Handbook to Cumulative Impact Assessment and Management: Guidance for the Private Sector in Emerging Markets, 2013.

Performance Standard 1 outlines the need to “establish and maintain a process for identifying the environmental and social risks and impacts of the Project”. The standard further states that “The process may comprise a full-scale environmental and social impact assessment, a limited or focused environmental and social assessment, or straightforward application of environmental siting, pollution standards, design criteria, or construction standards”.

As part of the review of environmental and social risks and impacts of a proposed investment, IFC also uses a process of environmental and social categorization to reflect the magnitude of risks and impacts. These categories are:

- **Category A**: Business activities with potential significant adverse environmental or social risks and/or impacts that are diverse, irreversible, or unprecedented;
- **Category B**: Business activities with potential limited adverse environmental or social risks and/or impacts that are few in number, generally site-specific, largely reversible, and readily addressed through mitigation measures;
- **Category C**: Business activities with minimal or no adverse environmental or social risks and/or impacts; and
- **Category FI**: Business activities involving investments in financial institutions (FIs) or through delivery mechanisms involving financial intermediation. This category is further divided into three categories.

5.1.1 WBG/IFC EHS Guidelines

The WBG/IFC EHS Guidelines with relevance to the Project include:

- WBG/IFC General EHS Guidelines (2007);
- WBG/IFC Health Care Facilities (2007);
  - ***Note:*** *Although not formally implemented, the WBG/IFC Health Care Facilities (2025 – Draft for Consultation) has been published and where relevant elements of this have been referenced herein.*

5.2 European Bank for Reconstruction and Development (EBRD)

The applicable EBRD Environmental and Social Requirements (ESR) of 2024, are outlined below

- ESR1 - Assessment and Management of Environmental and Social Risks and Impacts;
- ESR 2 - Labour and Working Conditions;
- ESR 3 - Resource Efficiency and Pollution Prevention and Control;
- ESR 4 - Health, Safety and Security;
- ESR 5 - Land Acquisition, Restrictions on Land Use and Involuntary Resettlement;
- ESR 6 - Biodiversity Conservation and Sustainable Management of Living Natural Resources;
- ESR 7 - Indigenous Peoples;
- ESR 8 - Cultural Heritage;
- ESR 9 - Financial Intermediaries; and
- ESR 10 - Stakeholder Engagement.

In addition to the above ESRs, the following Guidance Notes will be followed:

- Guidance Note on Grievance Mechanism, 2012;
- CDC, IFC and EBRD Addressing Gender-Based Violence and Harassment Emerging Good Practice for the Private Sector, 2020; and

- EBRD and IFC Workers' Accommodation: Processes and Standards, 2009.

In accordance with ESR 1, there is a requirement for EBRD financed projects to undertake an appropriate Environmental and Social Assessment to:

- identify and assess environmental and social risks and impacts of, and to the project;
- adopt a mitigation hierarchy approach to address environmental and social risks and impacts from project activities on workers, affected communities and the environment; and
- integrate human rights risks and impacts into the assessment and management process.

In addition, it outlines the requirement to:

- implement an Environmental and Social Management System (ESMS) commensurate with the environmental and social risks and impacts of the project in a manner consistent with the relevant ESRs, including monitoring and reporting provisions; and
- require continuous improvement of the client's environmental and social performance.

EBRD classifies projects based on environmental and social risks to set the required level of assessment, disclosure, and engagement, matching the Project's characteristics and the significance of its impacts. Projects are assigned to one of the following four categories:

- A project is classified as **category "A"** when it could result in potentially significant environmental and/or social impacts, including direct and cumulative environmental and social impacts, which are new and additional and cannot readily be identified or mitigated. Category A projects require a formalised and participatory environmental and social impact assessment (ESIA), including a screening and/or scoping process and an assessment of alternatives.
- A project is classified as **category "B"** when its potential adverse environmental and/or social impacts are typically site-specific, and/or readily identified and addressed through mitigation measures. The scope of environmental and social assessment will be determined by the EBRD on a case-by-case basis, considering the environmental and social risks associated with the project.
- A project is classified as **category "C"** when it is likely to have limited environmental and/or social impacts that can be readily identified and mitigated.

The EBRD is committed to promoting EU environmental requirements and is a signatory to the European Principles for the Environment (EPE), a joint statement by several international financial institutions. The principles endorse the European consensus on the importance of the fundamental right for present and future generations to live in a healthy and sustainable environment.

The Environmental Impact Assessment (EIA) Directive 85/337/EEC was adopted in 1985 and applied to a broad range of public and private projects. This Directive was subsequently amended and ultimately codified by Directive 2011/92/EU of 13 December 2011. It was later amended by Directive 2014/52/EU, which introduced key enhancements, including more robust consideration of health, climate change, disaster risks, and public participation.

According to Article 3 of Directive 2011/92/EU (as amended), the EIA must identify, describe, and assess in an appropriate manner, considering the specific characteristics of each project, the direct and indirect significant effects on the following factors:

a) Population and human health;

b) Biodiversity, with particular attention to species and habitats protected under Directives 92/43/EEC and 2009/147/EC;

c) Land, soil, water, air, and climate;

d) Material assets, cultural heritage, and the landscape; and

e) The interaction between the factors referred to in points (a) to (d).

It is to be noted that at the time of writing this report, the proposed Project had not been classified and assigned a category.

5.3 Development Finance Corporation (DFC)

The United States (U.S) Development Finance Corporation will be sought for Project finance, the applicable E&S requirements as per the Environmental and Social Policy Procedures (ESPP) of 2024 are outlined below.

The DFC is fully aligned with the E&S requirements specified as per IFC PS 1 and PS 2. The main objectives of the DFC's Commitment to Environmental and Social Sustainability as follows;

- Alignment with climate-resilient, low- and no-carbon economic development,
- Safeguard and, where feasible, enhance ecosystems and the biodiversity they support with the aim of achieving no net loss of biodiversity as well as to sustainably manage and use living natural resources,
- Assess and mitigate the risks of deforestation and other land conversion for investments in infrastructure development, agriculture, land use planning or zoning, and energy siting and generation,
- Promote inclusion and non-discrimination in the Project, particularly with respect to disadvantaged or Vulnerable Groups,
- Respect Human Rights, Labor Rights, and the rights of Project Affected People,
- Identify disproportionate gender-specific risks as well as gender-specific opportunities of the Project and take steps to mitigate the risks of exclusion, discrimination, and harm, including the risk of Gender-Based Violence and Harassment (GBVH),
- Undertake Meaningful Consultations with Project Affected People regarding Project activities, including engagement with Vulnerable Groups,
- Undertake Projects in a host country that is taking steps to adopt and implement laws that extend Internationally Recognised Worker Rights, and
- Ensure that Project Affected People are aware of and have access to Project-level grievance mechanisms for voicing complaints and seeking remedy for harm.

In addition to compliance with all applicable laws, at a minimum, DFC requires that all Projects meet the Performance Standards, applicable EHS Guidelines, and Labor Rights in accordance with DFC review.

The applicable supplement sector-specific requirements for health care facilities are as follows:

- All healthcare facilities must be certified by a local regulatory health authority and work toward obtaining satisfactory accreditation, and
- All facilities must maintain this accreditation, certification, or high-quality rating throughout the term of DFC support.

For the assessment of high-risk supply chain, the Project will conduct a screening of environmental and social impacts to assess the supply chain risks related to forced or child labour, significant health and safety issues, or conversion of critical habitat.

5.3.1 Project Categorisation

DFC categorizes Projects based on a preliminary assessment of

- the potential environmental and social risks and impacts within a Project's Area of Influence in the absence of any required mitigation,
- the Client's commitment and capacity to effectively manage the environmental and social risks and impacts, including the ability to implement any required mitigation,
- the potential role of third parties in achievement of successful outcomes, and
- the scope and profile of Project Affected People, including Workers.

Projects under consideration for direct DFC support are categorized as Category A, B, or C based on environmental and social risk factors as defined below,

- **Category A**: Projects that may have significant adverse environmental and/or social impacts that are irreversible, sensitive, diverse, or unprecedented in the absence of adequate mitigation measures. Category A Projects are considered high risk,
- **Category B**: Projects that are likely to have limited adverse environmental and/or social impacts that are fewer in number, generally site-specific, largely reversible, and readily addressed through mitigation measures. Category B Projects are considered medium risk. The scope of environmental and social assessment for Category B projects may be narrower than that required for Category A projects, and
- **Category C**: Projects that are likely to have minimal adverse environmental or social impacts. Category C Projects are considered low risk.

At the time of writing this report, Project categorisation had not been undertaken.

6 Approach to the ESIA

6.1 Scope of Assessment

The primary study area comprises the Project footprint, which includes the development footprint, physical structures, and equipment. The scope of assessment will further include construction and operational activities to be undertaken within the Project footprint.

To an extent, this ESIA will assess the operational phase impacts that will result from the typical operations of the hospital delivering clinical services, whilst establishing provisions to manage environmental and social effects of reasonably foreseeable potential emergency situations. The assessment of operational activities have been undertaken as a high-level assessment, as the clinical scope of works will be undertaken by the Public Partner; the MoH in line with the standard operation procedures in Uzbekistan.

Although the sponsor's scope (Private Partner) is limited to non-clinical activities, the ESIA has undertaken an assessment of the entire scope of the Project including the Public Partner's scope of delivery and management of clinical services to the public, to a foreseeable extent.

6.2 Scope of Work and Key Deliverables

The key deliverables of the ESIA, subject of this report, are outlined as follows:

- Environmental and Social Scoping Report,
- Environmental and Social Impact Assessment (ESIA) Report (including the Non-Technical Summary and the Framework for E&S Management), and
- Stakeholder Engagement Plan (SEP).

The ESIA includes the following specialised assessments:

- Air Quality Impact Assessment;
- Climate Change Risk Assessment;
- Noise and Vibration Impact Assessment;
- Terrestrial Ecology Impact Assessment;
- Water Resources Impact Assessment;
- Landscape and Visual Impact Assessment;
- Traffic and Transportation Impact Assessment;
- Archaeology and Cultural Heritage Impact Assessment;
- Socio-economic Impact Assessment;
- Community Health and Safety Assessment;
- Human Rights Assessment; and
- Labour and Working Conditions Assessment.

6.3 ESIA Methodology

6.3.1 Process

The ESIA process is a systematic tool for examining and assessing the potential beneficial and adverse environmental and social impacts of a proposed development. In addition to identifying impacts of the Project, the ESIA has also identified key environmental and social mitigation measures and guidance to avoid, minimise and compensate for any adverse environmental and social impacts associated with the construction and operation of the Project. The ESIA process is summarised in the following table and in the following sections.

Table 6-1 Overview of the ESIA Process

Stage	Task	Objective
Scoping	Gap Analysis	Identify the approach, methodology and data requirements of the ESIA
ESIA	Consultation	Consult with statutory and non-statutory organisations and individuals with an interest in the development
	Desk Based Literature Review	Use existing secondary information and data sources to obtain information on the environmental and social conditions of the development site and immediate surroundings.
	Primary Baseline Data Collection	Characterise the existing physical, ecological and social conditions of the development site and immediate surroundings.
	Specialist Studies	Further investigate those environmental and social parameters which may be subject to potentially significant impacts.
	Impact Assessment	Evaluate the existing environment and social conditions in terms of sensitivity to predict the magnitude and associated significance of the potential impacts.
	Mitigation & Monitoring Measures	Identify appropriate and practicable mitigation and enhancement measures to avoid, minimise and/or offset any adverse impacts. Monitoring plans are proposed to monitor residual impacts.

In order to obtain a credible assessment of environmental and social impacts, the assignment of “effect significance” to each identified impact needs to be a robust, consistent and transparent process. The methodology to assess ‘effect significance’ is outlined below and follows an International Best Practice based on the assumption that the significance of an impact on resources or receptors is considered to result from an interaction between three factors:

- The nature and magnitude of the impact (i.e. a change in the environment, social and/or health baseline conditions);
- The number of resources or receptors affected (i.e. humans and the environment); and
- The environmental value or sensitivity of those resources or receptors to the change.

A three-step approach has been used to determine the significance of environmental effects, as follows:

- **Step 1** – Evaluation of value/sensitivity of resource or receptor;
- **Step 2** – Assessing the magnitude of the impact on the resource or receptor; a
- **Step 3** – Determining the significance of effects.

6.3.2 Identification And Evaluation of Sensitive Receptors

The sensitivity of a receptor is understood as the sensitivity of the environmental or social receptor to change, including its capacity to accommodate changes that the Project may bring about. The sensitivity is assigned at the receptor level and as such details regarding sensitivity are provided within the specific chapters of this report. The following table outlines the definition criteria upon which the receptor sensitivities of this ESIA are based.

Sensitive receptors are defined as:

- Elements of the ***environment*** that are of value to the functioning of natural systems (i.e. areas or elements of ecological, landscape or heritage value, species, habitats and ecosystems, soil, air and water bodies or land-use patterns); and
- ***Human*** receptors, such as stakeholders (i.e. users of dwellings, places of recreation, places of employment, community facilities or household relocation) and human systems (e.g. employment market, population disease susceptibility and disease communicability, exposure to toxicity of chemicals).

Table 6-2 Receptor Sensitivity Criteria

Sensitivity	Description of Value
Very High	• High importance and rarity on an international scale and limited or no potential for substitution. • The receptor has already reached its carrying capacity, so any further impact is likely to lead to an excessive damage to the system that it supports (e.g., very limited or non-existent infrastructure and services such as hospitals and schools, available natural, economic or local resources are not sufficient to provide means of livelihoods for all local populations). • Locations or communities that are highly vulnerable to the environmental and social impact under consideration or critical for society (e.g., indigenous peoples, hospitals, schools). • Other examples are very high proportion of vulnerable groups (women, elderly, disabled, etc.) in the Project area, very frequent occurrences of gender-based violence, very low probability of female participation in decision making and in the labour market, archaeological items of international importance or designated UNESCO world heritage sites, tangible or intangible cultural assets that contribute to international research objectives, etc.
High	• High importance and rarity on a national scale, and limited potential for substitution. • The receptor is close to reaching its carrying capacity, so a further impact may lead to a significant damage to the system that it supports (e.g., poor or limited public infrastructure and services, with limited access and high pressure on existing natural or economic resources available). • Locations or communities that are particularly vulnerable to the environmental impact under consideration (e.g., residential areas, vulnerable/marginalized groups). • Other examples are high proportion of vulnerable/marginalised groups (women, elderly, disabled, etc.), locations with poor health practices, poor education level, high crime rate, frequent occurrences of gender-based violence, tangible or intangible cultural assets that contribute to national research objectives, etc).
Medium	• High or medium importance and rarity on a regional scale, limited potential for substitution. • The receptor is already significantly impacted, but it is not close to reaching its carrying capacity. Further impacts will get increase the stress of the underlying system, but evidence does not suggest that it is about to reach a critical point (e.g., public infrastructure and services with some capacity, alternative natural or economic resources are available but not sufficient or easily accessible).

Sensitivity	Description of Value
	• Locations or groups that are relatively vulnerable to the environmental impact under consideration (e.g., commercial areas). • Other examples area: average proportion of vulnerable/marginalised groups, occasional occurrences of gender-based violence, tangible or intangible cultural assets that contribute to regional research objectives, etc).
Low	• Low or medium importance and rarity on a local scale. • The receptor is not significantly impacted and shows a large spare carrying capacity. Impacts are not likely to generate any noticeable stress in the underlying system (e.g., reasonable public infrastructures and services, sufficient natural, economic, or local resources available but not easily accessible). • Locations or groups that show a low vulnerability to the environmental impact under consideration (e.g., industrial areas). • Other examples are low proportion of vulnerable/marginalised groups, rare occurrences of gender-based violence, tangible or intangible cultural assets that contribute to local research objectives, etc).
Very Low	• Very low importance and rarity on a local scale. • The receptor is not impacted and shows a very large spare carrying capacity. Impacts are very unlikely to generate any noticeable stress in the underlying system (e.g., very good public infrastructures and services with some capacity, equivalent natural, economic, or local resources available and easily accessibly). • Locations or groups that show a very low vulnerability to the environmental impact under consideration (e.g., industrial areas). • Other examples are very low proportion of vulnerable/marginalised groups, no occurrence of gender-based violence, tangible or intangible cultural assets that are not legally protected and have no significance to local people (i.e. local people no longer use the cultural asset, etc).

6.3.3 Identification and Evaluation of Potential Impacts

During the evaluation undertaken, the following types of impacts will be considered:

- **Direct Impacts** - Potential impacts that may result from the construction, commissioning, and operations of the Project acting directly on an environmental or social receptor;
- **Indirect Impacts** – Potential impacts which are not a direct result of a Project activity, that may be realised later in time or at distances further removed from the project footprint, but are normally a result of a complex pathway;
- **Cumulative Impacts** – Changes to the environment that are caused by an action in combination with other past present and future actions.
- **Beneficial Impacts** – Those impacts that have a positive, desirable or favourable effect on the sensitive resources or receptors (e.g. landscape providing artificial habitat for a variety of species, jobs opportunities during the construction and/or occupation phases of a project);
- **Adverse Impacts** – Those impacts that are detrimental and have a negative influence on the environment, social structures, resources or other receptors;
- **Secondary Impacts** - Potential impacts that may result from the implementation of protection measures applied to mitigate potential direct impacts; and
- **Event Related Impacts** - Potential unplanned or accidental impacts stemming from an unintentional event such as fire, explosion, oil spill, etc.

6.3.4 Defining Impact Magnitude

The magnitude of the impact will be defined wherever possible in quantitative terms. The magnitude of an impact has several different components, for example:

- The extent of physical change;
- The level of change in an environmental condition;
- The permanence of impact and the reversibility of the impacted condition;
- Its spatial footprint;
- Its duration, its frequency; and
- Its likelihood of occurrence where the impact is not certain to occur.

Where necessary, the determination of impact magnitude has been assisted through the use of computer modelling. The criteria used for identifying the magnitude of impacts is provided in the following table.

Table 6-3 Criteria for Magnitude of Impacts

Magnitude	Description of Magnitude
Major	**Adverse**: Loss of resource and/or quality and integrity; severe damage to key characteristics, features or elements. A major impact is usually large scale, permanent and irreversible. **Beneficial**: Large scale or major improvement of resource quality; extensive restoration or enhancement; major improvement of attribute quality.
Moderate	**Adverse**: Significant impact on the resource but not adversely affecting the integrity; Partial loss of/damage to key characteristics, features or elements. Moderate impacts usually extend above the site boundary, and are usually permanent, irreversible or cumulative. **Beneficial**: Benefit to, or addition of, key characteristics, features or elements; improvement of attribute quality.
Minor	**Adverse**: Some measurable change in attributes quality or vulnerability; minor loss of, or alteration to, one (maybe more) key characteristics, features or elements. Minor impacts usually are only noticeable within the site and are temporary and reversible. **Beneficial**: Minor benefit to, or addition of, one (maybe more) key characteristics, features or elements; some beneficial impact on attribute or a reduced risk of negative impact occurring.
Negligible	**Adverse**: Very minor loss or detrimental alteration to one or more characteristics, features or elements. Beneficial: Very minor benefit to or positive addition of one or more characteristics, features or elements.
No change	No loss or alteration of characteristics, features or elements; no observable impact in either direction.

6.3.5 Determining Significance of Effects

The significance of effects is a combination of the environmental value (or sensitivity) of a receptor or resource and the magnitude of the project impact value (change). In other words, it is this product of the impact acting on the receptor that produces an environmental effect. The following matrix provides criterion used for determining the significance of environmental effects through consideration of the potential magnitude of impact and sensitivity of the associated receptor. Definitions of each significance categories are provided.

As is evident from the matrix, in some cases the significance product is a range (i.e., a 'Minor' Magnitude and a 'Very High' Sensitivity results in a 'Moderate or Major' Significance). In these cases, professional judgement will be used to determine which significance the impact represents.

Table 6-4 Criteria for Determining Significance of Effects

		Magnitude Of Impact (Degree of Change)				
		No change	**Negligible**	**Minor**	**Moderate**	**Major**
Sensitivity of Receptor	**Very High**	Neutral	Minor	Moderate or Major	Major	Major
	High	Neutral	Minor	Minor or moderate	Moderate or Major	Major
	Medium	Neutral	Negligible or minor	Minor	Moderate	Moderate or Major
	Low	Neutral	Negligible or minor	Negligible or minor	Minor	Minor or moderate
	Very Low	Neutral	Negligible	Negligible or minor	Minor	Minor

Table 6-5 Definition of Significance of Effects

Significance Category	Criteria
Major (Adverse/ Beneficial)	• The effect is large scale and would cause a large improvement or deterioration in the environment which will likely (but not exclusively) feature nationally or international important sites and features. • Adverse effects may be considered unacceptable due to exceeded of statutory limits and may require additional studies to ascertain if alternatives (in terms design and location) with the potential for lower impacts should be considered. These effects represent key factors in the decision-making process. • These effects are generally, but not exclusively, associated with sites or features of international, national, or regional importance that are likely to suffer a most damaging impact and loss of resource integrity. However, a major change in a site or feature of local importance may also enter this category.
Moderate (Adverse/ Beneficial)	• The effect gives rise to noticeable improvement or deterioration to the existing environment at a regional or local scale. • If adverse, are potential concerns to the project and may become key factors in the decision-making process. • Whilst the effects will be experienced, mitigation measures and detailed design work may reduce (or enhance) the effect. Some residual effects will still arise.
Minor (Adverse/ Beneficial)	• The effect is small scale and would cause a small improvement or deterioration to the existing environment.

Significance Category	Criteria
	• Adverse effects are undesirable but acceptable and within statutory limits and not likely to be key-decision making issues. • Mitigation measures may not always be required to mitigate such effects. • The cumulative effect of such issues may lead to an increase in the overall effects on a particular area or on a particular resource.
Negligible	• No discernible improvement or deterioration to the existing environment as a result of the Project will occur. • Local issue unlikely to be of importance in the decision-making process. • Effects do not exceed statutory limits. • They are of relevance in enhancing the subsequent design of the project and consideration of mitigation or compensation measures.
Neutral	• No effect or effect that is beneath the level of perception, within normal bounds of variation or within the margin of forecasting error. • No mitigation is required.

The approach to assigning significance to an effect relies on reasoned argument, professional judgement and cognisance to the advice and views of the appropriate regulators and organisation. For some disciplines, it is determined by comparison, wherever possible with locally, nationally, or internationally accepted standards. If no standards are available then it is necessary to develop Project specific limits, based on guidance or best practice as necessary.

6.3.6 Mitigation and Management Measures

A key component of the ESIA process is to explore practical ways of avoiding or reducing potentially significant impacts caused by the development of the Project. These are commonly referred to as mitigation and management measures which have been included in the ESIA report and should be further incorporated in the future Construction Environmental and Social Management System (CESMS) and Operational Environmental and Social Management System (OESMS) that will be prepared by concerned parties. Mitigations are aimed at preventing, minimising, or managing significant adverse impacts to as low as reasonably practicable and enhancing and maximising any potential beneficial impacts of the Project. The following mitigation hierarchy: avoid > minimise > restore > offset is utilised.

The approach taken to identifying and incorporating mitigation measures into the Project is based on a typical hierarchy of decisions and measures. This is aimed at ensuring that wherever possible, potential impacts are mitigated at source rather than mitigated through restoration after the impact has occurred.

6.3.7 Residual Impacts

The residual impacts section of the ESIA will consider the overall significance of impacts following the implementation of the mitigation and management measures not already included in the design. The significance of such impacts will be re-evaluated based upon the same criteria used to determine the impact significance stated above.

6.3.8 Cumulative Impact Assessment

IFC Handbook on Cumulative Impact Assessment defines cumulative impacts as “those that ‘*result from the successive, incremental, and/or combined effects of an action, project, or activity when added to other existing, planned, and/or reasonably anticipated future ones*” (IFC, 2013).

In practice, the assessment of cumulative effects requires consideration of some concepts:

- Assessment of effects over a larger (i.e., "regional") area that may be transboundary/cross-jurisdictional; (including effects due to natural perturbations affecting environmental components and human actions).
- Assessment of effects during a longer period of time into the past and future;
- Assessment of effects on Valued Environmental Components (VEC) due to interactions with other actions, and not just the effects of the single action under review; and
- Evaluation of significance in consideration of other than just local, direct effects.

6.4 Project Study Area and Area of Influence

For the purposes of this ESIA, the Project Area of Influence (AoI) is defined as the geographic area within which the Project's planned and unplanned activities, and associated facilities, may directly or indirectly cause environmental or social impacts, as well as the area over which anticipated impacts may reasonably be expected to extend over time. This includes not only the immediate project footprint but also surrounding areas that may experience cumulative, induced or ancillary effects linked to construction, operation and associated infrastructure such as access roads and utilities. It is to be noted that the AoI as per the respective E&S themes in this report will be defined in the respective chapters. The E&S study areas are as follows;

6.4.1 Environmental Study Area

The Project is hospital development in Uzbekistan, to be constructed on previously undeveloped land, and the environmental study area has been delineated as a radius of approximately 2 km from the project footprint. Within this 2 km zone, potential impacts on air quality, ambient noise, soil and groundwater, surface water drainage patterns, local biodiversity, landscape character, and traffic conditions that may occur during both construction and operation have been assessed. The environmental study area also captures immediately adjacent land uses and sensitive receptors such as nearby residences, schools, clinics, and any protected or natural areas that could be affected by changes in emissions, waste management practices, lighting, and service infrastructure connections.

6.4.2 Social Study Area

The social study area for the Project has been defined as a broader 5 km radius from the hospital site to reflect the spatial extent of communities and stakeholders that may be directly or indirectly affected by, or benefit from, the Project. This socio-economic study area is expected to include surrounding settlements, residential neighbourhoods, commercial areas, social infrastructure (schools, mosques, clinics), transport corridors, and any vulnerable or disadvantaged groups that may experience changes in access to health services, employment opportunities, land use, traffic safety, community health and safety, and local economic activity. The 5 km study are also encompasses the primary catchment of patients, staff, and service providers who are likely to use the hospital and its associated facilities over the Project lifespan.

The specified area of interest is determined largely based on the anticipated impacts, as such these vary for the different E&S themes specified in the sub-sections to follow.

7 Air Quality

7.1 Applicable Requirements and Standards

7.1.1 National Standards

The Law of the Republic of Uzbekistan "On Atmospheric Air Protection" (1996, amended on 2024)

This regulation specifies standards, quality and harmful effects norms, requirements on fuels, lubricants, production and operation of vehicles and other transport means and equipment, ozone layer protection requirements, obligations of enterprises, institutions and organisations toward atmospheric protection, and compensations of damages from atmospheric pollutions.

SanR&N № 0053-23 "Hygienic Standards. List of Maximum Permissible Concentrations (MPC) of contaminants in the atmospheric air of inhabitant areas in the territory of the Republic of Uzbekistan".

Table 7-1 Ambient Air Quality MPC (mg/m^3)

Pollutant	(MPC mg/m^3)			
	One-time	24-hour	Monthly	Annual
NO_2	0.085	0.06	0.05	0.04
NO	0.6	0.25	0.12	0.06
CO	5	4	3.5	3
SO_2	0.5	0.2	0.1	0.05
NH_3	0.2	0.12	0.06	0.04

Note:

- Maximum one-time concentration - the highest concentration detected at 20-30-minute sampling.
  - Average daily concentration is the average of the one-time concentrations detected during the day or obtained with continuous 24-hour sampling.
  - Monthly average concentration is the average of the average daily concentration detected during the month.
  - Average annual concentration - the average of the number of average monthly concentrations revealed during a year in the course of one-time sampling.

7.1.2 Lenders Requirements

7.1.2.1 IFC

As per the IFC guidelines, the WBG EHS Guidelines are applicable for the Project and provide advice on preventing, minimising and controlling emissions. The most recent WHO ambient air quality standards issued in 2021, are presented in the following table.

Table 7-2 WHO Ambient Air Quality Standards (µg/m^3)

Parameter	24 hour	Annual
PM_{10}	150 (Interim target 1)	70 (Interim target 1)
	100 (Interim target 2)	50 (Interim target 2)
	75 (Interim target 3)	30 (Interim target 3)
	50 (Interim target 4)	20 (Interim target 4)
	45 (guideline)	15 (guideline)
$PM_{2.5}$	75 (Interim target 1)	35 (Interim target 1)
	50 (Interim target 2)	25 (Interim target 2)
	37.5 (Interim target 3)	15 (Interim target 3)
	25 (Interim target 4)	10 (Interim target 4)
	15 (guideline)	5 (guideline)
NO_2	120 (Interim target 1) 50 (Interim target 2) 25 (guideline)	40 (Interim target 1) 30 (Interim target 2) 20 (Interim target 3) 10 (guideline)
SO_2	125 (Interim target 1)	500 (10-minute guideline)
	50 (Interim target 2)	
	40 (guideline)	
O_3	100 (interim target 1) (peak season - 8-hour daily maximum)	
	70 (interim target 2) (peak season - 8-hour daily maximum)	
	60 (peak season - 8-hour daily maximum guideline)	

In addition to the WHO ambient air quality standards and national regulations, the Project (if determined to be applicable for emissions from the emergency diesel generators) will also consider the standards set out in the WBG/IFC General EHS Guidelines, which outline good international industry practice (GIIP) for air emissions management.

7.1.2.2 EBRD

The EBRD 2024 Environmental and Social Policy, specifically ESR 3: Resource Efficiency and Pollution Prevention and Control, requires the avoidance or minimisation of air emissions using the mitigation hierarchy and Good International Practice, including Best Available Techniques (BAT).

The ambient air quality standards presented below are based on EU Directive 2008/50/EC and apply to a range of pollutants. In accordance with EBRD policy, where host country regulations differ, the most stringent applicable standard between national law, EU thresholds, and recognised international benchmarks (e.g. WHO) will be applied.

Table 7-3 EC Ambient Air Quality Standards (µg/m^3 unless stated)

Pollutant	Concentration	Averaging Period	Permitted Exceedances Per Year
$PM_{2.5}$	25	Annual	n/a
PM_{10}	50	24-hour	35
	40	Annual	n/a
Sulphur Dioxide	350	1-hour	24
	125	24-hour	3
Nitrogen Dioxide	200	1-hour	18
	40	Annual	n/a
Lead	0.5	Annual	n/a
Carbon Monoxide	10 mg/m3	Maximum Daily 8-hour mean	n/a
Benzene	5	Annual	n/a
Ozone	120	Maximum Daily 8-hour mean	25 days averaged over 3 years
Arsenic	6 ng/m3	Annual	n/a
Cadmium	5 ng/m3	Annual	n/a
Nickel	20 ng/m3	Annual	n/a
PAH	1 ng/m3 (expressed as concentration of Benzo(a)pyrene)	Annual	n/a

7.2 Baseline Conditions

The Project site is characterised by areas of exposed bare ground, with only sparse vegetation providing limited ground cover. These exposed soils are potentially susceptible to wind and the generation of dust, particularly during dry and windy conditions. The Project site is located within the Fergana Eco City development, which remains at an early stage of development, with few existing land uses in the immediate area around the Project. As such, existing anthropogenic sources of air emissions within the immediate area are currently limited. There are few established point sources, and local emissions are primarily associated with early-stage construction activities, minor earthworks, and low levels of vehicular movement in the Eco City. These sources are temporary (for construction) and spatially dispersed.

Notwithstanding the current relatively low level of activity, the wider Eco City area is expected to undergo progressive development. This will introduce additional temporary construction-related emissions (e.g. dust and exhaust emissions from machinery) as well as more permanent sources over time, particularly from increased traffic. The Eco City itself will be mixed used commercial/residential and hence there are not expected to be key point sources of emissions in the local area of the Project.

The Project site is also located approximately 1 km from the runway of Fergana International Airport. While the airport is currently characterised by relatively low flight movements (typically 6-7 per day), it represents a localised source of air emissions associated with aircraft operations, including landing and take-off cycles, auxiliary power units and ground support equipment, as well as vehicles going from/to the airport. These activities can generate pollutants such as NOx, CO, SO_2, particulate matter (including ultrafine particles), hydrocarbons and black carbon, with potential for localised effects depending on wind direction and operational frequency.

Available secondary data indicates that air quality in Fergana can be variable. Reported Air Quality Index (AQI) levels have, at times, reached elevated levels (including in late 2025[3]) attributed to dust and emissions, with local topography potentially contributing to the trapping of pollutants. At the regional level, reported annual average pollutant concentrations are generally below applicable maximum limits. In general, the energy sector in the region is identified as a significant contributor to overall emissions.

7.3 Survey Methodology and Findings

Baseline air quality monitoring was conducted at the Project site for five consecutive days. Monitoring was carried out using a calibrated AQMesh pod, a real-time air quality monitoring device capable of measuring multiple pollutants simultaneously. The weather conditions throughout the monitoring period were typically stable, featuring moderate temperatures and predominantly cloudy skies. Minimal rainfall was noted.

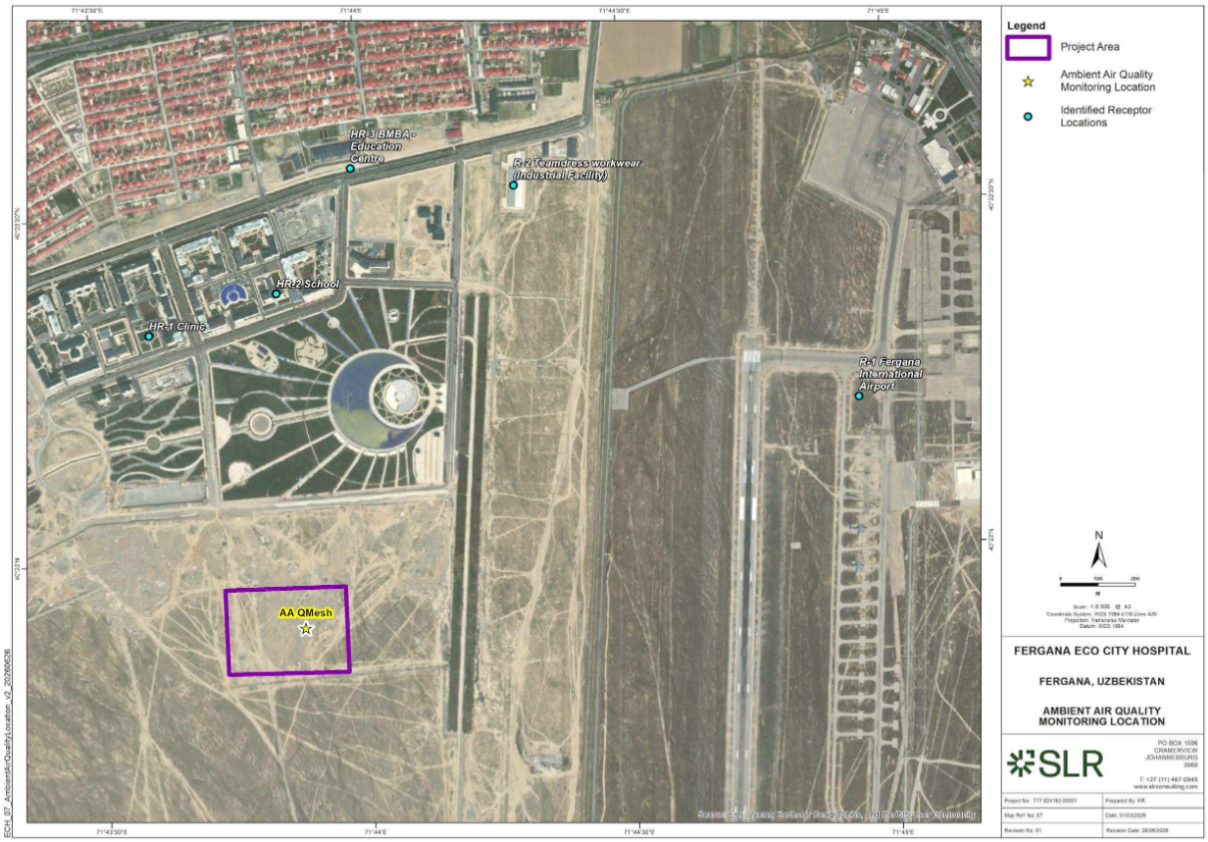


Figure 7-1 Air Quality Monitoring Location and Potential Receptors

The parameters monitored were PM_{10}, PM_4, $PM2_{.5}$, PM_1, nitrogen dioxide (NO_2), sulfur dioxide (SO_2), ozone (O_3), and carbon monoxide (CO).

Due to the proximity of construction activities, particularly the movement of heavy vehicles near the monitoring location, elevated particulate matter (PM) concentrations recorded by the AQMesh pod may be influenced by these external sources.

The following table outlines a summary of the air quality baseline results.

Table 7-4 Air Quality Baseline Results

Day	CO (µg/m³)	NO_2 (µg/m³)	O_3 (µg/m³)	SO_2 (µg/m³)	TVOC (µg/m³)	PM_1 (µg/m³)	$PM_{2.5}$ (µg/m³)	PM_4 (µg/m³)	PM_{10} (µg/m³)
1	299.11	36.23	52.68	5.46	6.1	13.69	15.36	18.01	19.84
2	233.06	34.54	55.84	3.34	10	12.3	13.57	15.55	16.62
3	227.23	34.72	64.48	2.5	13.4	9.5	10.65	12.39	13.83
4	220.7	32.35	58.54	2.9	11.6	8.71	9.34	10.8	11.63
5	217.59	15.9	43.14	0.48	4.6	12.15	13.18	14.9	15.4
WHO	**4000**	**25**	**-**	**40**	**-**	**-**	**15**	**-**	**45**

Against the WHO 2021 guidelines, 24-hour concentrations of CO, SO_2, and particulate PM10 fell within applicable thresholds across all five monitoring days. PM10 concentrations remained well below the WHO 24-hour guideline of 45 µg/m³, with a maximum recorded value of 19.84 µg/m³ on Day 1. PM2.5 concentrations were within the WHO 24-hour guideline of 15 µg/m³ on four of the five monitoring days; however, an exceedance was recorded on Day 1, where the 24-hour concentration of 15.36 µg/m³ marginally exceeded the guideline value by 0.36 µg/m³. Nitrogen dioxide was the parameter most consistently exceeding WHO guidance, with 24-hour concentrations on Days 1 through 4 ranging from 32.35 to 36.23 µg/m³, all exceeding the WHO 24-hour guideline of 25 µg/m³. The Day 1 NO_2 concentration of 36.23 µg/m³ represented the highest recorded exceedance at 11.23 µg/m³ above the guideline.

The baseline data indicates that the project area is affected by slightly elevated NO_2 exceedances versus the national standards and particulates that are measurable and close to the standard concentrations.

The Project is located within the potential influence zone of Fergana International Airport. Airport-related emissions may include aircraft engine emissions during landing and take-off, taxiing and manoeuvring, auxiliary power units, ground-support equipment, airport vehicles, passenger and freight traffic, fuel handling, heating or standby power equipment, and resuspended dust from paved and unpaved surfaces. Additionally, the Project is located amid ongoing construction works in the area which are considered to have influence on the local airshed ambient conditions. It is thus deduced that the NO_2 exceedances recorded on four of the five days against the WHO reference value may therefore reflect a combination of airport activities, urban traffic, local combustion sources from ongoing construction activities nearby, and regional background conditions. The single $PM_{2.5}$ exceedance, at 15.36 µg/m³, could be due to aircraft, ground-support equipment, diesel vehicles and road traffic, however it is more likely attributable to ambient dust due to the lack of soil coverage in the immediate project area.

Based on the limited monitoring period, the airshed appears to be potentially degraded for NO_2 and impacted (but not degraded) in relation to particulates.

7.4 Potential Impacts, Mitigation and Management

7.4.1 Receptors

Prior to assessment, ambient air quality impacts from the Project are anticipated to be contained within a range of 250m for construction dust (ref. UK Institute of Air Quality Management) and less (circa 200m) for gaseous emissions (based on UK DMRB guidance). This is due to the nature of the Project and its subsequent operation to which any probable impacts are anticipated to be contained within the ambits of the Project development site.

As a precautionary approach, the study area for air quality has been extended to consider a larger area for project-related emissions during construction and operation. For this Project, the air quality study area is defined as a 2 km radius from the Project site boundary and associated facilities, which encompasses the zone within which Project-related changes to ambient air quality concentrations are anticipated to be perceptible. The actual AoI may vary by impact type, construction dust, for example, is typically limited to the immediate site vicinity, while emissions from stationary sources during operation may extend to the outer boundary of the study area depending on meteorological conditions. The specific area of influence applicable to each assessed impact is defined in the respective sections below.

During the project construction phase, local ambient air quality may potentially be affected by increased dust, particularly during the site preparation stage that comprises of site clearance, levelling, and excavation activities. Additionally, the movement of vehicles on road surfaces and the exhaust fumes emissions from construction vehicles, equipment and temporary power generators is anticipated to contribute to impacts on air quality.

The identified sensitive receptors located around the project footprint are outlined in the table below.

Table 7-5 Potential Air Quality Receptors

Receptor	Distance from Project	Receptor Type	Receptor Sensitivity	Justification
Construction workers	<200 m	Industrial	**Medium**	Due to the nature of this receptor, it is considered to be of medium sensitivity for air quality impacts for both gaseous and particulate emissions due to the presence of human receptors that will be susceptible to cumulative impacts of construction activities, however for a limited time.
Future Eco City Development (in proximity to the Project)	<200 m	Commercial/ Residence	**High**	Due to the nature of this receptor, it is considered to be of high sensitivity for air quality impacts for both gaseous and particulate emissions due to the presence of human receptors.
Eco City Residence	562 m	Residential	**High**	These receptors are considered to be of high sensitivity for air quality impacts as it has human receptors. However, considering the distance to the project and the fact that the area has several ongoing construction activities, significant impacts are not anticipated.
Nearby Community	1 km	Residential		

7.4.2 Construction Phase Impacts

During the construction phase, various activities within the Project site are expected to generate air emissions, primarily in the form of dust and particulate matter. These emissions will result from excavation, material handling, equipment operation, vehicle movement, and the use of diesel generators. In addition to dust, exhaust gases from construction vehicles and machinery will contribute to impacts to air quality both on-site and along access routes. Additionally, the project site is located in a region with a present source of particulate matter that can be easily entrained by the wind.

Dust/Particulate Matter Generation

In line with IAQM Guidance on the assessment of dust from demolition and construction, (2024), it is noted that dust / PM will be generated by a multitude of construction activities. As a result of a human receptor being within 250 m of the site boundary an assessment of construction dust has been screened in.

Activities involving direct earthworks such as land levelling, can generate a significant amount of dust.

Baseline information available confirms that the wider area shows clear evidence of ongoing human disturbance. While construction has not yet commenced within the project site itself, the area is actively used for the movement of heavy machinery and for storing construction materials and excavated soil from neighbouring developments. Construction is already underway on adjacent plots. However, the air quality baseline survey did not show consistently high dust levels, with $PM_{2.5}$ and PM_{10} concentrations below standards on all five days of monitoring (except Day 1 when monitoring $PM_{2.5}$).

Dust can also be generated by the movement of HGVs and other vehicles along unpaved surfaces, a process known as trackout.

Generated dust will primarily be a nuisance to construction personnel, however, if not managed, it could also affect the nearby residential and commercial receptors. Respirable dust poses health risks because fine particles can penetrate into the lungs.

Dust generated during construction activities is likely to settle in close proximity to the source with impacts being temporary and localised. With the implementation of Good International Industry Practice (GIIP) for dust suppression and management, the impact magnitude is considered to be **minor**.

Gaseous Emissions

The main sources of gaseous emissions to air during construction will be the combustion of fossil fuels from the operation of vehicles, generators, construction equipment and mobile plant. Any emissions from these sources are not expected to result in noticeable incremental impacts to the local airshed as the relatively limited emissions will mix in ambient air close to the point of origin resulting in emissions that are not distinguishable from the background concentrations. The key air pollutants associated with these sources include NOx, CO and SO_2.

If improperly managed, there is a risk of nuisance and health effects mainly to the construction workers onsite.

As with dust generation, impacts are expected to be reversible, temporary, contained and easily managed with GIIP, and therefore are considered to be of **minor** magnitude.

Volatile Organic Compounds and Odour Emissions

Emissions of volatile organic compounds (VOCs) can arise from improper handling or storage of chemicals, hazardous materials and wastes (including wastewater). A limited number of chemicals and hazardous materials are required due to the project type, and with the implementation of good practice management measures the impact impacts are considered to be insignificant.

With regards to wastewater, the Project will use septic tanks that will be emptied, when required, by a licensed contractor.

7.4.3 Impacts Assessment Summary – Air Quality Impacts during Construction

A summary of potential impacts from construction activities on the receptors are presented in following table including suggested mitigation measures and residual impacts after implementation of mitigations measures.

Potential Impacts	Magnitude of Impact	Receptor	Sensitivity	Potential Impact Significance	Residual Impacts
Dust/Particulate Matter Generation	Minor	Construction Workers	Medium	Minor	Negligible
		Nearby residential Community (> 500m)	High	Minor	Negligible
Gaseous Emissions	Minor	Construction Workers	Medium	Minor	Negligible
		Nearby residential Community	High	Minor	Negligible
VOC Emissions	Negligible	Construction Workers	Medium	Negligible	Negligible
Odour	Negligible	Construction Workers	Medium	Negligible	Negligible

Proposed Mitigation Measures

<u>Mitigation measures for Dust/Particulate Matter Generation</u>

- Keep construction worksite and roads clean and tidy and free from loose/friable materials.
- Where practical, compact the ground in areas that are heavily used by vehicles and machinery.
- Limit or suspend earthworks during extreme weather conditions (e.g. strong winds).
- Implement dust control facilities (e.g. windbreaks, temporary barriers, netting screens, fences or plastic sheets) to contain dust emissions from earthworks and stockpiled soil.
- Water spraying of open or unpaved ground areas such as temporary facilities areas and access roads around the site, will be done as frequent as necessary to minimize dust generation. Only non-potable water will be used for such activities
- All vehicles within construction areas onsite shall adhere to a speed limit of: (i) 30km/h at the main access road; (ii) 20 km/h within the project area; and (iii) 10km/h within working areas. Appropriate speed limit signage shall be provided at such construction areas.
- Ensure periodic washing of vehicles in order to remove any dusty material in a dedicated area.

Potential Impacts	Magnitude of Impact	Receptor	Sensitivity	Potential Impact Significance	Residual Impacts

- All trucks transporting aggregates, debris, and fine materials must be appropriately covered at all times through the use of tarpaulin or equivalent.
- Proper management of stockpiles and excavated material through appropriate enclosures and covers. This entails that it is of appropriate size to ensure entire coverage of the stockpile/excavated material, durable, able to withstand exposure to weather conditions (heat, rain, and strong winds in particular).
- Adequate supplies of disposable dust masks shall be provided. Workers shall use them during strong winds or when conditions of worksite and work activities (e.g. earthworks) require their use (such conditions will be determined and identified by the EPC Contractor E&S Manager).
- Doors and windows of portable offices shall be kept sealed or closed to minimize if not totally prevent dust accumulation indoors.
- Arrange site layout in a way that machineries and dust causing activities are located as far as possible from offices.
- Visual dust monitoring will be undertaken daily and documented in the Internal Visual Dust Register.
- Upon receipt of justifiable complaints, an air quality and dust monitoring program would be undertaken. Monitoring would be undertaken through a certified and approved third-party entity. Monitoring reports would be maintained onsite. Results will be compared against allowable national limits as well as limits included within the IFC General EHS Guidelines and the applicable EC Directive.

<u>Mitigation measures for Gaseous Emissions</u>

- Ensure that generators are located in an appropriate area as far as possible from on-site offices and residential areas.
- Ensure that all vehicles and trucks utilized onsite are properly licensed for operation with relevant authorities.
- Develop a regular inspection and scheduled maintenance program for vehicles, machinery, and equipment to be used throughout the construction phase for early detection of issues and to avoid unnecessary pollutant emissions. Smoke belching equipment shall be taken out of service for appropriate repair and will be prohibited for entering the site if not properly serviced.
- Turn off any equipment, machine or vehicle not in use.

<u>Mitigation measures for Volatile Organic Compounds and Odour Emissions</u>

- Hazardous materials stored and used on site with potential gas emissions (e.g. Volatile Organic Compounds) will be located in well-ventilated, but secure low-risk areas, away from major transport routes and away from the site boundary (where possible).
- Volatile fuels and chemicals (including hazardous wastes) will be stored in sealed containers. On site storage of large quantities of volatile fuels will be avoided, equally prolonged exposure to direct sun and heat will be avoided.
- Fires and material burning will not be allowed on the Project site.
- Chemical storage areas will be purpose built and well maintained. A data log of all chemicals with MSDSs will be provided at the storage facility within easy access.
- Adequate and sufficient sanitary facilities for site workers will be provided.
- Effective cleaning and maintenance of toilets to be undertaken to avoid odour dispersion and cleaning records/inspection sheets displayed in the toilets.

Potential Impacts	Magnitude of Impact	Receptor	Sensitivity	Potential Impact Significance	Residual Impacts
• All septic tanks must be sealed and fully functioning. • Septic tanks must be operated and maintained according to manufacturer recommendations. • Sanitary waste will be removed from site by licensed contractors and disposed in wastewater treatment facilities approved by the applicable regulator.					

7.4.4 Operation Phase Impacts

During the operation, potential ambient air quality emissions will result from the following activities:

- Emission of air pollutants during the use of backup diesel generators (in case of grid black outs), or for periodic testing, and the use of the heating boilers.
- Emission of air pollutants from vehicles and mobile plant.
- Volatile organic compounds (VOCs) emissions from fuel storage.

These impacts are anticipated to be minor compared to regional pollution sources however, they must comply with Uzbekistan's air quality standards and international guidelines.

Gaseous Emissions

Impacts on ambient air quality during the project's operational phase are anticipated during the operation of the backup diesel generators (in case of grid black outs or during routine testing procedures). Such emissions and impacts are expected to be temporary and infrequent. At this stage, the extent of operation of back-up generators due to emergency situations is not foreseeable and cannot be quantified. However, it is understood that there will be periodic testing of functionality of the generators for short durations (minutes).

In addition, air emissions during the operational phase will originate from operational vehicles (visitors, employees, patients, and ambulances) entering/leaving the hospital. Emissions from vehicles are expected to be minimal and are unlikely to have any discernible impact on ambient air quality.

The magnitude of impact from gaseous emissions during operation is therefore considered minor for all identified receptors.

VOCs

During the operational phase of the hospital, fuel will be stored on-site for use by the back-up generators. In addition, chemicals used in the laboratories and for cleaning purposes will also be stored at the hospital premises. As a result, occasional and minor emissions of VOCs may occur. However, it to be noted that under normal operation conditions emissions of VOCs from hospital operations are not anticipated. In the unlikely event of a fuel leak, VOCs could be released into the atmosphere. The potential impact of VOC emissions is considered negligible.

Utility Emissions during Operation

The hospital's utility and support infrastructure is expected to generate limited air emissions, as heating demand will be met primarily through district heating and solar thermal systems. The principal emission sources are the backup diesel generators, which are only expected to operate during routine testing and maintenance, or during infrequent emergency situations.

Given the redundancies incorporated into the hospital's heating and power supply systems, emergency operation is expected to be rare and of short duration. Periods of testing will be limited and short duration. Operation of these systems would result in emissions of NO_x/NO_2, CO, PM, $PM_{2.5}$, SO_2 and VOCs, with SO_2 and particulate emissions dependent on the sulphur content and quality of the backup fuel.

Baseline monitoring indicates that NO_2 concentrations are the most constrained pollutant within the receiving airshed, with existing background exceedances identified. Although operation of the backup systems has the potential to cause short-term, localised increases in pollutant concentrations, such events would be infrequent and temporary. There are currently no sensitive receptors in the vicinity of the Project, although receptors may be present as the Eco-City is developed. A minor cumulative contribution with future road traffic emissions is also possible; however, given the limited operating hours and low frequency of use of the standby systems, these emissions are not expected to make a material contribution to local air quality or result in significant cumulative impacts. Overall, the utility and support infrastructure is considered to represent a low air emission source.

7.4.5 Impacts Assessment Summary – Air Quality Impacts during Operation

A summary of potential impacts during the operational phase are presented in following table including suggested mitigation measures and residual impacts after implementation of mitigations measures.

Table 7-6 Impact summary and mitigation measures – Operation phase

Potential Impacts	Magnitude of Impact	Receptor	Sensitivity	Potential Impact Significance	Residual Impacts
VOCs and gaseous emissions	Minor	Nearby residential Community	High	Minor	Negligible
Emissions from utility and support infrastructure	Minor	Nearby residential Community	High	Minor	Negligible

Proposed Mitigation Measures

<u>Mitigation measures for VOCs and Gaseous Emissions</u>

- The backup generators will be used only during emergency grid blackouts and briefly during testing situations and maintenance.
- Unnecessary usage of vehicles and equipment will be minimised, and unnecessary idling of vehicles will be avoided.
- Exhaust fumes and particulates emitted from trucks and vehicles will be minimised by ensuring the use of good condition vehicles (e.g., compliant to vehicle emission requirements).
- Lorries and truck engines will be turned off while waiting on site to minimise gaseous emissions.
- Volatile fuels and chemicals (including hazardous wastes) will be stored in sealed containers with a secondary containment.
- Leak detection systems to be installed for bulk volatile fuels and chemicals stored on-site, where applicable.This requirement does not apply to small containers or drums stored in designated chemical storage areas.

Potential Impacts	Magnitude of Impact	Receptor	Sensitivity	Potential Impact Significance	Residual Impacts
• Disclosure of the grievance mechanism (GRM) procedure with the external stakeholders and local communities nearby the project plot. Complaints will be addressed in a timely manner as per the project's GRM. <u>Mitigation measures for utility and support infrastructure emissions</u> • Use district heating as the primary heat source and keep fuel-oil boiler use strictly as emergency backup. • Specify low-sulphur fuel and require good combustion efficiency. • Limit boiler operating hours and include them in an emissions log. • Provide adequate stack height, discharge velocity and separation from air intakes and receptors. • Use electric or low-emission sterilisation systems where feasible. • Install kitchen exhaust with grease filtration, adequate stack discharge and routine cleaning. • Prefer electrically driven or district-heated laundry systems where possible.					

7.5 Monitoring

The following table presents the monitoring program that will be undertaken to ensure that the selected measures are consistently implemented and to determine whether they are sufficient to reduce air quality impacts to an acceptable level.

Monitoring	Parameter	Frequency & Durations	Monitoring Location	Responsibility
Construction				
Emissions from engines and plant.	Vehicle Emissions	Pre-site authorisation checks on vehicle status and health, including associated emissions.	All non-road vehicles and engines	EPC Contractor
		Visual assessment of emissions (e.g. black smoke) to be undertaken on a daily basis while vehicles and equipment are in use and annual inspection of vehicles.		
Sanitary Facilities & Hazardous Material Storage Areas	Odour & VOCs	Daily visual and olfactory observations – as part of maintenance and inspection checks (for hygiene, safety and appropriate storage/containment).	All sanitary facilities available within the laydown areas, sub-contractor camps and work fields. All hazardous material,	

Monitoring	Parameter	Frequency & Durations	Monitoring Location	Responsibility
			chemical and fuel storage areas.	
Construction Dust	To be determined based on the nature of the complaint	Upon receipt of complaints, if any	At least two locations, e.g., active construction area and receptor.	
Operation				
Backup generators emissions	To be determined based on the nature of the complaint	Air emissions monitoring in the event of a complaint about gaseous or particulate emissions is received.	To be determined based on the nature of the complaint	FM Co.
VOCs	Evidence of chemical odours, leaks, spills, damaged containers, inadequate ventilation, and compliance with chemical storage procedures	Daily visual and olfactory observations – as part of maintenance and inspection checks (for hygiene, safety and appropriate storage/containment).	Fuel and chemical storage	FM Co.

8 Climate Change

8.1 Applicable Requirements

8.1.1 National Requirements

The ratification of the Paris Climate Agreement committed Uzbekistan to transitioning to a lower carbon economy, and adoption of the following normative documents:

- Decree of the President of the Republic of Uzbekistan. № PD-4477"On approval of the Strategy on transition of the Republic of Uzbekistan to the "green" economy for the period 2019-2030"(2019, as amended in 2024)
- Decree of the President of the Republic of Uzbekistan, № PD-5863 “On approval of the Concept of environmental protection of the Republic of Uzbekistan until 2030 (2019, as amended in 2024)
- In 2021, the Republic of Uzbekistan updated its nationally determined contribution (NDC) and aims to reduce specific greenhouse gas emissions per unit of Gross Domestic Product (GDP) by 35% by 2030 as compared to the level of 2010. Uzbekistan’s NDC also includes adaptation commitments such as enhancing the resilience of strategic infrastructure and developing early warning systems for hydro-meteorological hazards.

8.1.2 Lender Requirements

8.1.2.1 IFC Performance Standards

International Finance Corporation (IFC)’s Performance Standards acknowledge that climate change is a topic that can be addressed across multiple Performance Standards and there is an expectation under IFC PS1 for relevant risks and opportunities associated with climate change to be identified.

With regard to ‘greenhouse gases’, IFC PS3 requires consideration of alternatives and for Projects to implement ‘technically and financially feasible and cost-effective options to reduce project-related GHG emissions during the design and operation of the project.’ IFC PS3 also requires the quantification of a project’s GHGs if the emissions exceed the 25,000 tonnes of carbon dioxide equivalent (tCO_2e) threshold.

8.1.2.2 EBRD

The Project will be assessed for alignment with the climate-related requirements of EBRD, as well as being guided by EBRD’s commitment to align its investments with the objectives of the Paris Agreement. The Project will be evaluated against the Methodology to Determine the Paris Agreement Alignment of EBRD Investments (March 2024), as applicable.

8.2 Climate Change Impacts and Adaptation

The Project’s climate change assessment incorporates the ESIA methodology as outlined in Section 6.3 for the identification and assessment of potential impacts, receptor sensitivity, impact significance and residual impacts.

8.2.1 Vulnerability to Climate Change Methodology

The potential physical risks that may affect the Project due to its geological location were screened against EU Taxonomy[3] climate hazards framework. The EU taxonomy framework requires climate adaptation principles, reducing material physical risks (A1), Supporting system-wide adaptation.

Based on the hazard screening outcomes, the exposure analysis was undertaken. The purpose of the exposure analysis is to determine which climate hazards are relevant to the Project's specific location and the geographic context. The assessment distinguishes between exposure to the current climate and exposure to future climate conditions. Historic and current climate data for the Project location is used to evaluate existing and past climate exposure. Climate model projections are then applied to assess how exposure levels may change over time, with particular attention to shifts in the frequency and intensity of extreme weather events. Each climate hazard is assigned a score of 'high', 'medium', or 'low'.

8.2.1.1 Methodology for Quantifying the Project's GHG Emissions

As the Project's lifespan extends beyond 2050, it is essential to quantify its associated emissions and assess its alignment with net-zero and climate-neutral pathways. The assessment, therefore, aims not only to estimate the Project's potential GHG emissions but also to guide the integration of low-carbon solutions during planning and design as early incorporation of climate-proofing measures is critical.

The Project's GHG emissions are quantified for a representative operational year and compared against the predefined thresholds for absolute and relative emissions. Where emissions exceed the thresholds, the Project's alignment with a credible pathway toward the 2030 and 2050 GHG-reduction targets is assessed.

The GHGs to be included in a GHG emissions inventory include the seven gases listed in the Kyoto Protocol:

- Carbon dioxide (CO_2)
- Methane (CH_4)
- Nitrous oxide (N_2O).
- Hydrofluorocarbons (HFCs)
- Perfluorocarbons (PFCs)
- Sulphur hexafluoride (SF_6).
- Nitrogen trifluoride (NF_3).

All relevant emissions are converted to tonnes of carbon dioxide equivalent (tCO_2e) using the applicable Global Warming Potentials (GWPs).

Note: Based on a review of the Project's emission sources (i.e., mobile and stationary combustion), only CO_2, N_2O, and CH_4 are considered in the assessment.

[3] https://finance.ec.europa.eu/system/files/2020-03/200309-sustainable-finance-teg-final-report-taxonomy-annexes_en.pdf

8.2.2 Historic and Future Climate Conditions

8.2.2.1 Ambient Air & Temperature, and Precipitation

Temperature

The Republic of Uzbekistan is characterized by an arid continental climate, distinguished by substantial diurnal and inter-seasonal temperature variability. According to the Köppen-Geiger climate classification system, Fergana is largely classified as having a cold semi-arid climate with a deviation to a hot-summer mediterranean climate towards the south of the region which is typical for Southern European region patterns as rainfall decreases and temperatures rises. Approximately 79% of its territory encompasses flat semi-desert steppes or hyper-arid desert zones, notably in the western regions attributable to the desiccation of the Aral Sea. The southeastern domains are influenced by a continental climate regime within the elevated topography of the Tien-Shan and Gissar-Alai mountain systems. Summer periods are protracted, intensely hot, and markedly dry, with mean monthly temperatures of 27.2°C in July, the warmest month, and average daily maxima attaining 35°C in major cities. Winter conditions are frigid, registering mean monthly temperatures ranging from −1°C to −3°C during December to February, per the 1991–2020 climatological baseline (CRCP, 2021). Fergana sits in the Fergana Valley, a climatically sensitive transboundary basin shared with Kyrgyzstan and Tajikistan, where water availability and precipitation changes are tightly linked to irrigation demand and downstream water stress.

The climatology of the Fergana region is as shown on the following figure which represents the average monthly minimum, mean, and maximum temperatures, and precipitation from 1991 till 2020. The highest average maximum temperature of 34.04°C and the lowest average minimum temperature of -4.24°C occur in July and January respectively. The highest precipitation levels of 54.99 mm are recorded in March compared to the lowest of 4.52 mm in August (WBCCKP, 2026).

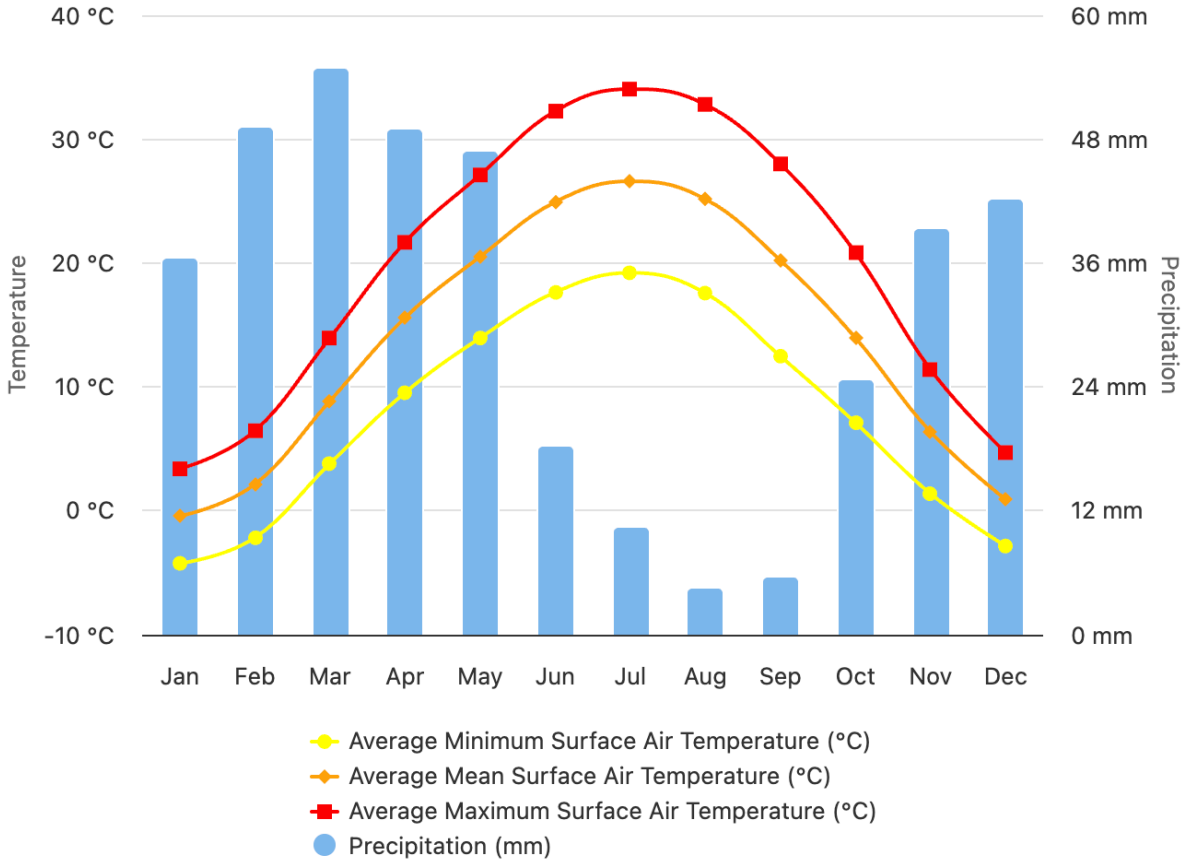


Figure 8-1 Average Monthly Climate Conditions in the Fergana region for 1991-2020 (WBCCKP, 2026)

The Climate Change projections are assessed by analysis of the Shared Socioeconomic Pathway (SPP) defined as follows;

- SSP1-1.9: Very Low Emissions,
- SSP2-4.5: Intermediate Emissions,
- SSP3-7.0: High Emissions, and
- SSP5-8.5: Very High Emissions.

Projections under moderate (SSP2-4.5) and high-emission (SSP5-8.5) scenarios indicate amplified warming.

These trends are expected to exacerbate aridity, elevate heatwave frequency and intensity, and intensify seasonal extremes, posing heightened climate risks to infrastructure, water resources, and ecosystems across Uzbekistan.

Precipitation

The Fergana region is characterised as semi-arid to steppe-like, with relatively low annual precipitation and a strong spring maximum. The climate summaries for the Fergana region indicate that the wettest period is usually in spring, especially around April - May, while late summer and early autumn are the driest months. For Uzbekistan as a whole, there are patterns of rising temperature and increasing precipitation variability, rather than a monotonic rainfall trend. The World Bank's adaptation assessment notes that rainfall has

already changed significantly, with a decline reported by farmers since 2008, it is expected that future precipitation will remain more variable as warming increases evaporative demand. A World Bank agricultural vulnerability study similarly states that precipitation is expected to become more variable in Uzbekistan and that climate change will intensify water competition even if annual precipitation does not decline everywhere.

8.2.2.2 Wind and Dust Storms

Uzbekistan has a documented history of severe sand and dust storms, with major events intensifying when strong winds coincide with drought, dry topsoil, and exposed land surfaces. A widely reported extreme event in November 2021 affected large parts of Uzbekistan and was described as the worst dust storm since meteorological records began, with visibility dropping sharply and dust concentrations reaching hazardous levels in some areas. Research on Uzbekistan's dust activity also notes that a severe dust storm in eastern Uzbekistan in November 2021 was one of the most extreme events recorded since 1871, showing that exceptional dust episodes are part of the historical record, not only a recent phenomenon (Nishov et al. 2023).

From the World Bank Climate Change Knowledge Portal (WBCCKP), it can be seen that the climate in Uzbekistan is characterised by seasonal temperature and precipitation patterns, natural-hazard exposure, and future climate projections relevant for risk screening. The Fergana region's inland continental setting is characterised by dry spells, hot periods, and episodic strong winds that can mobilise loose soil and create local dust nuisance or dust-haze conditions, especially where land is disturbed or vegetation cover is reduced. The United Nations Development Programme (UNDP) Fergana Valley climate-risk project further confirms that the valley is treated as a climate vulnerable zone requiring adaptation support for agriculture and natural resource use, which is directly relevant to dust exposure on bare or cultivated land.

The main drivers of wind and dust storms in Uzbekistan include drought, parched soils, strong pressure gradients, and land disturbance such as construction and exposed agricultural fields. Dust storms are also transboundary in Central Asia, meaning some of the dust affecting eastern Uzbekistan can originate from neighbouring areas, especially during regional dry and windy conditions. For the Fergana region specifically, the combination of dense settlement, intensive agriculture, and land disturbance can increase local exposure even when the storm source is outside the valley. However, due to the Project being located within an area envisioned to be densely developed and populated in the near future (due to the development of the Fergana Eco City), it is likely that impacts due wind and dust storms will be lower within the Project area than surrounding areas.

8.2.2.3 Natural Hazards

According to Uzbekistan's Climate Risk Profile, Uzbekistan ranks near the global median for disaster risk, placing 112th out of 191 countries. The country is also among the top 20 worldwide in terms of drought exposure and faces considerable wildfire hazard (European Commission, 2019). In addition, Uzbekistan experiences above-average flood risk. However, these elevated hazard and exposure levels are partially mitigated by relatively low vulnerability and moderate coping capacity.

Droughts

Uzbekistan's arid climate and persistently high temperatures contribute to recurring drought conditions. During the 1980s and 1990s, droughts occurred on average once every five years, rising to four episodes between 2000 and 2012. Three main drought types are identified in the country: hydrological drought, which typically causes water shortages from January to March due to low precipitation in the upper catchments of key rivers; meteorological drought, which is generally linked to precipitation deficits and occurs mainly

in spring or summer; and agricultural drought, which results from insufficient soil moisture and restricts crop growth. Over the past two decades, hydrological drought has become more frequent and severe in western Uzbekistan, while central and southern provinces have experienced the highest occurrence of meteorological drought.

The most severe drought in recent decades occurred in 2000–2001 and had major economic and social impacts. Agricultural yields declined by 14%–17% for cereals and by 45%–75% for other crops, while agricultural GDP losses were estimated at between US$38 million and US$130 million. The drought also had significant public health consequences, including increased water-related illness and malnutrition among children in western regions, as well as iodine deficiency, and higher rates of diarrheal and respiratory diseases.

8.2.3 Potential Impacts, Mitigation and Management

8.2.3.1 Construction Phase Impacts

Greenhouse Gas Emissions

Scope 1 Emissions

The stationary combustion sources used during the construction phase of the Project will primarily relate to temporary diesel generators. The construction phase of the Project will also require mobile equipment/plant, such as excavators, cranes, and other construction vehicles, used in construction activities.

The construction period is anticipated to span 3 years, with estimated quantity of fuel required during the construction phase is 52,060 L/month. The GHG emissions for the construction phase are quantified using the Greenhouse Gas Protocol calculation tool for GHG Emissions from Stationary Combustion (World Resources Institute, 2015) as detailed in the following table.

Table 8-1 Construction Phase GHG Emissions

Fuel Type	Volume of Fuel (L/month)	GHG Emissions (tonnes)			Total GHG (tCO_2e)
		CO_2	CH_4	N_2O	
Liquid Fossil (Diesel)	52,060 L	151.49	0.0061	0.006	153.34
Monthly GHG emissions from fossil fuels (tCO2e)					153.34
Annual GHG emissions from fossil fuels (tCO2e)					1,840.08
Construction Period GHG emissions from fossil fuels (tCO2e)					4,600.18

The monthly GHG emissions, during the Project construction phase is estimated to be 153.34 tonnes of carbon dioxide equivalent (tCO_2e). The annual estimate of GHG emissions during construction is 1,840.08 tCO_2e. This will be less much less than the IFC threshold value of significance of 25,000 tCO_2e per year. The total GHG emissions from diesel fuel usage over the 2.5-year construction phase is calculated to be 4,600.18 tCO_2e.

Scope 2 Emissions

The Project is envisioned to be connected to the national grid for provision of approximately 90% of the required power supply. Scope 2 emissions as a result of electricity usage are there considered in the assessment. The total emissions are calculated based on IFI Default

Grid Factors 2021 v3.1, Uzbekistan's grid emission factor of 612 gCO_2e/kWh[4]. The monthly energy consumption values are shown in the following table.

Table 8-2 Greenhouse Emissions from Purchased Electricity during Construction

Period	Total Monthly Energy Consumption (kWh)	Purchased Electricity Emissions (tCO2e/month)
December 2026	358,730.15	219.54
January 2027	364,343.74	222.98
February 2027	325,954.46	199.48
March 2027	366,050.73	224.02
April 2027	355,760.68	217.73
May 2027	382,168.16	233.89
June 2027	198,874.71	121.71
July 2027	206,866.88	126.60
August 2027	208,966.88	127.89
September 2027	202,919.15	124.19
October 2027	210,612.82	128.90
November 2027	233,870.92	143.13
December 2027	244,032.78	149.35
January 2028	250,881.18	153.54
February 2028	236,356.52	144.65
March 2028	263,291.74	161.13
April 2028	253,086.11	154.89
May 2028	282,136.04	172.67

[4] Source: IFI Default Grid Factors 2021 v3. https://unfccc.int/documents/437880

Period	Total Monthly Energy Consumption (kWh)	Purchased Electricity Emissions (tCO2e/month)
June 2028	275,960.77	168.89
July 2028	284,633.33	174.20
August 2028	279,794.83	171.23
September 2028	265,364.61	162.40
October 2028	270,078.79	165.29
November 2028	260,066.53	159.16
December 2028	269,805.65	165.12
January 2029	270,703.11	165.67
February 2029	236,035.94	144.45
March 2029	262,079.64	160.39
April 2029	246,426.79	150.81
May 2029	230,879.12	141.30
June 2029	189,718.65	116.11
Total	**7,922,434.93**	**5,071.35**

The anticipated purchased electricity emissions annually throughout the construction phase is 5,071.35 tCO2e. The emissions are anticipated to vary throughout the construction phase according to construction-related works activity. The highest GHG emissions are expected during peak construction in 2028, calculated at approximately 2,205,49 tCO_2e. The monthly electricity demand is highest during the more intensive construction period when workers accommodation camps, and activity equipment are all active.

It is to be noted that impacts relating to Scope 2 emissions from purchased electricity are direct, temporary, reversible and moderate in magnitude as the construction phase is to progress within the prescribed period. Although these emissions have long-term impacts, emissions are envisioned to cease or materially reduce once construction activities are concluded.

The potential impacts during construction are presented in following table including suggested mitigation measures and residual impacts after implementation of mitigation measures.

Table 8-3 Construction Phase – Climate Change Impacts and Mitigation Measures

Potential Impacts	Magnitude of impact	Receptor	Sensitivity	Impact Significance	Residual impact
Increase in GHGs emissions from on-site power generators, heavy machinery and vehicles	Minor	Global Atmosphere	Medium	Minor	Negligible
Mitigation to avoid extreme climate event impacts • Manage energy and fuel demand through use of energy efficient equipment, monitoring fuel and electricity consumption and training the workforce on possible consumption reduction practices. • Monitor weather forecasts and be prepared to suspend work during a heat wave or severe sand/dust storm events. • Implement strict heat stress management procedure, including mandatory work-rest cycles, provision of shaded rest areas, and adequate hydration. • Schedule strenuous activities during cooler parts of the day. • Provide training and awareness on heat-related health risks. • Provide workers with appropriate PPE • Implement dust suppression measures (e.g., water spraying) on exposed soil and construction areas. • Protect sensitive equipment and materials with covers or storage in enclosed areas in the event of sand/dust storms. • Implement an emergency evacuation plan and conduct regular drills. • The EPC contractor will complete a risk assessment of extreme weather events (extreme heat, dust storms etc.) on workers and implement the necessary mitigation. • Provide access to medical facilities and first-aid equipment on-site. • Secure water supply agreements with water supply facilities and maintain contingency plans for sourcing additional water if needed. • Promote water conservation measures on-site (recycling water, minimising wastewater). • Use alternative dust suppression techniques that reduce water use (compaction, covering stockpiles etc.), where possible					

8.2.3.2 Operation Phase Impacts

Greenhouse Gas Emissions from Purchased Electricity during Operation

The Project is envisioned to be connected to the national grid for power supply. Scope 2 emissions as a result of electricity consumption therefore has to be accounted for in the assessment. The total emissions are based on Uzbekistan's national grid factor of 653 gCO_2e/kWh and the monthly energy consumption, as shown in the following table.

Based on benchmark data for similar high-reliability tertiary hospitals with 800 beds, ~110,000 m² built-up area) designed to Tier-III standards, the anticipated maximum demand from the National Grid when applying a standard diversity/coincidence factor, the diversified operational demand expected to be drawn from the grid during peak operations is approximately 12–18 MWh.

Therefore, using the midpoint demand of 15 MWh for total annual hours of 8,760, the annual electricity consumption is approximately 131,400,000 kWh.

The anticipated annual purchased electricity consumption and the associated emissions over the Project lifespan are presented on the following table.

Table 8-4 Calculated Emissions from Purchased Electricity during the Operation Phase

Description	Units	Value
Total electricity consumption/annum	kWh/annum	131,400,000
Country-specific grid emission factor	gCO_2e/kWh	653
Conversion	tCO_2e/gCO_2e	0.000001
Annual GHG emissions	tCO_2e/annum	85,804
Duration of operational phase	20	years
Total GHG emissions	tCO_2e	1,716,084

GHG Emissions related to Sulphur Hexafluoride

The Project will utilise Sulphur Hexafluoride (SF6) which is a synthetic, odourless gas commonly used in the electrical industry to ensure the safe and reliable operation of power systems. It is chemically stable, non-toxic, non-flammable, and strongly electronegative, making it highly effective as an insulating and arc-quenching medium. Its chemical stability prevents it from readily reacting with other substances or degrading under normal atmospheric conditions, allowing it to maintain its performance over extended periods. SF_6 is a potent GHG that contributes to global warming in a similar way to CO_2.

At this stage, the exact configuration of the 35 kV Medium Voltage switchgear and the equipment vendor selection have not yet been finalized. During the detailed design and procurement phases, modern SF6-free (air-insulated or solid-insulated) 35 kV RMU / switchgear alternatives, such as next-generation solutions from Schneider, ABB, or equivalent vendors, will be evaluated. If such environmentally friendly technologies are selected in alignment with strict environmental lending criteria, the total SF6 quantity for the MV switchgear could potentially be 0 kg.

GHG Emissions from the Operation of back-up Diesel Generators

Stationary combustion emissions may result from the operation of backup diesel generators in emergency cases which are anticipated to be infrequent. The estimation of operation of backup diesel generation will be done once information on quantity of fuel required is received.

The emissions will depend on the emergency situations where the operation of the diesel generator will be required, which cannot be determined. However, given that the generators are expected to operate only during infrequent emergency conditions, the resulting annual GHG emissions would represent a very small fraction of total project emissions. On this basis, emissions from back-up diesel generator operation are not considered material or significant.

GHG Emissions from the Operation of Vehicles

Emissions from the operation of vehicles are also anticipated during the operational phase of the Project. Emissions are expected to be from the operation of ambulances, the delivery vehicles to the Project site and those of the employees as well as equipment during maintenance; however, the impacts are not considered to be significant and have therefore been excluded from this assessment.

The potential impacts during the operation phase are presented in following table including suggested mitigation measures and residual impacts after implementation of mitigation measures.

Table 8-5 Operation Phase – Greenhouse Gas Emissions Impacts and Mitigation Measures

Potential Impacts	Magnitude of impact	Receptor	Sensitivity	Impact Significance	Residual impact
Increase in GHGs emissions from use of SF_6	Moderate	Global Atmosphere	High	Moderate	Moderate
Increase in GHGs emissions from utilisation of power from the national grid	Moderate	Global Atmosphere	High	Moderate	Moderate
Increase in GHG emissions from back-up generators	Negligible	Global atmosphere	High	Negligible	Negligible
Mitigation to minimise increase in GHG emissions from SF_6 • Use SF6-containing transformers and circuit breakers only where technically necessary and evaluate SF6-free alternatives such as vacuum-based switchgear for future procurement or replacement cycles. • Prior to operation, a GHG Management and Reporting Plan will be prepared to implement and monitor control measures to reduce emission of GHGs on an annual basis. • Prepare and implement an SF6 lifecycle management plan covering inventory, labelling, procurement control, handling, recovery, recycling, and final disposal. • Install and maintain leak detection and repair procedures, including routine inspections, pressure monitoring, and prompt repair of any identified leaks. • Recover SF_6 during maintenance and decommissioning using approved recovery equipment; do not vent gas to atmosphere. • Keep records of SF_6 purchases, use, losses, and recovered quantities, and report these in the project's greenhouse gas inventory. Mitigation to minimise emissions from back-up power generators • Implement the gaseous air emissions mitigation measures. • Regular maintenance of the backup generators so that the initially designed efficiency and emission performance can be maintained.					

8.2.3.3 Vulnerability of the Project to Climate Change

Physical Risk Screening

As the proposed development is located in-land within a cold semi-arid climate with a deviation to a hot-summer mediterranean climate. The screening considered hazards most relevant to the region and operational vulnerability of a hospital building and associated infrastructure. The physical risks were screened against EU Taxonomy[5] climate hazards, as shown in the following table.

The EU taxonomy framework requires adaptation in line with these principles, reducing material physical risks (A1), Supporting system-wide adaptation.

[5] https://finance.ec.europa.eu/system/files/2020-03/200309-sustainable-finance-teg-final-report-taxonomy-annexes_en.pdf

Table 8-6 Physical Risks Screening

CATEGORY	TYPE	HAZARD	SCREENING EVALUATION
Chronic	Temperature-related	Changing temperature (air, freshwater, marine water)	Screened Out
		Heat stress	**Screened In**
		Temperature variability	**Screened In**
		Permafrost thawing	Screened Out
	Wind-related	Changing wind patterns	**Screened In**
	Water-related	Changing precipitation patterns and types (rain, hail, snow/ice)	**Screened In**
		Precipitation and/or hydrological variability	**Screened In**
		Ocean acidification	Screened Out
		Saline intrusion	Screened Out
		Sea level rise	Screened Out
		Water stress	**Screened In**
	Solid mass-related	Coastal erosion	Screened Out
		Soil degradation	**Screened In**
		Soil erosion	**Screened In**
		Solifluction	Screened Out
Acute	Temperature-related	Heat wave	**Screened In**
		Cold wave/frost	Screened Out
	Wind-related	Wildfire	Screened Out
		Cyclone, hurricane, typhoon	Screened Out
		Storm (including blizzards, dust and sandstorms)	**Screened In**
		Tornado	Screened Out
	Water-related	Drought	**Screened In**
		Heavy precipitation (rain, hail, snow/ice)	**Screened In**
		Flood (coastal, fluvial, pluvial, groundwater)	**Screened In**

CATEGORY	TYPE	HAZARD	SCREENING EVALUATION
		Glacial lake outburst	Screened Out
	Solid mass-related	Avalanche	Screened Out
		Landslide	**Screened In**
		Subsidence	Screened Out

Following the physical risks screening for the Fergana region, it is concluded that the Project will be susceptible to climate hazard risks directly linked to a wide range of hazards such as high temperatures, unpredictable wind patterns, water scarcity, soil quality and instability related effects, and extreme desert weather conditions as relevant to the Project region. These factors have the potential to increase cooling demand, affect water availability, building efficiency and the resilience of infrastructure, as well as worker's health and safety and therefore were screened in. The most important consequence is loss of operational continuity, because hospitals need uninterrupted power, water, access, sterility, and internal environmental control. Even moderate hazards can have severe effects if they affect emergency departments, operating theatres, ICU areas, or backup systems. Secondary impacts include delayed patient transfers, staff access problems, equipment failure, and higher maintenance and recovery costs.

However, hazards associated with cold conditions, permafrost, cyclonic storms were screened out due to the climatic and terrain characteristics of the Project area, as such they pose negligible risk in this geographical and climatic context.

The operation of the Project and its associated facilities are susceptible to impacts expected due to the climate conditions as discussed below, taking into account Project vulnerability, exposure, and specific hazards for a short time over the construction period.

The analysis of the Project's vulnerability to climate change was carried out based on key projected climate trends for the Fergana region.

Vulnerability to Acute and Chronic Temperature related Hazards

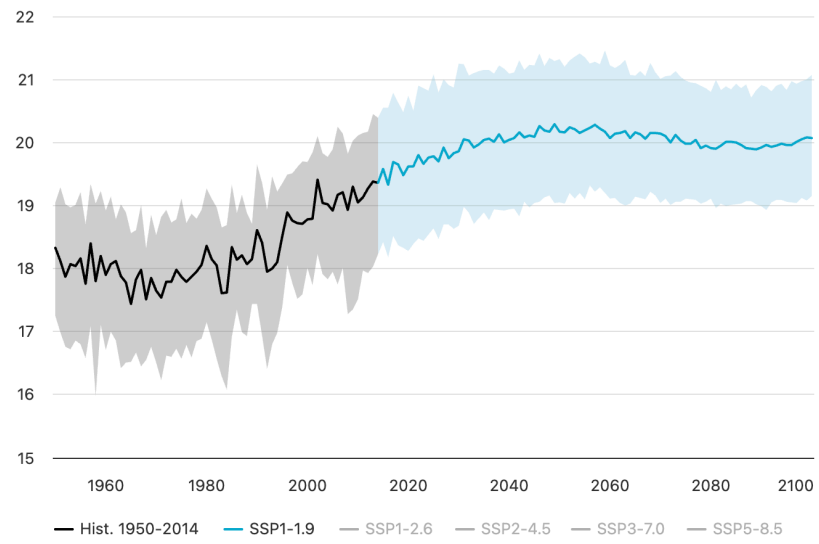
Uzbekistan is characterized by high seasonal temperatures, with an average monthly maximum of approximately 18.5°C and peak average maximum temperatures reaching 34.9°C in July. The current median probability of heatwave occurrence which is defined as periods of three or more consecutive days with daily temperatures exceeding the long-term 95th percentile of mean temperature, is estimated at around 2%. However, the frequency of heatwaves has already increased, with the most pronounced rise observed in the northwestern regions, particularly around the Aral Sea and the lower Amu Darya basin.

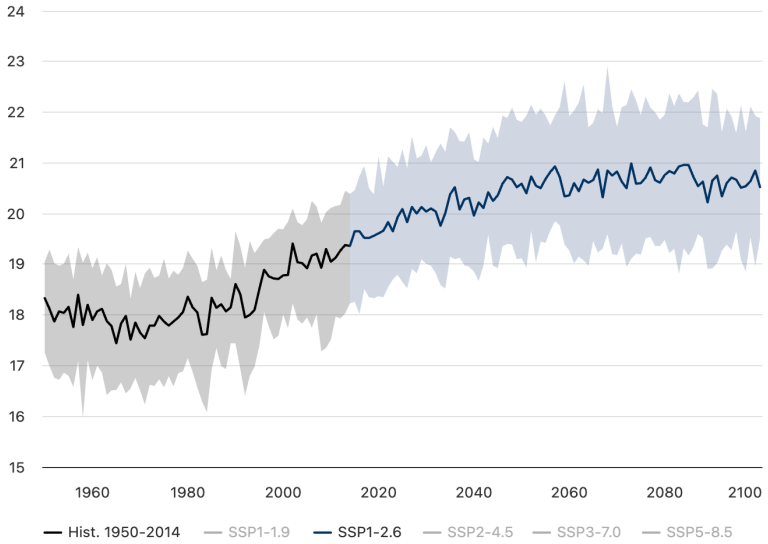
This trend has contributed to a growing number of extremely hot days (exceeding 40°C), which have been associated with heightened health risks, including exacerbation of ischemic heart disease. Projections indicate that the daily probability of heatwave events will increase across all emissions scenarios, with noticeable changes expected as early as the 2030s, even under low-emission pathways such as RCP2.6. This increase is largely driven by a broader rise in ambient temperatures which shifts temperature distributions and increases the likelihood of threshold exceedance. An additional metric for assessing extreme heat conditions is the annual frequency of days with temperatures exceeding 35°C.

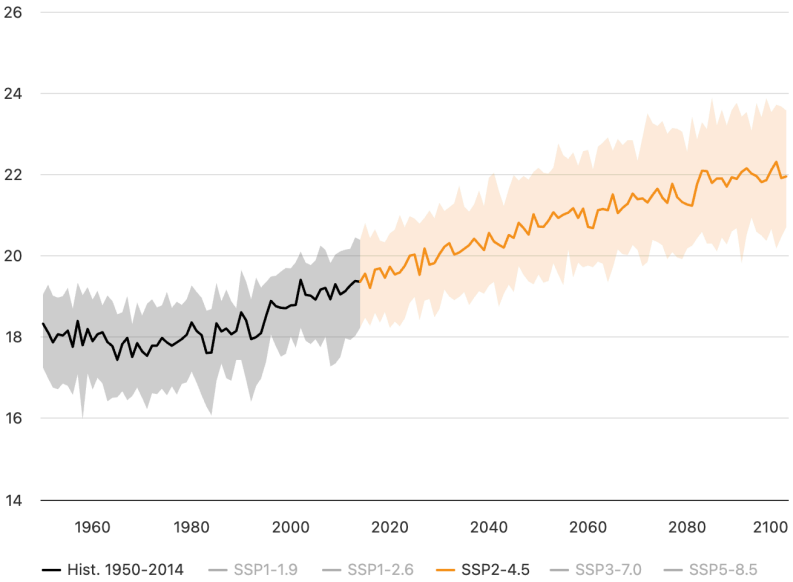
Changes in temperature are assessed based on data published by the WBCCKP, which is based on the Coupled Model Intercomparison Project, Phase 6 (CMIP6) models (WBCCKP, 2026). To assess the potential climate change risks during the Project's lifetime, the

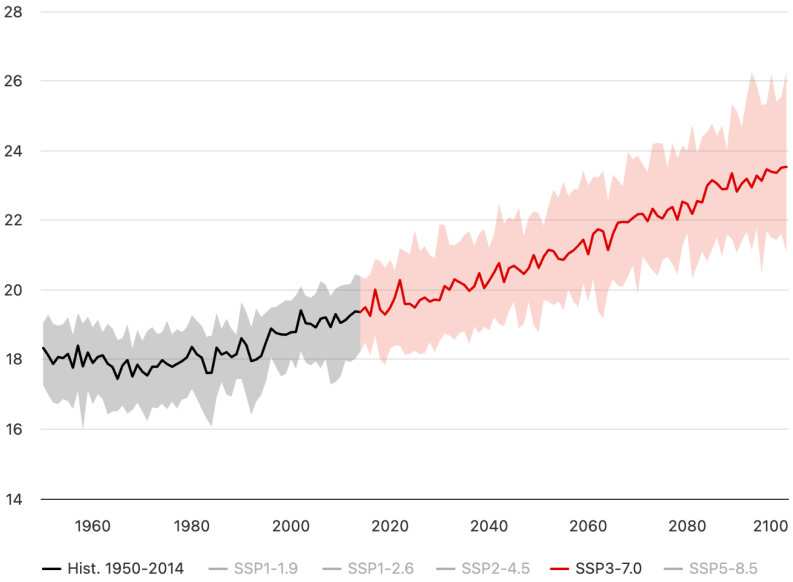
projected average maximum surface air temperature anomaly for the Fergana region, Uzbekistan (reference period 1995-2014) were extracted and are presented below. It is important to note that climate projections are subject to a range of uncertainties, particularly when looking several decades into the future. These uncertainties stem from variability in climate models, emissions trajectories, and natural climate variability. Under the SSP5-8.5 scenario, projections for 2052 present a 10th–90th percentile range to reflect this uncertainty, capturing both lower-end and higher-end potential outcomes. However, actual future conditions may fall outside this range due to unanticipated socio-economic developments, mitigation measures, or feedback processes not fully captured in current models.

- Under scenario SSP1-1.9, by 2052, the 10-90th percentile range of average maximum surface air temperature in the Project area is 19.2°C to 21.3°C with a median of 20.24°C.
- Under scenario SSP1-2.6, by 2052, the 10-90th percentile range of average maximum surface air temperature in the Project area is 19.67°C to 22.15°C with a median of 20.73°C.
- Under scenario SSP2-4.5, by 2052, the 10-90th percentile range of average maximum surface air temperature in the Project area is expected to reach 19.38°C to 22.02°C with a median of 20.86°C.
- Under scenario SSP3-7.0, by 2052, the 10-90th percentile range of average maximum surface air temperature in the Project area is expected to reach 19.66°C to 22.41°C with a median of 21.15°C.
- Under scenario SSP5-8.5, by 2052, the 10-90th percentile range of average maximum surface air temperature in the Project area is expected to reach 20.08°C to 22.82°C with a median of 21.31°C.


22
21
20
19
18
17
16
15
1960
1980
2000
2020
2040
2060
2080
2100
Hist. 1950-2014
SSP1-1.9
SSP1-2.6
SSP2-4.5
SSP3-7.0
SSP5-8.5


24
23
22
21
20
19
18
17
16
15
1960
1980
2000
2020
2040
2060
2080
2100
Hist. 1950-2014
SSP1-1.9
SSP1-2.6
SSP2-4.5
SSP3-7.0
SSP5-8.5


26
24
22
20
18
16
14
1960
1980
2000
2020
2040
2060
2080
2100
Hist. 1950-2014
SSP1-1.9
SSP1-2.6
SSP2-4.5
SSP3-7.0
SSP5-8.5


28
26
24
22
20
18
16
14
1960
1980
2000
2020
2040
2060
2080
2100
Hist. 1950-2014
SSP1-1.9
SSP1-2.6
SSP2-4.5
SSP3-7.0
SSP5-8.5

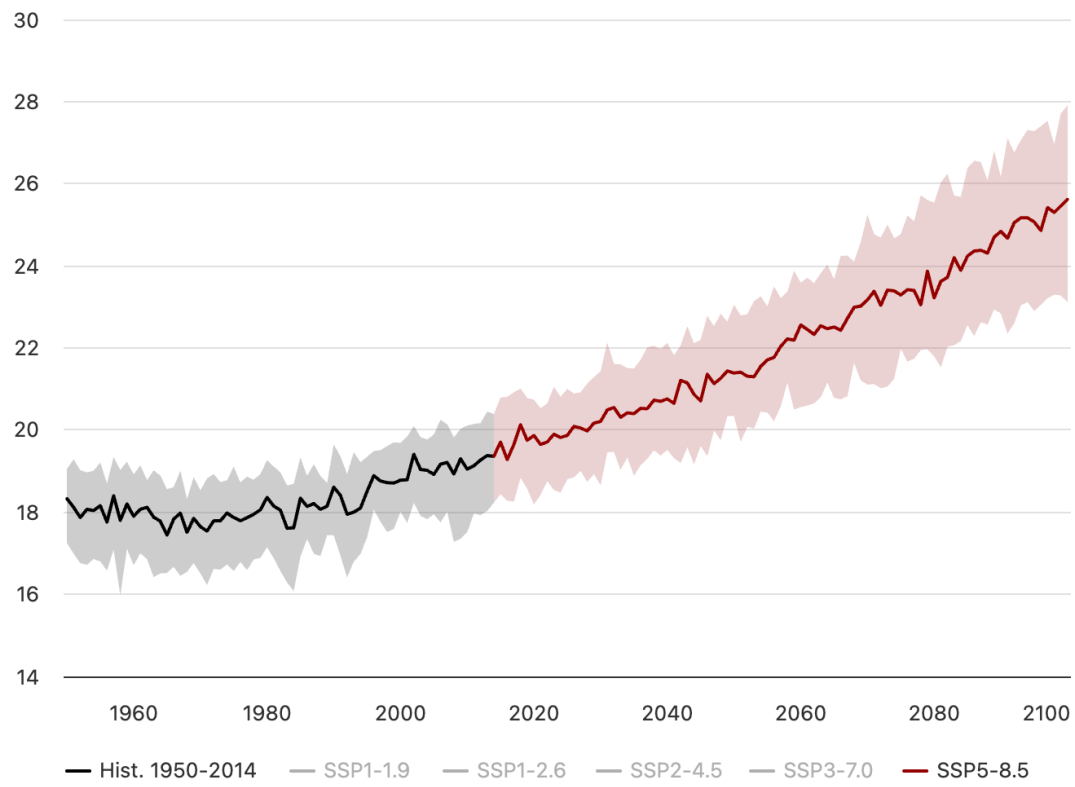


Figure 8-2 Projected average maximum surface air temperature anomaly for Fergana, Uzbekistan (Ref. 1995-2014) per scenario. (WBCCKP,2026)

The above presented temperature projections indicate that climate change effects within the Project area will result in temperature increases ranging from 1°C to 2°C. The graphs below present the projected climatology of average maximum surface air temperature for Fergana during the anticipated Project lifetime.

The projections are presented under the worst-case scenario SSP5-8.5, the maximum 90th percentile temperature is forecasted to peak in November, reaching 32.02°C between 2020 and 2039. This temperature is expected to decrease to 31.78 in July between 2040 and 2059.

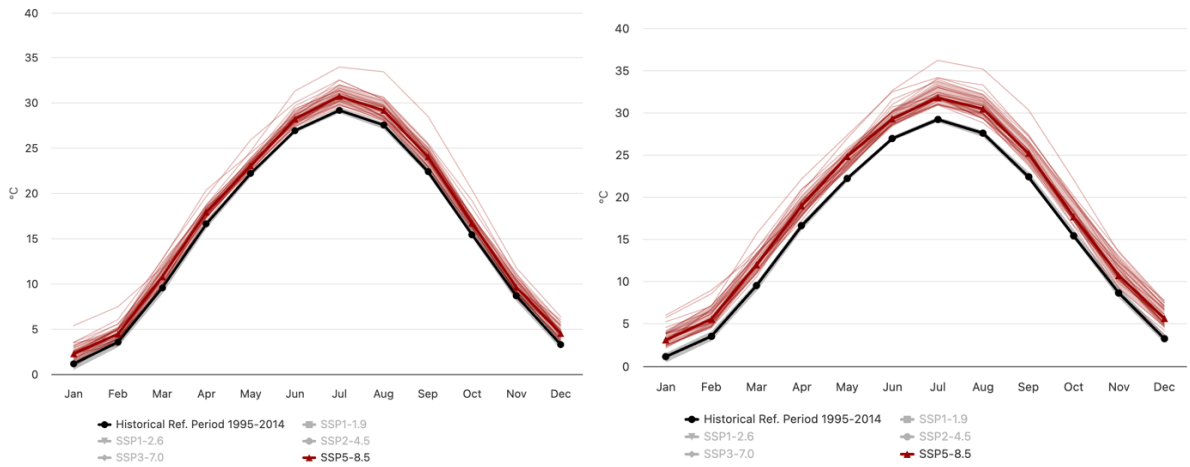


Figure 8-3 Annual maximum surface temperature for 2020-2039 (left) and 2040-2059 (right) for Fergana (Ref. 1995-2014) SSP5-8.5, Multi-Model Ensemble

Projected temperature increases in the Fergana region are expected to intensify heat stress impacts on the Proposed hospital, including higher indoor cooling demand, increased thermal discomfort, and potential strain on critical clinical and non-clinical systems. While the rooftop solar installation is expected to supply approximately 10% of electricity demand, elevated ambient and module temperatures may reduce photovoltaic efficiency during peak summer periods, when cooling demand is highest. However, the national grid connection is envisioned to provide resilience against partial solar output losses. Additionally, the Project is anticipated to incorporate passive cooling measures, high-efficiency Heating, Ventilation, and Air Conditioning (HVAC), and backup power planning to maintain service continuity under future hotter and colder conditions.

Damaging incidents resulting from climatic hazards, such as heat waves, may also pose project risks and occupational health and safety risks to workers, including injury, disability, or fatalities. The EPC Contractor will implement appropriate safeguards to manage these risks. The facility will be designed to withstand high ambient temperatures, and the plant will be equipped with a comprehensive fire protection system incorporating detection, alarm, and response capabilities to manage potential fire-related incidents effectively.

Acute physical climate risks relevant to the Project include health and safety incidents amongst operational plant workers during periods of extreme heat. The incidence of substantially high temperatures could potentially impact on the wellbeing of workers, particularly those who will not operate within units with controlled temperatures. Workers stationed in the Project's exterior, for instance, will be prone to health effects such as dehydration, and heat stress, heat stroke, heat exhaustion, heat cramps, heat rashes and burns from contact with overheated surfaces.

Vulnerability to Chronic Wind related Hazards

Changing Wind Patterns – Sandstorms/Dust Storms

Dust storms can reduce air quality, impair visibility, and lead to the accumulation of particulate matter on equipment turbines, air filters, and cooling systems, resulting in increased maintenance needs and reduced operational efficiency. Abrasive dust can cause physical damage to sensitive equipment, while poor air quality poses health risks to onsite personnel, potentially leading to respiratory issues or work stoppages. Dust storms can impact the construction workers that are exposed to such harsh weather conditions in the absence of shelter or proper mitigation. Severe dust events may also disrupt transportation and logistics, contributing to economic losses and delays in fuel delivery or equipment servicing.

Projected reductions in glacial mass and river flow in the Amu Darya and Syr Darya basins, together with rising average temperatures, are likely to accelerate the desiccation of the Aral Sea. This may intensify desertification in the surrounding area, with winds transporting sand, dust, agricultural chemicals, and salt over distances of up to 300 km from the former seabed.

Remote sensing data indicate that the area of salt-affected soils contributing to salt and dust storms increased by 36% between 2000 and 2008. Dust storms are estimated to affect 5.5 million people in Uzbekistan and, as their frequency increases with desertification, they present a growing public health risk. In addition, the projected increase in drought probability is likely to further exacerbate desertification over the coming decades.

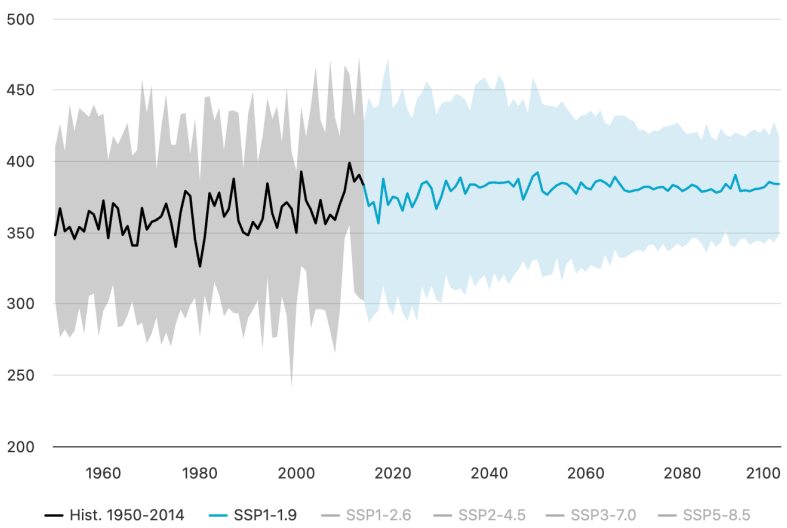
Vulnerability to Chronic and Acute Water related Hazards

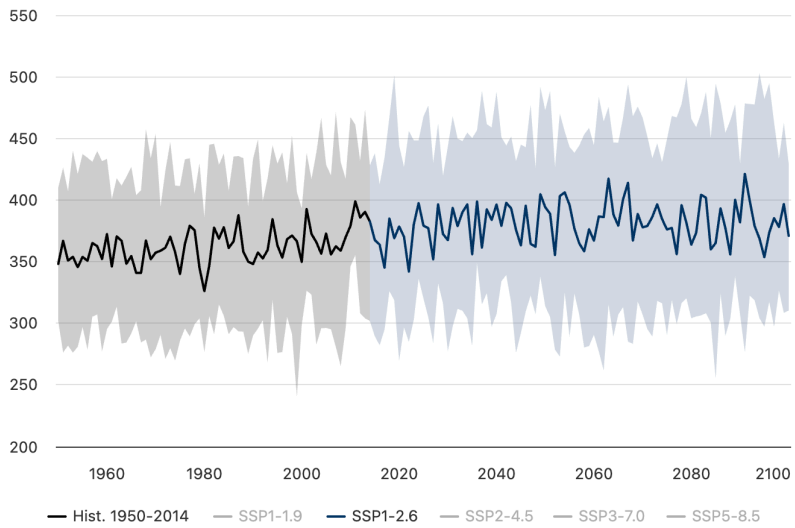
Precipitation and Hydrological Availability

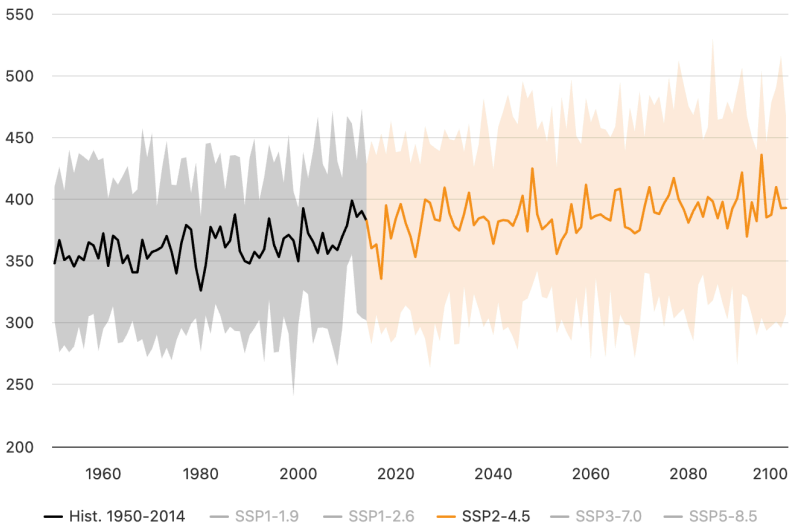
To assess the potential climate change risks during the Project's lifetime that is expected to be till 2052, the projected mean precipitation for Fergana, Uzbekistan (reference period 1950-2014) were extracted and are presented below. It is important to note that climate projections are subject to a range of uncertainties, particularly when looking several decades into the future. These uncertainties stem from variability in climate models, emissions trajectories, and natural climate variability. Under the SSP5-8.5 scenario, projections for 2052 present a 10th–90th percentile range to reflect this uncertainty, capturing both lower-end and higher-end potential outcomes. However, actual future conditions may fall outside this range due to unanticipated socio-economic developments, mitigation measures, or feedback processes not fully captured in current models.

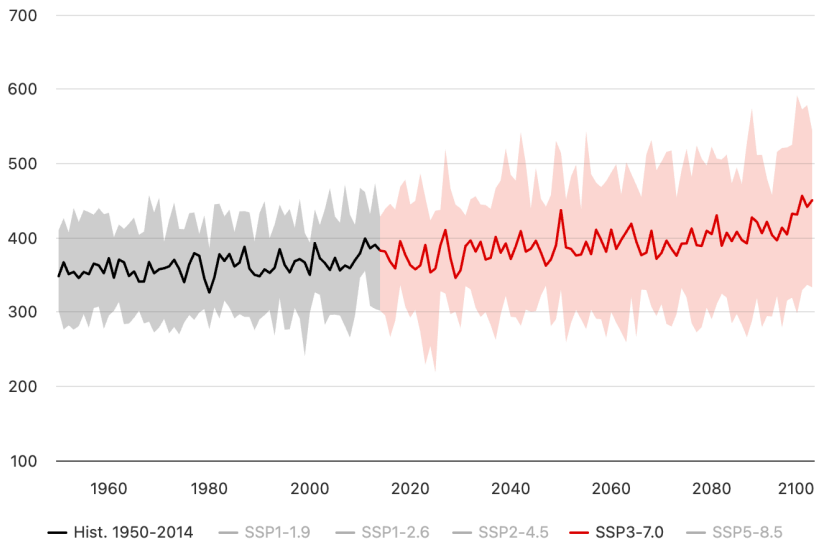
- Under scenario SSP1-1.9, by 2052, the 10-90th percentile range of mean precipitation in the Project area is 319.87 mm to 438.98 mm (median 378.86 mm).
- Under scenario SSP1-2.6, by 2052, the 10-90th percentile range of mean precipitation in the Project area is 278.76 mm to 426.4 mm (median 355.38 mm).
- Under scenario SSP2-4.5, by 2052, the 10-90th percentile range of mean precipitation in the Project area is 329.75 mm to 475.16 mm (median 383.61 mm).
- Under scenario SSP3-7.0, by 2052, the 10-90th percentile range of mean precipitation in the Project area is 285.42 mm to 482.15 mm (median 384.77 mm).
- Under scenario SSP3-7.0, by 2052, the 10-90th percentile range of mean precipitation in the Project area is 291.12 mm to 495.41 mm (median 395.03 mm).

For the period between 2040 and 2059, across all scenarios, the anticipated median (50th percentile) shows fluctuations with significant projected deviation anomalies in the future. Furthermore, precipitation levels are observed to peak in November across all scenarios.


500
450
400
350
300
250
200
1960
1980
2000
2020
2040
2060
2080
2100
Hist. 1950-2014
SSP1-1.9
SSP1-2.6
SSP2-4.5
SSP3-7.0
SSP5-8.5


550
500
450
400
350
300
250
200
1960
1980
2000
2020
2040
2060
2080
2100
Hist. 1950-2014
SSP1-1.9
SSP1-2.6
SSP2-4.5
SSP3-7.0
SSP5-8.5


550
500
450
400
350
300
250
200
1960
1980
2000
2020
2040
2060
2080
2100
Hist. 1950-2014
SSP1-1.9
SSP1-2.6
SSP2-4.5
SSP3-7.0
SSP5-8.5


700
600
500
400
300
200
100
1960
1980
2000
2020
2040
2060
2080
2100
Hist. 1950-2014
SSP1-1.9
SSP1-2.6
SSP2-4.5
SSP3-7.0
SSP5-8.5

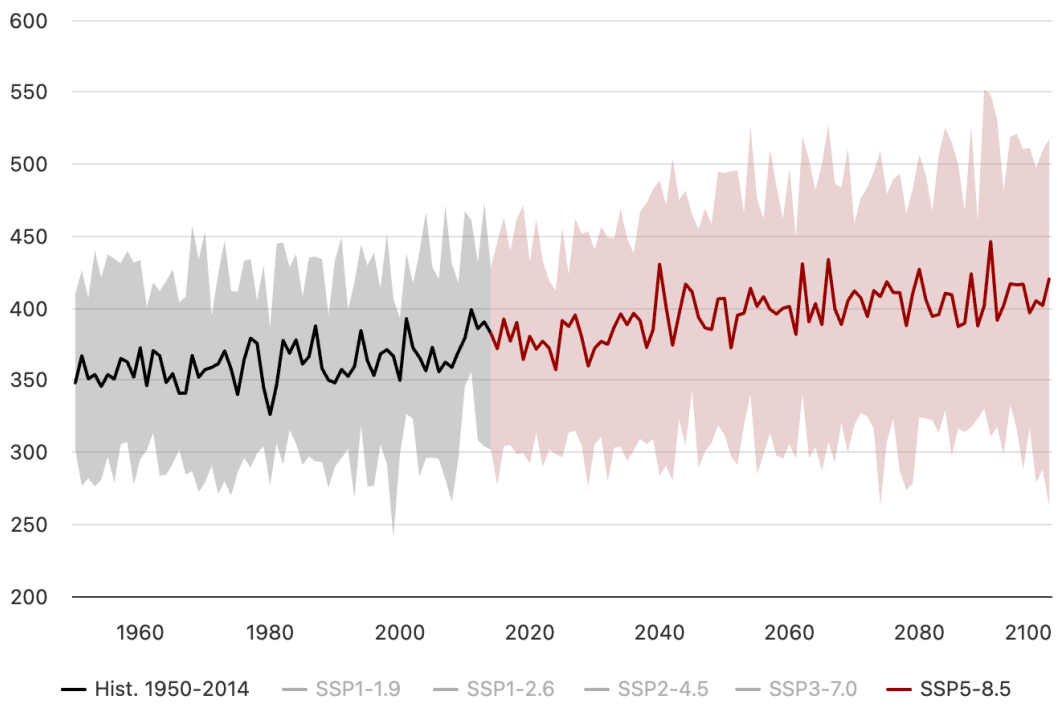


Figure 8-4 Projected Precipitation in Fergana, Uzbekistan (Ref. Period: 1950-2014) per scenario; Multi-Model Ensemble

Based on the presented precipitation projections, there are increased impacts due to increased precipitation that are anticipated in the Project area. CCKP data indicate that rainfall/precipitation in the Fergana region, within the broader Uzbekistan context, shows substantial interannual variability and no clear statistically significant long-term trend, although a slight decline has been observed in recent decades.

Floods

The Project is located within a region that faces significant climate-related risks, characterized by seasonal flood and mudflow hazards, all of which are projected to escalate over the next 20 years. While water scarcity is the primary long-term concern, the region is simultaneously vulnerable to flash floods and mudflows, particularly in foothill and mountainous districts such as Sokh, Shohimardon, and Fergana. These events are frequently triggered by heavy seasonal rainfall and are expected to occur with greater intensity due to changing precipitation regimes.

Water Stress and Drought

Uzbekistan's arid climate and persistently high temperatures contribute to the increasing occurrence of drought events. Historical records indicate an average of one drought every five years during the 1980s and 1990s, rising to four drought episodes between 2000 and 2012 (Naumann et. al. 2018). Three main types of droughts affect the country: hydrological drought, characterized by water shortages between January and March due to reduced precipitation in upstream river basins; meteorological drought, typically linked to precipitation deficits and occurring in spring and summer; and agricultural drought, defined by insufficient soil moisture to sustain crop growth.

Over the past two decades, hydrological drought has intensified in both frequency and severity, particularly in western Uzbekistan. In contrast, the central and southern regions have experienced the highest occurrence of meteorological drought. The most severe drought in recent history occurred during 2000–2001, resulting in significant economic and social impacts.

Water stress in the Fergana Valley is classified as medium to high, with systemic vulnerabilities exacerbated by heavy reliance on irrigation-dependent agriculture. Projections indicate that temperatures in Uzbekistan will continue to rise, likely increasing by 2–3°C over the coming decades, which will lead to more severe and prolonged droughts. During the 20-year operational phase, the reduction in glacial meltwater is expected to intensify existing water shortages, potentially increasing the scarcity level up to fivefold. These conditions threaten the operational stability of critical infrastructure, requiring robust water-use efficiency.

Vulnerability to Acute and Chronic Solid Mass Hazards

Soil Erosion and Degradation

The Project site is susceptible to significant impacts from soil degradation and geological instability, both of which are intensifying due to climate change and human activity. These hazards pose long-term risks to construction projects, requiring careful site selection and foundation engineering. Soil degradation in the region is extensive, with salinization being the most critical issue. In a study by Umarov et al., 2025, data indicates that the area of saline soils in the region increased significantly from 13% to 45.1% between 1990 and 2020, driven by rising temperatures, evaporation, and inefficient irrigation practices.

Change in climate patterns in the region also result in salinisation, where increased temperatures (by 0.4-0.8 °C annually) accelerate evaporation, drawing salts to the surface and altering soil chemistry. This creates corrosive conditions that can threaten the longevity of concrete foundations and underground utility systems.

In areas similar to the Project area, vehicle movement, construction activity, and limited vegetation cover increase soil compaction, decrease infiltration and enhance overland flow and rill/gully erosion during intense rain events. On land, more intense but infrequent rainfall events expected in many arid regions can exacerbate short duration water erosion, especially where soils are compacted and crusted and where drainage is poorly designed. Extended dry, windy periods between such events favour aeolian erosion of construction areas, laydown yards and unpaved access routes, particularly if surface protection measures are not in place.

Landslide

The mountainous rim and sub mountainous "Loess Belt" surrounding the Fergana Valley are highly susceptible to landslides, particularly when triggered by seismic activity or heavy rainfall. There has been a marked increase in landslide activity over the last 20 years, closely linked to changing climate patterns and increased precipitation intensity. It is noted that this hazard is highly susceptible at national level, however, due to the geological position of the proposed Project site, it is deduced that landslide risks are highly unlikely.

The proposed mitigation measures to minimise the Project's vulnerability to physical risks are detailed in the table below.

Table 8-7 Operation Phase – Physical Risks Impacts and Mitigation Measures

Potential Impacts	Magnitude of impact	Receptor	Sensitivity	Impact Significance	Residual impact
Vulnerability of the Project to chronic, temperature related hazards (temperature change and variability and heat stress)	Moderate	Project workforce	Low	Minor	Negligible
Vulnerability of the Project workforce to acute, temperature related hazards (heat wave)	Moderate	Project workforce	Low	Minor	Negligible
Vulnerability of the Project workforce to acute, wind related hazards (dust and sandstorm)	Moderate	Project workforce	Low	Minor	Negligible
Vulnerability of the Project to acute, water related hazards (drought)	Minor	Project	Low	Minor	Negligible
<u>Mitigation for extreme temperatures</u> • Ensure the Project design and material selection takes into consideration climate change risks including increased temperatures. • Detailed design and procurement shall ensure that all equipment and machines shall allow continuous operation at rated power (or rated current), in the full range of site conditions, without exceeding applicable temperature and temperature rise limits or failing upon exceptional electric and electromechanical stresses. • Incorporate robust preventive maintenance programs to address heat-related wear and tear. • Monitor long-term performance trends and update operating parameters to maintain efficiency.					

Potential Impacts	Magnitude of impact	Receptor	Sensitivity	Impact Significance	Residual impact
• Implement operational load adjustments during extreme heat periods to protect equipment. • The Project will be equipped with a fire protection system that features comprehensive fire detection and response facilities. • The following mitigation measures shall be implemented to mitigate against heat-related medical conditions, for operational labour responsible for equipment maintenance: - Workers assigned to operations in the exterior hospital building and non-shaded areas will be provided with appropriate PPE (e.g., sun hats and cooling vests). - Shaded resting areas and adequate access to potable water will be provided for workers stationed outside of the hospital's buildings (e.g., guard houses). - Maintenance work outside the hospital building (and duration, to the extent possible) will be restricted during periods of extreme heat to lessen the risk of heat-related health effects. Maintenance work within high-temperature units will be avoided during days with inordinately high temperatures. - Further information and management plans to address workers welfare should be included in the Project H&S Plan. <u>Mitigation to dust and sandstorms</u> • Install high-efficiency filtration systems on HVAC systems. • Seal sensitive equipment and install dust-proof enclosures where feasible. • Implement frequent inspection and preventive maintenance programs for air intakes, filters, and moving parts. • Maintain operational protocols for reduced activity or controlled shutdown of sensitive equipment located on highly exposed areas outside, if possible, during severe sandstorm events. <u>Vulnerability of the Project to chronic water related hazards (water stress and drought)</u> • Secure water supply agreements with water supply facilities and maintain contingency plans for sourcing additional water if needed. • Install low flow fixtures and water efficient appliances in administrative and welfare facilities. • Use leak detection systems, metering, and regular maintenance programs to reduce water losses. • Monitor regional water supply trends and maintain contingency planning for water management.					

8.2.3.4 Climate Resilience Assessment

The physical climate risk screening identified the chronic and acute hazards related to several climate related induced hazards. For a healthcare facility, these hazards can affect not only the physical integrity of assets, but also its ability to maintain safe, continuous, and effective clinical services during chronic stress and acute climate events. It is imperative to note that the Project is designed to comply with LEED, WELL, and EDGE certification, therefore the Project will be equipped with design measures that will improve and optimise resource efficiency in compliance with these certifications which will subsequently aid the reduction of the Project's physical vulnerability to climate induced hazards over the Project lifecycle.

EDGE is particularly relevant to energy, water, and material efficiency, while LEED is a broader sustainability framework that reinforces climate adaptation through integrated site planning, energy performance, water efficiency, materials selection, and indoor

environmental quality. Therefore, climate resilience is being mainstreamed into the Project's green building design rather than treated as a separate add-on.

The Project's intention to achieving LEED and EDGE certification will support climate resilience through improved energy efficiency, water efficiency, material performance, and indoor environmental quality. In addition to reducing resource consumption, these measures will contribute to adaptation by lowering thermal loads, improving water security, strengthening building performance under heat and drought conditions, and supporting better control of indoor air quality.

The Project design will be complemented by resilience-specific measures addressing flooding, utility disruption, and dust infiltration, particularly for critical areas such as emergency care, intensive care, operating theatres, diagnostics, pharmacy, etc. These provisions will support operational continuity and continuity of care under foreseeable climate stress conditions.

Although the Project is envisioned to be LEED and EDGE compliant, certification alone does not eliminate climate risk, so the hospital should still include explicit resilience measures for flood protection, backup systems, and environmental control in critical spaces.

The assessment below assessed the screened hazards covered on the above section for asset-level design resilience, operational continuity, and continuity of care. This is to ensure the healthcare facility remains functional not only as a building, but also as a life-sustaining service during climate stress events.

Table 8-8 Climate Hazard Matrix for the Operational Phase

Hazard	Asset-Level Design Resilience	Operational Continuity	Continuity of Care
Heat stress	Orient the building to reduce solar gain; use insulation, reflective roofing, shading, efficient glazing, and high-performance HVAC.	Maintain indoor thermal comfort, protect HVAC performance, and monitor temperature in critical areas.	Keep emergency, ICU, pharmacy, and inpatient spaces within safe thermal thresholds; provide cool refuge areas for vulnerable patients.
Temperature variability	Specify materials, joints, seals, and systems that tolerate thermal expansion and contraction; protect pipework and equipment.	Increase inspection, calibration, and preventive maintenance frequency.	Protect temperature-sensitive medicines, laboratory samples, and patient comfort.
Drought / water stress	Provide water storage, leak detection, low-flow fixtures, water-efficient fittings, and alternative supply arrangements.	Prioritize water use for clinical care, sanitation, sterilization, and hygiene during shortages.	Maintain infection control, cleaning, hydration, and essential clinical support functions.
Dust / sandstorms	Improve envelope airtightness, protected air intakes, high-efficiency filtration, and positive pressure in critical rooms.	Reduce filter clogging, protect mechanical systems, and restrict exposure during severe dust events.	Maintain clean-air conditions in theatres, ICUs, neonatal units, and respiratory care areas.

Hazard	Asset-Level Design Resilience	Operational Continuity	Continuity of Care
Flooding	Raise critical plant, generators, switchgear, ICT rooms, and fuel storage above design flood levels; provide drainage and backflow prevention.	Protect access routes, emergency power, communications, and recovery capacity.	Maintain emergency and inpatient services, with evacuation or patient transfer procedures if needed.
Hydrological variability	Design stormwater systems, drainage, and site grading for variable runoff; separate clean and dirty water systems.	Preserve utility functionality and avoid water ingress during heavy rainfall variability.	Prevent interruption to sterilization, sanitation, diagnostics, and waste management.

The hospital design incorporates climate resilience thus operational measures will include preventive maintenance, emergency preparedness, utility contingency planning, and staff readiness procedures. Continuity-of-care measures will ensure that essential clinical services remain available during heat, water stress, dust events, and flood-related disruption, with patient refuge, service prioritization, and transfer arrangements as necessary.

8.2.3.5 Transition Climate Risks

The requirements of the Equator Principles IV require provision for the consideration of climate transition risks, as defined by the TCFD, it is mandatory for all projects which are expected to have combined Scope 1 and 2 emissions of more than 100,000tCO2e annually should be accounted for.

Uzbekistan has signed and ratified several major international agreements and enacted national laws the aim to address climate change, GHG emissions, and climate adaptation as part of its environmental policy framework.

Uzbekistan ratified the United Nations Framework Convention on Climate Change (UNFCCC) on 20 June1993. The UNFCCC establishes the framework for international cooperation on climate change stabilisation and adaptation.

The Kyoto Protocol was ratified by Uzbekistan on 11 March 2005. The Kyoto Protocol commits to GHG emissions reduction targets. Uzbekistan focused on the adaptation, with agriculture and water management listed as first priority and commitments on reducing vulnerability to climate impacts. Furthermore, the country ratified the Paris Agreement on November 9, 2018. As a Party to these international climate agreements, Uzbekistan has established nationally determined contributions (NDCs) that guide the country's climate action framework. The current NDC 3.0, submitted at COP30 in November 2025, commits Uzbekistan to a 50% reduction in GHG emissions by 2035, and carbon neutrality by 2055. This represents an escalation from the previous NDC 2.0 target of 35% reduction by 2030, demonstrating the country's enhanced climate ambition.

National Climate Adaptation Priorities Relevant to Healthcare Infrastructure

Climate change adaptation is a priority policy area for Uzbekistan as it is aimed at reducing vulnerability to climate impacts, with particular focus on water management, agriculture, social sector infrastructure, and ecosystems. The updated NDC presents adaptation measures specifically for the social sector, which encompasses healthcare facilities.

Uzbekistan's climate is characterised by arid continental conditions with extreme summer temperatures reaching 45-49°C, minimal precipitation (80-200 mm annually in plains), seasonal and day-to-night temperature fluctuations, and increasing frequency of natural disasters including mudflows and avalanches expected through 2050. These climate conditions have direct implications to hospital infrastructure design, including requirements for cooling systems, water security, and resilience to extreme weather events at the broader national level. However, in line with the physical risk assessment undertaken, these risks are considered to have low impacts on the Project with the implementation of the sustainable building design measures and energy efficiency systems.

Renewable Energy and Green Technology Integration

Uzbekistan has set ambitious renewable energy targets that are relevant to hospital infrastructure development, including a mandate to achieve 40% of electricity production from renewable sources by 2030 (27 GW capacity). This objective, voted by the Uzbek Senate, is projected to save 25 billion cubic meters of natural gas and reduce emissions by 34 Million Tonnes of Carbon Dioxide Equivalent ($MtCO_2e$). The proposed Project contributes to these targets as it incorporates renewable energy systems (such as solar photovoltaic panels) and energy efficient technologies that align with national policy direction and supports compliance with lender requirements.

Uzbekistan's Third Nationally Determined Contribution (NDC 3.0), submitted in November 2025, explicitly addresses climate-resilient healthcare systems as a national adaptation priority. The adaptation measures in the healthcare sector focus on strengthening the medical service system to address climate-related risks to human health. The NDC identifies climate-resilient healthcare systems as one of the key adaptation priorities alongside strengthening water resource management and increasing agricultural resilience. This prioritization reflects Uzbekistan's recognition that healthcare infrastructure must be designed and operated to maintain critical functions during climate-related extreme weather events, heat waves, and natural disasters such as mudflows and avalanches that are expected to increase through 2050.

In addition to the above, the table below presents an overview of a preliminary review of the Projects compatibility with the Country's National Climate Commitments (NCC).

Table 8-9 Preliminary NCC Compatibility Review

ASPECT	APPLICABILITY AND OVERVIEW
List of "Universally Not-Aligned" with the Paris Agreement goals	These include the following Projects: • Mining of thermal coal • Electricity generation from coal • Extraction of peat • Electricity generation from peat The Project does not feature in the "Universally Not-Aligned" activities.
List of Projects aligned with the Paris Agreements	As the Project is envisioned to be developed as a Green Building with renewable energy integration, and energy efficiency; the Project is deduced to be within the "Universally Aligned" activities.
Nationally Determined Contributions	The Project contributes to Uzbekistan's NDC framework as it is proposed to be a climate resilient healthcare facility in line with the need for the country to strengthen the medical service system against climate-related risks to human health.

ASPECT	APPLICABILITY AND OVERVIEW
Long Term Strategies	Uzbekistan's long-term climate direction is aligned with deeper decarbonization and a transition toward carbon neutrality. The country has indicated a long-term ambition of carbon neutrality by 2055, supported by policies on renewable energy expansion, climate adaptation, green growth, and improved resilience of key sectors. This long-term trajectory is relevant to the Project due to its long operating lifespan that is further designed to remain resilient and energy efficient over the Project life cycle.
Low Carbon Pathway	While the project does not represent an addition to the country's renewable energy base, it serves the purpose of utilising modernised, efficient and relatively clean combustion technologies for power input and utilisation as the opted technologies will be sourced from the national grid and others reliant on natural gas rather than fossil fuels. Furthermore, the Project has integrated a rooftop Solar PV for provision of approximately 10% of the required power input.

As Uzbekistan is moving towards a lower-carbon, climate-resilient development model, it is anticipated that public buildings, including health facilities, will be increasingly expected to meet higher thermal comfort and energy performance standards. The proposed Project is to be developed in compliance with green building standards and rating systems such as LEED and EDGE certification; therefore, it is deduced that policy changes and further strategies that will be implemented in Uzbekistan will not affect the viability of the Project long term.

Therefore, the Project is likely to be favourable rather than constrained by Uzbekistan's policy direction, provided it maintains high energy efficiency and resilience standards, it is further anticipated that LEED and EDGE design compliance will help future-proof operating costs, reduce carbon exposure, and strengthen compliance with emerging sustainability expectations.

Transition Risk Screening

Transition risks for the proposed Project over the span of the 20-year operational timeframe is assessed for the following themes,

Policy and Legal Risk: Uzbekistan's climate and energy policies are supportive of decarbonisation, renewable energy integration/expansion, and climate-resilient infrastructure, which is the proposed Project is aligned with, and subsequently broadly positive for the Project's long-term outlook for a LEED and EDGE compliant hospital with rooftop solar PV. The main policy risk is not that the project is misaligned, but that future national requirements may become more stringent, particularly around building energy performance, rooftop solar deployment, and emissions reporting. The project will need to remain flexible enough to accommodate evolving national climate commitments and any strengthening of green building or distributed generation rules. Overall, this is a moderate transition risk, because policy direction is currently favourable but likely to tighten over the project lifecycle.

Market Risk: The Project's reliance on the national grid for the provision of approximately 90% of its electricity exposes it to future electricity tariff adjustments, fuel price fluctuations, and wider power-sector reform dynamics as Uzbekistan expands renewables and modernises its electricity system. As the grid decarbonizes, the hospital may benefit from a lower-carbon electricity supply over time, but near- to medium-term operating costs could rise if tariffs increase.

The proposed rooftop solar PV system that is envisaged to cover 10% of power demand, will partially cover against these market risks by reducing purchased electricity demand and improving energy cost predictability. This risk is therefore moderate.

Technology Risk: Green buildings and rooftop solar are both energy efficient. The main technology risk lies in ensuring that the PV system, inverters, backup systems, and building energy management systems are properly specified, commissioned, and maintained so that they deliver the intended 10% electricity contribution reliably over time. A hospital also has continuous power requirements, so the design must ensure that solar PV complements, rather than substitutes for, robust grid supply and backup power arrangements.

Reputation Risk: As the hospital will rely primarily on the national grid, with rooftop solar contributing only a limited share of total electricity demand, there is a risk that external stakeholders could perceive the project's sustainability messaging as overstated if the solar component is presented as a major decarbonisation measure. Hospitals are reputationally sensitive because the public judges them on continuity of care, not just infrastructure quality. If the hospital is associated with grid instability, energy shortages, or any perception that the solar component is a publicity layer rather than a resilience measure, confidence in the facility can suffer.

The project company should also maintain high standards of procurement transparency, stakeholder engagement, and disclosure to reduce the risk of criticism related to greenwashing, governance, or misrepresentation of environmental performance.

9 Noise and Vibration

9.1 Applicable Requirements and Standards

9.1.1 National Standards

SanPiN No. 0267-09 'Sanitary norms and rules for ensuring acceptable noise levels in residential and public buildings and on residential development territories'

This law sets out the acceptable noise levels for habitable areas both inside and outside of buildings in Uzbekistan as shown in the following table.

Table 9-1 Noise Limits under SanPiN No.0331-16

Location	Time	SanPiN No. 0331-16
Noise levels in premises of residential, public buildings and on the territory of residential areas	7am to 11pm	55dB $L_{Aeq,T}$
	11pm to 7am	45dB $L_{Aeq,T}$
Offices, commercial	7am to 11pm	45dB $L_{Aeq,T}$

Uzbekistan's Sanitary Rule on Noise Levels in Residential Areas (SanQvaM 0008-20) sets limits of 35 dBA daytime and 25 dBA nighttime inside hospital wardrooms and surgery rooms, and 45 dBA daytime/35 dBA nighttime in adjacent areas

SanPinNo. No 0325-16 Sanitary standards for permissible noise levels in the workplace

This law aims to protect the health of the staff and workers in the workplace. The law represents noise levels for a variety of internal and external application as shown in Table 9-2.

Table 9-2 Work Environment Noise Limits

Type of work, Workplace	Requirement
Performing all types of work on the permanent workplaces in industrial premises and in the enterprises	80dB $L_{Aeq,T}$

The national standards for vibration levels in residential houses are provided in SanN&R № 0331-16 "Residential house design in climatic conditions of Uzbekistan". For residential houses, the standard is 67 dB for nighttime and 72 dB for daytime, with a frequency of 37 and 61 Hz. For non-continuous vibration, the standards should be decreased by 10 dB. However, the standard does not provide any coefficient/allowance for non-frequent events such as passing trains. For the construction phase, the vibration limit will be 72 dB.

Table 9-3 National Vibration Standards

Period	Permanent Vibration, dB
Daytime	72
Nighttime	67

9.1.2 Lender Requirements

The Project is expected to be financed by the IFC, with other potential lenders to be confirmed in the ESIA.

9.1.2.1 IFC/WBG Guidelines

The IFC/World Bank Group, 'Environmental Health and Safety Guidelines' (General EHS Guidelines) reference the WHO Guidelines for Community Noise, which are set out in the table below.

Table 9-4 WHO Guideline for Community Noise

Receiver	General EHS Guidelines	
	Daytime (7.00 am – 10.00 pm)	Night Time (10.00 pm – 7.00 am)
	LAeq, 1hr dB	
Residential, Institutional, Educational	55*	45*
Offices, commercial, industrial	70	70

* Noise impacts should not exceed the levels presented above or result in a maximum increase in background levels of 3 dB(A) at the nearest sensitive receptor location off-site.

9.1.2.2 EBRD

The European Commission's Environmental Noise Directive (Directive 2002/49/EC) is the primary EU legislation governing the assessment and management of environmental noise. It aims to identify noise pollution levels and prompt necessary actions at both the Member State and EU levels. The Directive applies to noise exposure affecting humans, particularly in built-up areas, public parks, quiet zones within agglomerations or open countryside, and near noise-sensitive locations such as schools and hospitals. However, the Directive does not establish specific noise limit or target values, nor does it mandate particular measures in noise action plans, leaving these decisions to the competent authorities of Member States.

In alignment with the Directive and lender requirements, EBRD's ESR3 specifies that clients must assess noise and vibration impacts based on a comprehensive environmental and social risk assessment. This involves collecting baseline data, identifying key receptors, and evaluating both negative and positive impacts of the project, ensuring compliance with national legislation and relevant Performance Standards.

Furthermore, the EBRD requires that the most stringent thresholds between applicable EU, local, and lender standards be applied to the project.

9.1.2.3 World Health Organisation – Hospital Specific Standards

The World Health Organisation (WHO) Guidelines for Community Noise (1999) state that hospitals should be treated as sensitive institutional receptors. It is required that the facility comply with the strictest indoor noise criteria applicable to ward rooms and treatment rooms outlined as follows;

- Nighttime noise levels shall not exceed 30 dB LAeq over 8 hours, with maximum noise levels of 45 dB Lamax to avoid sleep disturbance,
- Daytime and evening noise in ward rooms should be maintained as low as possible in ward rooms. For hospital treatment rooms, indoor noise levels should not exceed 70 dB LAeq over 24 hours, recognizing the need to avoid interference with rest and recovery.

9.2 Baseline Conditions

Primary noise and vibration sources at the site are operational activities of the Fergana International Airport, located approximately 1 km away from the Project development site. Moreover, the proposed development is part of the Fergana Eco City masterplan where developments are being carried; thus it is envisioned that development activities inclusive of construction activities may occur in proximity to the area of influence.

9.3 Survey Methodology and Findings

Baseline noise levels were measured at the proposed project site over five consecutive days. Monitoring was conducted using a calibrated Class 1 sound level meter (Scarlet ST-12D) in accordance with internationally recognised standards for environmental noise monitoring between 28 April to 3 May, 2026.

Measurements were recorded continuously over 24-hours at each location and captured the following acoustic parameters:

- Equivalent Continuous Sound Level (L_{eq}, dB(A)); and
- Statistical Noise Levels (L_N), comprising L_{10}, L_{50}, and L_{90} (dB(A)).

Four monitoring locations were established for the survey with two positioned within the Project site boundary and two at locations external to the site boundaries to characterise prevailing background noise conditions as detailed in the following table.

Table 9-5 Noise Monitoring Location Coordinates

Monitoring Location ID.	Coordinates	Notes
NM 1	40°21'53.95"N, 71°43'52.16"E	Located within the project site boundary
NM 2	40°21'51.17"N, 71°43'49.10"E	Located within the project site boundary
NM 3	40°21'53.96"N, 71°43'34.32"E	Located outside the project site boundary; representative of background noise levels in the vicinity of the close by residential settlement and adjacent to quarry operations.
NM 4	40°21'48.63"N, 71°44'4.04"E	Located outside the project site boundary; representative of background noise levels in the direction of Fergana International Airport.

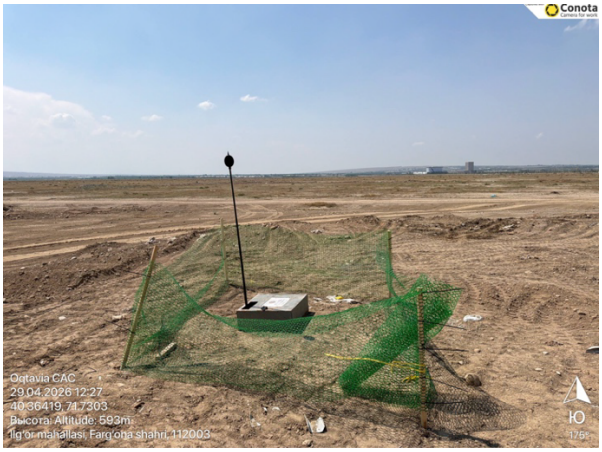
Note: NM; Noise Monitoring

The locations of all monitoring points are indicated in the following figure.

Figure 9-1 Noise Monitoring Locations

Additionally, photographs of the installed equipment are shown on the following figure, equipment integrity was maintained throughout the monitoring period with site specialists conducting periodic inspections of the sound level meter and checking instrumentation function at each location.

NM 1



NM 2

NM 3

NM 4

Figure 9-2 Noise Monitoring Equipment Installation Within the Identified Monitoring Locations

During the baseline site survey undertaken on 28 April 2026, it was observed that some parts of the Project footprint were being used for the movement of heavy machinery (from neighbouring sites, with the storage of some construction materials and excavated soil/rubble on the boundary/just off-site; from the same neighbouring developments.

During the baseline surveys undertaken in April 2026, observed construction noise influences included:

- Construction related noise from construction machinery used at nearby building sites whilst carrying out earthworks and transport operations to excavate soil for building foundations, the removal of soil by specialised vehicles, and noise from bucket excavators during earthworks.
- Loading and unloading building materials, the clanging of metal, the creaking of construction cranes, specialized vehicles and other mechanical noises.

- Loud voices (i.e. shouting) from construction workers on nearby plots.

Bucket excavator works

BULLDOZER WORKS

Work being carried out on the adjacent site using specialist machinery; photo taken from the project site.

Figure 9-3 Ongoing construction activities observed near the Project site

Another prominent, but irregular source of noise in the Project area emanates from the operation of the nearby Fergana Airport. The airport has limited operations and is understood (based on flight tracking data) to handle approximately 7 passenger flights a day,

including both domestic and international flights, as well as occasional military flight operations. Short duration noise impacts from aircraft operations occur during ground running (inc. engine start-up, push-back and taxiing), with increased noise during take-offs and landings. An example of a flight take-off observed from the Project site is shown in the below figure. At its nearest point to the site, the airports runway is just over 1km from the site boundary and there are limited intervening structures (besides a short perimeter security wall), topographical features or vegetation that reduce the noise propagation to the site. The main reductions in noise occur due to propagation by distance and an amount of ground absorbance.

During the Lender's site visit undertaken in June 2026, a distant 'booming' noise was observed by the site visit team. During a subsequent meeting, the local government confirmed that there were no military training areas or quarrying activities within approximately 35 km of the site. The noise was therefore considered more likely to be associated with construction activities within the Eco-City. The nature of the noise was similar to that experienced at other construction sites, where the trailer of a loader swings and collides with the truck bed following the dumping of a load.

Figure 9-4 Morning flight departure observed from site at Fergana Internation Airport

The noise sampling result of the project location are presented in the following table.

Table 9-6 Noise Monitoring Results in Comparison to the Applicable Standards

Location	Leq	L90	Lmax	Lmin	National Standard		IFC/WBG Ambient Noise Level Guidelines	
					Day time 07.00 – 23.00	Nighttime 23.00 – 07.00	Day time 07.00 – 22.00	Nighttime 22.00 – 07.00
NM1	41.35	34.77	59.72	31.54	55	45	55	45
NM2	40.93	34.33	59.03	31.53				
NM3	40.63	33.89	58.77	30.24				
NM4	39.44	32.76	57.42	29.4				
Average	40.59	33.94	58.74	30.68				

The ambient noise monitoring at the proposed project site recorded average equivalent continuous sound levels (Leq,T) ranging from 39.44 to 41.35 dB(A) across the four monitoring locations. These values are consistent with a low-to-moderate noise environment and fall within the daytime limits prescribed under both the Uzbekistan national standards (SanPiN No. 0267-09) and the IFC EHS Guidelines (2007) for residential receptors. The average baseline noise environment is therefore considered acceptable relative to applicable daytime standards.

Maximum noise levels (Lmax) of up to 59.72 dB(A) were recorded, primarily attributable to transient construction equipment and vehicle movements in the vicinity of the monitoring points. Aircraft noise may also reach a similar maximum level at the site boundary and given noise of a Boeing 737 (expected to be the largest aircraft operating rom Fergana Airport) at take-off of approximately 120 dB(A) (at 10m) and a distance of >1km, with an intervening solid airport boundary fenceline and other loses due to ground absorbance, the temporary noise level would be in a similar range to this.

9.4 Potential Impacts, Mitigation and Management

9.4.1 Receptors

Noise and vibration range of impacts are likely to be within a zone of 2 km due to noise attenuation propagation over distance. The pre-identified sensitive receptors within this zone are as outlined below.

Table 9-7 Sensitive Noise Receptors

Receptor	Distance from Project	Receptor Type	Receptor Sensitivity	Justification
Fergana International Airport	1 km (distance to the runway; 3km from the airport building)	Transportation	**Low**	Due to the nature of the receptor and the activities associated with the operational activities related to noise emissions, impacts to this receptor are negligible.

Receptor	Distance from Project	Receptor Type	Receptor Sensitivity	Justification
Teamdress workwear (industrial facility)	1 km	Industrial	**Low**	Due to the nature and distance of this receptor, it is considered to be of low sensitivity for noise emissions.
Construction workers	<200 m	Industrial	**Medium**	Due to the nature of this receptor, it is considered to be of medium sensitivity for noise impacts due to the presence of human receptors that will be susceptible to cumulative impacts of construction activities, however for a limited time.
Future Eco City Development (in proximity to the Project)	<200 m	Residential/Commercial	**Medium**	This receptor is considered medium sensitivity due to potential presence of human receptors and potential noise impacts.
Eco City Residents	562 m	Residential	**High**	These receptors are considered to be of high sensitivity for noise as it has human receptors. However, considering the distance to the project and the fact that the area has several ongoing construction activities, significant impacts are not anticipated.
Nearby Community	1 km			

9.4.2 Potential Impacts

9.4.2.1 Construction Phase Impacts

Construction Site Noise

The spatial extent of construction noise will typically be local and largely limited to within the immediate surroundings of the works. The duration of the impact will be short considering individual noise emission events relative to the lifespan of the project. The frequency of occurrence is high as noise emissions will likely occur almost daily, but noise emissions from construction activities are temporary and cease once construction is complete.

Construction activities for the Project will result in temporary and short duration increases in noise and vibration levels. Pertinent construction activities at the project site in relation to noise are likely to include:

- Construction traffic and vehicle movements;
- Site Preparation (e.g. earthworks, compaction);
- Installation of foundations;
- Construction of civil structures; and
- Mechanical installation works.

The accumulation of noise from the above sources can introduce potential cumulative impacts when generated in tandem.

The anticipated construction equipment/machinery to be used at the site for various construction activities together with noise data for this equipment are presented in the

following table as obtained from 'BS 5228-1:2009 - British Standards: Code of practice for noise and vibration on construction and open sites'.

Table 9-8 Noise Level of Typical Construction Equipment

Construction Activities	BS 5228-1:2009 Reference	Equipment	SPL dB (A) at 10m
Site clearance	Table C.2, 5	Tracked Excavator (16t)	76
Earthworks	Table C.2, 13	Dozer (11t)	78
	Table C.2, 19	Tracked Excavator (25t)	77
	Table C.2, 28	Wheeled Loader	76
	Table C.2, 38	Roller (18t)	73
	Activity Total		**80.3**
General site activities	Table C.4, 2	Articulated Dump Truck (23t)	78
	Table C.4, 15	Fuel tanker Lorry (11t)	76
	Table C.4, 22	Large Concrete Mixer (26t)	76
	Table C.4, 40	Mobile Telescopic Crane (80t)	66
	Table C.4, 65	Tracked Excavator (21t)	71
	Table C.4, 84	Diesel Generator	74
	Activity Total		**79.6**

The predictions assume that each piece of equipment will only be operational for 50% of the working day. The predictions also work on the basis that all of the equipment is located at the same location within the boundary of the site (as a worst-case assumption).

A basic modelling calculation using equations set out in Annex F of 'BS5228-1:2009 Part 1 Noise' has been used to predict the effects of distance propagation and ground absorbance. The adjustment due to distance attenuation has been made based on the nearest sensitive receptor being >500m from source and using the equation '25*LOG(10/Distance to receptor)+2'.

The noise calculation on receptors within the AoI is presented below with adjusted noise levels from the Project's construction; based on the activity total for 'Earthworks' (80.3 dBA) has been used.

Baseline noise from the noise survey has been included to estimate a conservative cumulative noise level that can be expected at the nearest Eco City Residence accounting for distance attenuation only.

Table 9-9 Cumulative Noise Assessment

Receptor	Daytime Baseline Noise Level (dBA)	Distance from Source (m)	Anticipated Construction Noise at Receptor Location (dBA)	Cumulative Noise Level (dBA)	Change from Baseline (dBA)
Eco City Residents	41.35	562	38.5	**43.2**	**1.85**

From the results, the change in noise levels at the Eco City residents, will increase to approximately 1.85 dB(A) in comparison to the existing baseline noise levels, potentially resulting in minor nuisance at this closest residential receptor. It is further noted that this is a very conservative assumption and assumes that all construction activity is occurring at the project boundary at the same time, when is unlikely to occur. Hence, in reality noise impacts are likely to be reduced from this calculation.

The vast majority of construction activities will be limited to the daytime, but may involve extended working hours up to 10 PM for less intensive tasks. Occasional night works during concrete slab pouring, will be necessary due to the construction method. These will only be conducted with prior approvals and community notifications (as per the SEP), in order to inform and where possible mitigate potential noise disturbance to nearby communities. Overall and based on the assessment presented above, construction noise impacts on residential areas are expected to be Minor and with mitigation potentially **Negligible**.

Increased noise levels can also impact construction workers with the impacts significance considered Moderate prior to mitigation. Construction workers who will be conducting noisy activities will be provided with the required training and hearing protection, therefore impacts on construction workers are considered to be **Minor**.

Vibration

Certain construction processes, particularly those involving site preparation and civil works to improve soil-bearing capacity, soil structure and ground stabilization, such as clearing, breaking, piling, and vibratory rollers, can potentially cause vibration within the vicinity of the construction activity. Vibration, to a lesser extent, is also anticipated to occur around the construction site due to vehicle movement of materials and equipment.

Vibration tends to dissipate rapidly as it propagates, losing energy with distance from the source. Nearby receptors may experience temporary vibration-related disturbances.

Construction activities likely to generate vibration, such as piling and the use of vibratory rollers, are expected to occur only during the early stages of the project. As a result, any potential vibration impacts are anticipated to be short-term and limited in duration, therefore these are deemed to be insignificant and are not assessed further.

9.4.3 Impacts Assessment Summary – Noise and Vibration Impacts during Construction

A summary of potential impacts from construction activities on the receptors are presented in following table including suggested mitigation measures and residual impacts after implementation of mitigations measures.

Table 9-10 Construction Phase - Impacts and Mitigation Measures

Potential Impacts	Magnitude of Impact	Receptor	Sensitivity	Potential Impact Significance	Residual Impacts
Construction Site Noise	Moderate	Construction Workers	High	Moderate	Minor

Potential Impacts	Magnitude of Impact	Receptor	Sensitivity	Potential Impact Significance	Residual Impacts
	Minor	Nearby residential Community	High	Minor	Negligible

Mitigation measures for Construction Site Noise

- If construction activities are to take place outside day-time working hours, relevant permits and authorisation from local authorities will be required and notification shall be posted in regard to potential for specific noisy activities to the nearby residential and commercial community.
- Where possible, the highest noise emitting activities should be undertaken in a central site area and away from boundaries.
- In case of potential cumulative noise impacts arising, nearby residential and commercial community will be given prior notice about cumulative construction activities that could generate noise.
- Limit machinery and vehicle movements to defined work area and designated access and roads.
- Limit the number of generators that are operating at the same time.
- Select construction equipment based on GIIP.
- Locate fixed and mobile plants (e.g. generators) with consideration of nearby sensitive receptors.
- Select and use the quietest machinery and equipment that can economically undertake the work wherever possible.
- Operators of construction machinery and equipment will be informed of the potential noise problems and of techniques to minimize noise emission through a continuous process of training and inspection.
- Use well-maintained mufflers and noise suppressants for high noise generating equipment and machinery where applicable, such as compressors, electric motors, machines, etc.
- Develop a regular inspection and scheduled maintenance program for vehicles, machinery, and equipment to be used throughout the construction phase for early detection of issue to avoid unnecessary elevated noise levels. Upon detecting any vehicle or machinery that emits unacceptable amount of noise will be ordered for removal from work until it is repaired.
- Turn off any equipment, machine or vehicle not in use.
- Ensure that all vehicles and machinery used through the execution of the project are properly licensed.
- In the event of a noise complaint noise monitoring will be carried out at the relevant receptor, by an approved third-party entity. Monitors shall be located approximately 1.5m above the ground and no closer than 3m to any reflecting surface (e.g. wall). Monitoring reports will be maintained onsite.
- In areas where noise levels may exceed 80 Decibels (dB) (e.g. excavation and grinding activities and/or workers exposed to excessive noise generating equipment and machinery), noise monitoring shall be undertaken for at least 10 mins during peak activities. If 80 dB (LAeq) is exceeded, appropriate hearing protection shall be provided to all workers, this will be based on noise levels and location but can include ear plugs, semi-insert ear plugs, ear protection or earmuffs. It must be ensured that such hearing protection is worn by all affected personnel at all times. Ear plugs or earmuff shall have a Noise Reduction Rating (NRR) of at least 20 to 30 Decibels. Results will be compared against allowable national limits as well as limits included within the IFC General EHS Guidelines.
- Safety signs must be installed in areas where noise is expected to be greater than 80 dB to require the use of appropriate Personal Protective Equipment (PPE) (i.e. hearing protection).

9.4.4 Operation Phase Impacts

During normal operations, noise levels from the hospital are not expected to be significant, or to vary from a typical urban building. The primary potential sources of noise include traffic movements related to the operation of the hospital, rather than from dedicated hospital vehicles or fixed plant. These movements will include staff commuting, patient and visitor access, service and delivery vehicles, and occasional ambulance movements associated with emergency response.

Ambulances will generate short-duration, high noise levels due to the use of sirens; however, these will be intermittent and be used for emergency situations as is common globally for emergency services. The extent of siren use will be determined by the ambulance teams and are expected to depend on factors such as road traffic volumes in the local and surrounding areas of operation. More generally, traffic associated with the hospital is expected to integrate with existing (and future) urban traffic flows within the Eco City development.

HVAC systems present another source of noise from the project. In addition, noise during the operation phase will be from the occasional operation of back-up emergency diesel generators, however it is understood that these will be utilised in emergency black-out situations and for short duration testing that should last a matter of minutes per event.

It is to be noted that due to the nature of the Project, vibration and related impacts are not anticipated from the hospital.

Noise Impacts to the Hospital

By the time the hospital becomes operational, the construction activities (observed Durgin the baseline) currently occurring on surrounding plots within the Eco-City are expected to have largely been completed. Accordingly, the construction noise observed during the baseline monitoring and site visit is unlikely to be representative of the long-term operational noise environment. However, given the phased development of the wider Eco-City, construction activities may continue on other plots during the early years of hospital operation. Such activities could result in temporary and intermittent increases in noise levels experienced at the hospital, depending on the location, nature and duration of the works.

Once the Eco-City becomes more developed and occupied, road traffic is expected to represent a more persistent source of ambient noise. This will include traffic generated by the hospital itself, including staff, patient and visitor vehicles, service and delivery vehicles and ambulances (with sirens), together with traffic associated with other operational developments within the surrounding Eco-City. Traffic noise levels can therefore be expected to increase from those presently experienced as development and occupation of the Eco-City progresses.

Noise associated with aircraft operations at Fergana International Airport is also expected to remain perceptible at the hospital during operations. This is likely to be most noticeable during aircraft take-off and landing events, with potential additional contributions from aircraft ground-running and other airport activities. Such noises will remain intermittent and associated with individual aircraft movements rather than representing a continuous source.

Given the nature of the development, the hospital itself represents a noise-sensitive receptor. As the hospital is required to achieve EDGE certification (as per the minimum technical specifications), the Project will be incorporating appropriate building design and acoustic performance measures to provide suitable internal conditions for patients, staff and other building users. Detailed design is on-going (at the time of this ESIA) but this will include consideration of façade, glazing and other building-envelope specifications appropriate to the anticipated external noise environment, to ensure compliance with the WHO Community Noise Standards, which include specific noise requirements for hospital wards.

The WHO Guidelines for Community Noise (1999) identify the following relevant guideline values for hospital environments:

- For ward rooms, indoor noise levels should be maintained as low as practicable, with guideline values of 30 dB LAeq and 45 dB LAmax during nighttime periods to minimise sleep disturbance.
- For treatment rooms, indoor noise levels should be maintained as low as practicable, with LAeq levels not exceeding 35 dB where practicable.

9.4.4.1 Impacts Assessment Summary – Noise and Vibration Impacts during Operation

A summary of potential impacts during the operational phase are presented in following table including suggested mitigation measures and residual impacts after implementation of mitigations measures.

Table 9-11 Operation phase – Impacts and Mitigation Measures

Potential Impacts	Magnitude of Impact	Receptor	Sensitivity	Potential Impact Significance	Residual Impacts
Noise from traffic and occasional use of backup generators	Minor	Nearby residential Community Admitted Hospital Patients Project Operational Workforce – clinical and non-clinical	High	Minor	Negligible
<u>Mitigation measures for Noise from traffic and occasional use of backup generators</u> • Install acoustic enclosures or soundproof housings around the backup generators to significantly reduce airborne noise. • Fit critical-grade mufflers or silencers on the generator exhaust system to minimize exhaust noise. • Use anti-vibration mounts or pads beneath the backup generators to reduce structure-borne noise transmission. • Apply sound-absorbing materials (e.g., acoustic panels) on walls and ceilings. • Restrict routine testing and maintenance of backup generators to daytime hours only, avoiding early morning or night-time operations. • Conduct regular maintenance and tuning of the backup generators to ensure efficient performance and minimize abnormal noise.					

9.5 Monitoring

The EPC Contractor and the FM Co. will undertake noise monitoring on a periodic basis during both the construction and operational phases of the project respectively. The minimum expected requirements for the noise monitoring are outlined in the table below.

Table 9-12 Noise Monitoring Requirements

Monitoring	Parameter	Frequency & Durations	Location	Responsibility
Construction				
Day time noise	Leq(A)	Monthly for 1-hour period	At NM 3, NM 4 and the nearest Eco City Residential property	EPC Contractor
Nighttime noise (if nighttime works are conducted)				EPC Contractor
Indoor noise levels within the hospital	Leq(A) Lmax	Following construction and prior to operations	Within a representative sample of hospital wards and treatment rooms	EPC Contractor
Operation				
Generators noise emissions	Leq(A)	Upon receipt of grievances related to noise emissions	To be determined based on the nature of the complaint.	FM Co.

10 Terrestrial Ecology

10.1 Applicable Requirements

10.1.1 National Standards

The Law of the Republic of Uzbekistan "On Nature Protection" (1992 as amended in 2024)

This law serves as the fundamental legal framework for environmental protection in Uzbekistan, with implementation responsibilities assigned to the National Committee on Ecology and Climate Change (NCECC) It defines the principles, responsibilities, and mechanisms for environmental preservation, biodiversity conservation, and the sustainable use of natural resources.

Key regulatory requirements under the law include:

- The adoption of core principles such as the preservation of ecological balance, biodiversity conservation, and the sustainable use of natural resources;
- The establishment of measures for the protection, reproduction, and rational use of animal and plant species, including the conservation of habitats;
- Provisions to ensure that land management practices prevent ecosystem degradation and maintain critical habitats for terrestrial and avian species;
- A requirement for state ecological monitoring, including the status of flora and fauna, and the integration of monitoring data into decision-making processes.

The law also mandates that all economic and development activities undergo State Environmental Expertise (SEE), to ensure that projects do not pose significant risks to biodiversity, including birds and terrestrial ecosystems.

Furthermore, the law provides for the establishment of protection zones around environmentally sensitive areas, such as forests, wetlands, and breeding grounds for rare or migratory birds. It forms the legal foundation for Environmental and Social Impact Assessments (ESIAs), requiring that potential impacts on terrestrial and bird habitats are thoroughly assessed and mitigated. In addition, it supports the protection of threatened species, particularly those listed in the national Red Book or covered by international conventions.

The Law of the Republic of Uzbekistan "On Protection and Use of the Wildlife" (2016, as amended in 2024)

This law regulates the use, protection, reproduction and restoration of wildlife in order to promote conservation and ensure diversity of species in their natural habitat.

Other laws and regulations include:

- The Law of the Republic of Uzbekistan "On Protection and Use of Vegetation" (2016, as amended in 2024)
- Decree of the Cabinet of Ministers "Regulation on the procedure for using plant world objects and passing licensing procedures in the field of using plant world objects" No. 290 (2014, as amended in 2024) sets out the requirements to obtain permission to cut wood and shrub plantations that are in the zone of the construction site.
- The code on administrative responsibility of the Republic of Uzbekistan (2017, as amended in 2025)- Article 94 sets the regulation related to "destruction, extraction of

rare or endangered animals or the commission of other actions that may lead to the death, reduction in numbers or disturbance of the habitat of such animals."

10.1.2 Lenders Requirements

10.1.2.1 IFC

IFC's Performance Standard 6 (PS6), titled Biodiversity Conservation and Sustainable Management of Living Natural Resources, and its associated Guidance Note 6 (IFC 2019). sets out comprehensive requirements for managing biodiversity risks and conserving ecosystems. Projects are required to identify and assess potential impacts on biodiversity as part of the Environmental and Social Impact Assessment (ESIA), applying the mitigation hierarchy of avoidance, minimisation, restoration, and, where necessary, biodiversity offsets. PS6 distinguishes between modified, natural, and critical habitats, with particularly stringent provisions for projects that may affect critical habitats. These include the requirement to demonstrate that no measurable adverse impacts will occur on key biodiversity features or on ecological processes within critical or natural habitat. In such areas, clients are expected to achieve no net loss - or, in the case of critical habitat, a net gain of biodiversity. PS6 also emphasises the importance of ecosystem services and requires an assessment of how project activities might affect them, particularly where communities rely on these services for their livelihoods.

10.1.2.2 EBRD

EBRD Environmental and Social Requirement 6 (ESR 6): Biodiversity conservation and sustainable management of living natural resources as well as the associated Guidance Note (EBRD 2024), sets out requirements for the conservation of biodiversity and sustainable management of living natural resources covering aspects such as the assessment of issues and impacts on biodiversity. The Bern Convention (June 1979) is also applicable.

Baseline studies will conclude with a Critical Habitat and Priority Biodiversity Feature assessment to determine if any features in the Project area qualify as priority biodiversity features or critical habitat. This assessment will identify the conservation importance of the study area and the applicable ESR 6 requirements and will also inform the subsequent assessment of project-specific impacts.

ESR6 defines critical habitat and priority biodiversity features as:

Critical Habitat: The most sensitive biodiversity features, which comprise one of the following:

- Highly threatened or unique ecosystems;
- Habitats of significant importance to endangered or critically endangered species;
- Habitats of significant importance to endemic or geographically restricted species;
- Habitats supporting globally significant migratory or congregatory species;
- Areas associated with key evolutionary processes; or
- Ecological functions that are vital to maintaining the viability of biodiversity features.

Priority Biodiversity Features (PBF): This concept continues to encompass a sub-set of biodiversity that is particularly irreplaceable or vulnerable, but at a lower priority level than Critical Habitats, and includes:

- Threatened habitats;
- Vulnerable species;

- Significant biodiversity features identified by a broad set of stakeholders or governments (such as Key Biodiversity Areas or Important Bird Areas); and
- Ecological structure and functions needed to maintain the viability of priority biodiversity features.

The criteria used by the EBRD's ESR6 to define critical habitat are closely aligned with those outlined in IFC PS6. ESR6 also explicitly includes ecological functions that are vital for maintaining the viability of critical habitat features.

10.2 Baseline Conditions

10.2.1 Regional Context

The baseline conditions of this section have been informed by review of satellite imagery, review of information available from online databases and resources and observations made during the scoping site visit.

Fergana Region is located in the Fergana Valley, a depression of approximately 22,000 km² situated between the Tien Shan mountain system to the north and the Gissar-Alay mountain systems to the south. The valley lies mainly in eastern Uzbekistan with parts extending into Tajikistan and Kyrgyzstan. The region is characterized by extensive irrigated agricultural landscapes. The natural vegetation of the Fergana Valley is known to be substantially modified by human activity[6].

From a global biogeographic perspective, the Project site is located within the Gissaro-Alai Open Woodlands terrestrial ecoregion. This ecoregion encompasses the foothills and lower mountain slopes of the Gissar-Alay and western Tien Shan ranges and is characterized by a mosaic of semi-arid grasslands, shrublands, open woodlands, and riparian habitats. The broader ecoregion supports distinctive Central Asian flora and fauna, including juniper woodlands, ephemeroid herb communities, and relict fruit-and-nut forests, although much of the Fergana Valley has been converted to agriculture, settlements, and associated infrastructure, resulting in substantial habitat modification and fragmentation.

The Project site also falls within the Northern Central Asian Highlands freshwater ecoregion, which encompasses the upper Syr Darya and Talas river basin systems within the mountainous uplands of Central Asia.

10.2.2 Site Conditions

The Project site is located in an urban landscape. Based on historical land use, the Project site was previously designated and utilized for military purposes, with the area enclosed by fencing to restrict access and support military activities. Satellite imagery analysis, historical land use data, and field observations conducted during the site visit collectively indicate that the Project area is primarily comprised of modified habitat with minimal natural vegetation cover. Evidence of previous land levelling was observed throughout the area during the site visit. The combination of historical military use, anthropogenic activities/land levelling has resulted in a heavily disturbed site with limited ecological value and minimal native vegetation remaining.

[6] Daminova, N., X.-H.Huang, H. R.Hoshimov, et al. 2026. "Characterization of the Wild Trees and Shrubs in the Fergana Valley: Diversity and Distribution, Threats." Ecology and Evolution16, no. 5: e73632.

10.2.3 Areas of Ecological Importance around Project Site

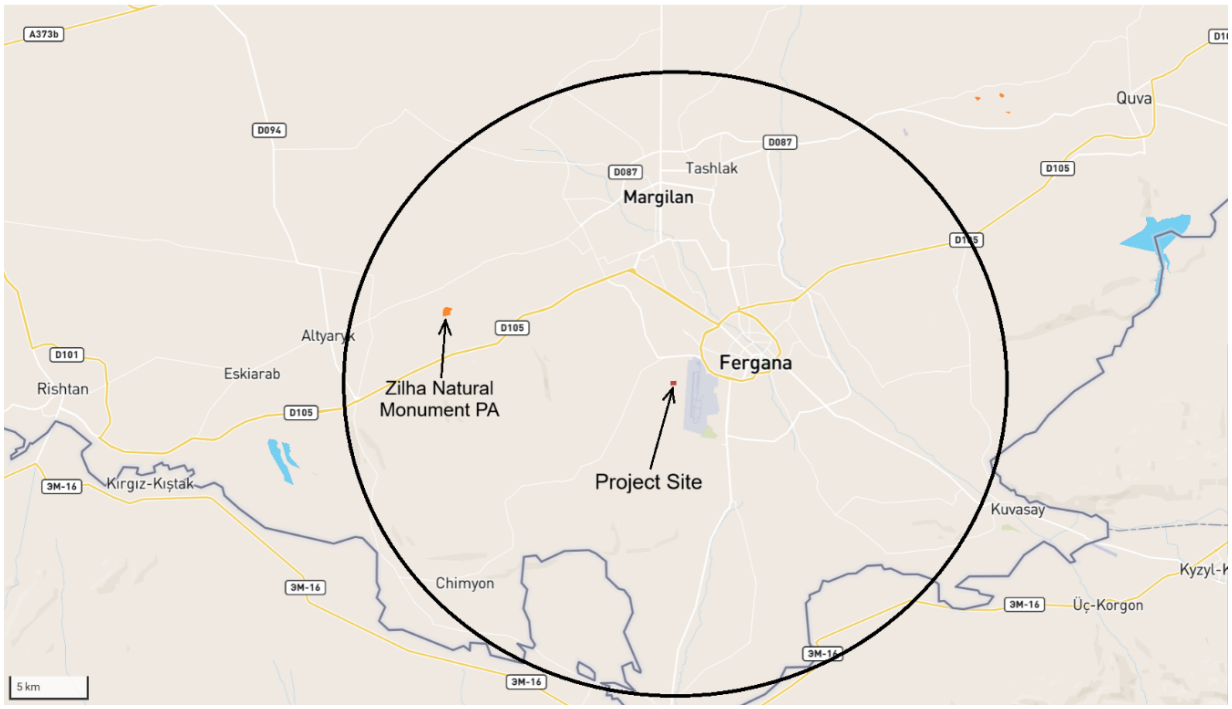
A review of the Protected Planet database was undertaken to identify Protected Areas (PAs) and Key Biodiversity Areas (KBAs) within the vicinity of the proposed Project site. The review confirmed that there are no designated protected areas or Key Biodiversity Areas located within a 10 km radius of the Project site.

The nearest protected area is Zilha Natural Monument, located approximately 14 km west of the Project site. The site is designated as an IUCN Category III Protected Area (Natural Monument or Feature) and is managed by the Ministry of Ecology, Environmental Protection and Climate Change of the Republic of Uzbekistan. Given the separation distance and the urbanized and agricultural landscape between the Project site and the PA, no direct impacts on the protected area are anticipated.

The nearest KBA is Mirzaaral Tugay KBA, located approximately 74 km northwest of the Project site. Owing to the substantial distance from the Project and the localized nature of the proposed development, the Project is unlikely to have any impacts on the KBA.

There are no Ramsar wetlands or Alliance for Zero Extinction (AZE) sites located within or in the vicinity of the Project site. Nearest Ramsar wetland is located at approximately 118km east of the site. Based on the available information, the Project site is not located within or adjacent to any internationally or nationally recognized areas of biodiversity importance, and no impacts on such areas are anticipated.

The areas of ecological significance located in the wider landscape (20 km radius) of the Project site were screened from IBAT's online database and are indicated in Error!



Reference source not found..

Source: https://app.ibat-alliance.org/b/151/visual-data-map

Figure 10-1 Areas of Ecological Importance within 20 km radius of the Project

10.2.4 Flora

10.2.4.1 Desktop Assessment

While the Project site supports extremely limited flora, the records of wider landscape are dominated by ornamental, cultivated, ruderal, and widespread native plant species typical of urban and agricultural habitats. Reported taxa include Honey locust (*Gleditsia triacanthos*), Turkish pine (*Pinus brutia*), Chinese juniper (*Juniperus chinensis*), American tuliptree (*Liriodendron tulipifera*), catalpa (*Catalpa* spp.), lilac (*Syringa* spp.), vetiver (*Chrysopogon zizanioides*), dandelions (*Taraxacum* spp.), and several herbaceous species belonging to the Brassicaceae and Poaceae families. No globally threatened plant species were identified from the available records.

10.2.4.2 Site Survey

The botanical survey was undertaken on 27-28 April 2026 within the Project site and its immediate surroundings. The survey combined a rapid walkover assessment with vegetation sampling using four representative 10 × 10 m sample plots, including three plots within the Project area and one reference plot located approximately 150 m outside the Project boundary. For each sample plot, vegetation composition, species abundance, vegetation cover, habitat condition, disturbance factors and phenological status were recorded. A habitat assessment and mapping exercise was also conducted using field observations and satellite imagery interpretation, with habitats classified in accordance with IFC PS6 habitat definitions.

Table 10-1 Floral survey sampling locations

Sample Plot	Latitude (N)	Longitude (E)	Notes
SP1	40°21'51.59"N	71°43'56.32"E	Within the Project site
SP2	40°21'53.79"N	71°43'50.29"E	Within the Project site
SP3	40°21'50.80"N	71°43'45.91"E	Within the Project site
SP4	40°21'45.55"N	71°43'53.08"E	Outside of the Project site

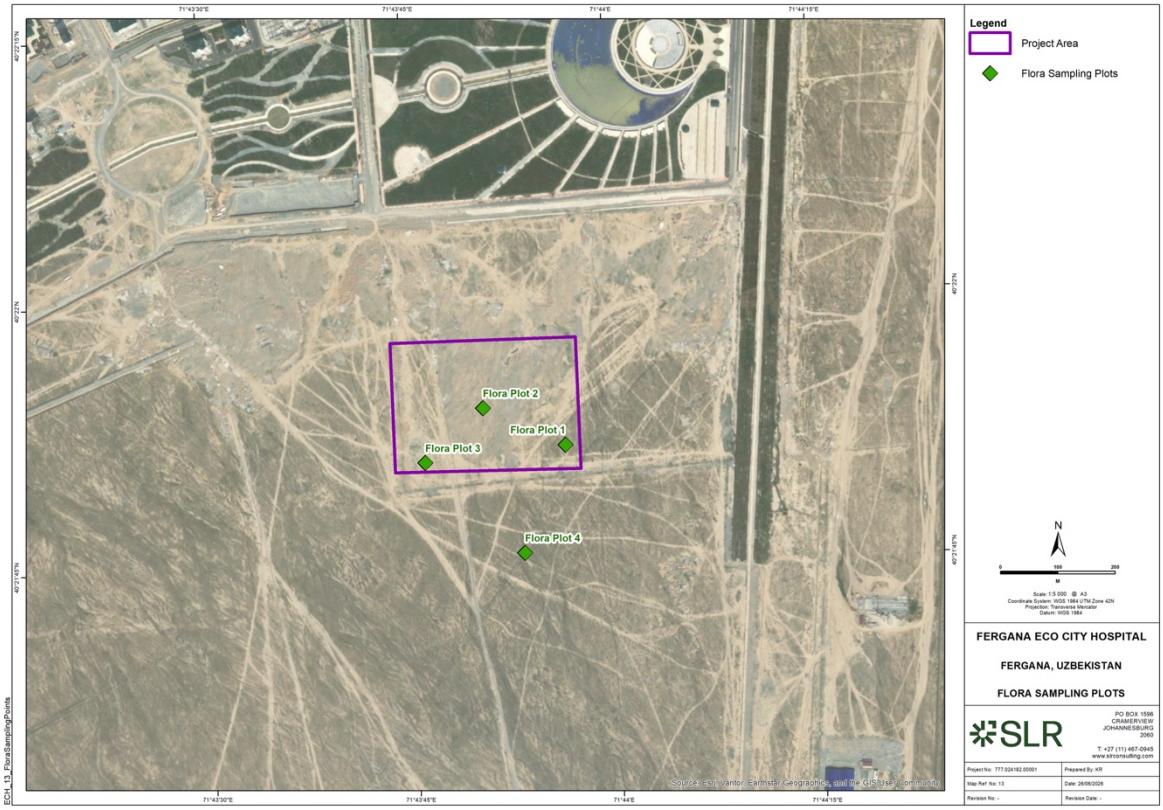


Figure 10-2 Flora survey sampling locations

10.2.4.3 Findings

The survey indicates that the Project area supports a degraded semi-desert plant community dominated by widespread, disturbance-tolerant native species. No species of conservation concern or habitats of elevated botanical importance were identified within the Project area. The ecological value of the Site is considered low in the context of the wider Fergana Valley, reflecting extensive historical and ongoing anthropogenic disturbance.

Habitat

The Project site supports highly disturbed and fragmented semi-desert vegetation typical of anthropogenically modified landscapes within the Fergana Valley foothills. Two broad habitat types were identified, (i) excavation areas devoid of vegetation and ecological value due to extensive ground disturbance, and (ii) disturbed wasteland supporting sparse ruderal herbaceous vegetation characterised by ephemeral grasses. These habitat units were delineated through interpretation of satellite imagery, field observations and GIS-based habitat mapping, supported by a rapid walkover survey, three 10 × 10 m botanical sample plots within the Project site and one comparative plot approximately 150 m south of the Site. Representative photographs were taken at sampling plots (Refer **Figure** 10-3).

Vegetation cover across sampled plots ranged from approximately 20% to 45%, with bare ground accounting for 55-80% of the surface. The onsite plots supported approximately 22-25 plant species and were dominated by native, disturbance-tolerant and ruderal taxa. No threatened plant species listed on the IUCN Red List or in the Red Data Book of Uzbekistan, or restricted-range endemic plant species, were recorded within the surveyed Project site or adjacent survey area.

Habitat condition was generally assessed as poor to very poor due to historical military use, ongoing construction-related disturbance, vehicle movements, waste deposition and grazing pressure. The condition assessment considered vegetation structure and cover, extent of bare ground, species composition, dominance by ruderal and ephemeral plants, habitat fragmentation, evidence of soil disturbance and the presence or absence of flora features of conservation importance. Majority of the Project site has been substantially altered by excavation and is devoid of vegetation, while the remaining areas contain discontinuous vegetation intersected by extensive heavy-vehicle tracks and other evidence of ongoing disturbance. The surveyed habitats support limited ecological function relative to less disturbed natural habitats in the wider landscape.

Figure 10-3 Some of the Sampling Plots

Habitat Characterization

In accordance with IFC Performance Standard 6 (PS6), the habitat within the Project site is classified predominantly as Modified Habitat, as the ecological communities have been substantially altered by human activities and no longer retain the characteristics of the original natural ecosystem. This classification is supported by the extensive excavation areas, high proportion of bare ground, fragmentation of vegetation, dominance by ruderal and disturbance-tolerant species, heavy-vehicle tracks, waste deposition and the Site's historical use as a military training area.

The vegetation-free excavation areas have no remaining natural habitat value. The remaining wasteland vegetation retains some native species characteristic of the regional semi-desert flora; however, these occur within disturbed and anthropogenically altered habitat. These patches are therefore considered degraded remnants of the former vegetation community within an overall Modified Habitat context, rather than viable or intact Natural Habitat under IFC PS6.

The habitats observed in the Project area have been indicated in **Figure** 10-4 and mapped in Error! Reference source not found..

Excavation area devoid of vegetation

Disturbed wasteland supporting sparse ruderal herbaceous vegetation

Figure 10-4 Habitats within the Project area

Critical Habitat Screening

With respect to Critical Habitat, field surveys and desktop studies did not identify habitats supporting significant concentrations of globally Critically Endangered or Endangered species, restricted-range species, congregatory or migratory species, or highly threatened or unique ecosystems. Online biodiversity databases, including GBIF, iNaturalist and eBird, were also reviewed for species records within the wider Project landscape. IUCN-threatened, congregatory, migratory and restricted-range species were screened (Criteria 1 to 3) to determine their likelihood of qualifying as potential Critical Habitat candidates. The species screening assessment is presented in Error! Reference source not found..

Although a nationally Endangered reptile sub-species was recorded in areas adjacent to the Project boundary, the Project site itself consists predominantly of highly disturbed and modified habitat. Given the limited extent and degraded condition of the habitat within the Project area, it is unlikely to support a significant proportion of the species' regional or global population or habitat essential to its persistence.

Furthermore, no internationally or nationally important biodiversity features or protected areas occur within or in close proximity to the Project site. None of the species screened was scoped in as a potential Critical Habitat trigger, as the Project area is unlikely to support significant populations, concentrations or habitat essential to their persistence. Accordingly, based on the available baseline information, the Project site does not qualify as Critical Habitat.

Although not recorded within the Project area*, Phrynocephalus saidalievi* is retained as a Priority Biodiversity Feature considering its global VU, national Endangered status. Project-specific avoidance, pre-construction inspection, Chance Find Procedure and monitoring measures will therefore be applied to manage potential risks to this species.

In relation to Criteria 4 and 5, no highly threatened or unique ecosystems were identified within the Project AoI, which is dominated by disturbed Modified Habitat; therefore, IFC PS6 Criterion 4 is not triggered. The area also does not contain any features supporting key evolutionary processes. Thus, Criterion 5 is not triggered.

Table 10-2 Critical Habitat Screening against Criteria 1- 3

Species Group	Scientific Name	Common Names	IUCN Red List Category	Mature Individuals	Congregatory	Movement Patterns	1% of the Global Population	Screening Result	Rationale
Birds	*Alcedo atthis*	Common Kingfisher	LC	716,000-1,760,000	No	Full Migrant	7160	Out	Given the species' extremely wide-ranging distribution it is considered highly unlikely that the Project AoI supports enough individuals to meet the requirements of Criterion 3
Birds	*Anas platyrhynchos*	Mallard	LC	17,260,000-19,300,000	Yes	Full Migrant	172600	Out	Given the species' extremely wide-ranging distribution it is considered highly unlikely that the Project AoI supports enough individuals to meet the requirements of Criterion 3
Birds	*Apus apus*	Common Swift	LC	80,000,000-142,000,000	Yes	Full Migrant	800000	Out	Given the species' extremely wide-ranging distribution it is considered highly unlikely that the Project AoI supports enough individuals to meet the requirements of Criterion 3
Birds	*Buteo rufinus*	Long-legged Buzzard	LC	100,000-499,999	No	Full Migrant	1000	Out	Given the species' extremely wide-ranging distribution it is considered highly unlikely that the Project AoI supports enough individuals to meet

Species Group	Scientific Name	Common Names	IUCN Red List Category	Mature Individuals	Congregatory	Movement Patterns	1% of the Global Population	Screening Result	Rationale
									the requirements of Criterion 3
Birds	*Ciconia ciconia*	White Stork	LC	526,000-588,000	Yes	Full Migrant	5260	Out	Given the species' extremely wide-ranging distribution it is considered highly unlikely that the Project AoI supports enough individuals to meet the requirements of Criterion 3
Birds	*Coracias garrulus*	European Roller	LC	100,000-499,999	No	Full Migrant	1000	Out	Given the species' extremely wide-ranging distribution it is considered highly unlikely that the Project AoI supports enough individuals to meet the requirements of Criterion 3
Birds	*Fringilla coelebs*	Common Chaffinch	LC	500,000,000-799,999,999	No	Full Migrant	5000000	Out	Given the species' extremely wide-ranging distribution it is considered highly unlikely that the Project AoI supports enough individuals to meet the requirements of Criterion 3
Birds	*Gallinago gallinago*	Common Snipe	LC	7,000,000-11,000,000	Yes	Full Migrant	70000	Out	Given the species' extremely wide-ranging distribution it is considered highly unlikely that the Project AoI supports

Species Group	Scientific Name	Common Names	IUCN Red List Category	Mature Individuals	Congregatory	Movement Patterns	1% of the Global Population	Screening Result	Rationale
									enough individuals to meet the requirements of Criterion 3
Birds	*Hirundo rustica*	Barn Swallow	LC	290,000,000-487,000,000	Yes	Full Migrant	2900000	Out	Given the species' extremely wide-ranging distribution it is considered highly unlikely that the Project AoI supports enough individuals to meet the requirements of Criterion 3
Birds	*Lanius phoenicuroides*	Turkestan Shrike	LC	Unknown	No	Full Migrant	NA	Out	Given the species' extremely wide-ranging distribution it is considered highly unlikely that the Project AoI supports enough individuals to meet the requirements of Criterion 3
Birds	*Merops apiaster*	European Bee-eater	LC	18,400,000-28,000,000	Yes	Full Migrant	184000	Out	Given the species' extremely wide-ranging distribution it is considered highly unlikely that the Project AoI supports enough individuals to meet the requirements of Criterion 3
Birds	*Merops persicus*	Blue-cheeked Bee-eater	LC	150,000-400,000	Yes	Full Migrant	1500	Out	Given the species' extremely wide-ranging distribution it is considered highly unlikely that the Project AoI supports

Species Group	Scientific Name	Common Names	IUCN Red List Category	Mature Individuals	Congregatory	Movement Patterns	1% of the Global Population	Screening Result	Rationale
									enough individuals to meet the requirements of Criterion 3
Birds	*Motacilla alba*	White Wagtail	LC	135,000,000-221,000,000	Yes	Full Migrant	1350000	Out	Given the species' extremely wide-ranging distribution it is considered highly unlikely that the Project AoI supports enough individuals to meet the requirements of Criterion 3
Birds	*Motacilla cinerea*	Grey Wagtail	LC	11,000,000-24,000,000	No	Full Migrant	110000	Out	Given the species' extremely wide-ranging distribution it is considered highly unlikely that the Project AoI supports enough individuals to meet the requirements of Criterion 3
Birds	*Oriolus kundoo*	Indian Golden Oriole	LC	Unknown	No	Full Migrant	NA	Out	Given the species' extremely wide-ranging distribution it is considered highly unlikely that the Project AoI supports enough individuals to meet the requirements of Criterion 3
Birds	*Phylloscopus collybita*	Common Chiffchaff	LC	75,900,000-120,000,000	No	Full Migrant	759000	Out	Given the species' extremely wide-ranging distribution it is considered highly unlikely that the Project AoI supports

Species Group	Scientific Name	Common Names	IUCN Red List Category	Mature Individuals	Congregatory	Movement Patterns	1% of the Global Population	Screening Result	Rationale
									enough individuals to meet the requirements of Criterion 3
Birds	*Phylloscopus humei*	Hume's Leaf Warbler	LC	Unknown	No	Full Migrant	NA	Out	Given the species' extremely wide-ranging distribution it is considered highly unlikely that the Project AoI supports enough individuals to meet the requirements of Criterion 3
Birds	*Sturnus vulgaris*	Common Starling	LC	150,000,000	Yes	Full Migrant	1500000	Out	Given the species' extremely wide-ranging distribution it is considered highly unlikely that the Project AoI supports enough individuals to meet the requirements of Criterion 3
Birds	*Curruca curruca*	Lesser Whitethroat	LC	27,900,000-47,700,000	No	Full Migrant	279000	Out	Given the species' extremely wide-ranging distribution it is considered highly unlikely that the Project AoI supports enough individuals to meet the requirements of Criterion 3
Birds	*Turdus merula*	Common Blackbird	LC	145,000,000-220,000,000	No	Full Migrant	1450000	Out	Given the species' extremely wide-ranging distribution it is considered highly unlikely that the Project AoI supports

Species Group	Scientific Name	Common Names	IUCN Red List Category	Mature Individuals	Congregatory	Movement Patterns	1% of the Global Population	Screening Result	Rationale
									enough individuals to meet the requirements of Criterion 3
Reptile	*Phrynocephalus saidalievi*		VU	Unknown	No	Not a migrant	NA	Out	The Project AoI represents extremely tiny fraction (less than 0.05%) of the species' Extent of Occurrence (EOO) which is 20,000 km² (when used as a proxy for population in the absence of population estimates). Based on this, it is unlikely to meet Criterion 2a or Criterion 1b.
Fish	*Cyprinus carpio*	Eurasian Carp	LC	Unknown	Yes	Full Migrant	NA	Out	No preferred habitats present.
Fish	*Hypophthalmichthys molitrix*	Silver Carp	NT	Unknown	No	Full Migrant	NA	Out	No preferred habitats present.
Fish	*Cottus spinulosus*	Turkestan Sculpin	LC	Unknown	Yes	Not a migrant	NA	Out	No preferred habitats present.
Fish	*Schizothorax eurystomus*	—	LC	Unknown	No	Not a migrant	NA	Out	No preferred habitats present.
Fish	*Petroleuciscus squaliusculus*	Syr Darya Dace	LC	Unknown	No	Not a migrant	NA	Out	No preferred habitats present.

Flora

A total of 37 plant species were recorded during the survey, comprising predominantly annual herbaceous species (73%), along with nine perennial herbs and one subshrub species. No trees or shrubs were recorded within the Project site or the surrounding survey area. Vegetation was sparse and unevenly distributed, largely confined to isolated patches in the eastern, southeastern and southwestern portions of the Site, while approximately half of the Project area had already been cleared and was devoid of vegetation due to excavation activities. The flora was dominated by common ruderal and disturbance-tolerant species typical of semi-desert and degraded habitats, including *Peganum harmala, Artemisia scoparia, Hordeum murinum* subsp*. leporinum, Eremopyrum orientale* and *Bromus tectorum*. No plant species listed in the Red Data Book of Uzbekistan, IUCN Red List, or known restricted range/endemic species were recorded during the survey.

The list of floral species recorded during the survey has been provided in **Table** 10-3.

Table 10-3 Floral species recorded during the survey

No.	Species	Life Cycle	Family	IUCN Status (v 2025-2)
1	*Alyssum turkestanicum*	Annual	Brassicaceae	NA
2	*Artemisia scoparia*	Annual, Biennial	Asteraceae	NA
3	*Astragalus tribuloides*	Annual	Fabaceae	LC
4	*Bromus danthoniae*	Annual	Poaceae	NA
5	*Bromus tectorum*	Annual	Poaceae	NA
6	*Capparis spinosa*	Perennial	Capparaceae	LC
7	*Carex pachystylis*	Perennial	Cyperaceae	NA
8	*Ranunculus falcatus*	Annual	Ranunculaceae	NA
9	*Convolvulus arvensis*	Perennial	Convolvulaceae	NA
10	*Convolvulus spinifer*	Subshrub	Convolvulaceae	NA
11	*Cousinia resinosa*	Perennial	Asteraceae	NA
12	*Cynodon dactylon*	Perennial	Poaceae	NA
13	*Delphinium rugulosum*	Annual	Ranunculaceae	NA
14	*Descurainia sophia*	Annual	Brassicaceae	NA
15	*Eremopyrum bonaepartis*	Annual	Poaceae	NA
16	*Eremopyrum orientale*	Annual	Poaceae	NA
17	*Festuca orientalis*	Annual	Poaceae	NA

No.	Species	Life Cycle	Family	IUCN Status (v 2025-2)
18	*Girgensohnia diptera*	Annual	Amaranthaceae	NA
19	*Haplophyllum versicolor*	Perennial	Rutaceae	NA
20	*Heliotropium ellipticum*	Annual	Boraginaceae	NA
21	*Heterocaryum rigidum*	Annual	Boraginaceae	NA
22	*Holosteum umbellatum*	Annual	Caryophyllaceae	NA
23	*Hordeum murinum*	Annual	Poaceae	LC
24	*Leptaleum filifolium*	Annual	Brassicaceae	NA
25	*Medicago monantha*	Annual	Fabaceae	LC
26	*Nonea caspica*	Annual	Boraginaceae	NA
27	*Papaver pavonium*	Annual	Papaveraceae	NA
28	*Peganum harmala*	Perennial	Nitrariaceae	NA
29	*Phlomoides isochila*	Perennial	Lamiaceae	NA
30	*Poa bulbosa*	Perennial	Poaceae	No
31	*Reseda lutea*	Annual, Perennial	Resedaceae	NA
32	*Roemeria hybrida*	Annual	Papaveraceae	NA
33	*Rumex dentatus*	Annual	Polygonaceae	NA
34	*Sisymbrium loeselii*	Annual, Biennial	Brassicaceae	NA
35	*Salsola tragus*	Annual	Amaranthaceae	NA
36	*Strigosella africana*	Annual	Brassicaceae	NA
37	*Ziziphora tenuior*	Annual	Lamiaceae	NA

(Note: LC: Least Concern, NA: Not Assessed)

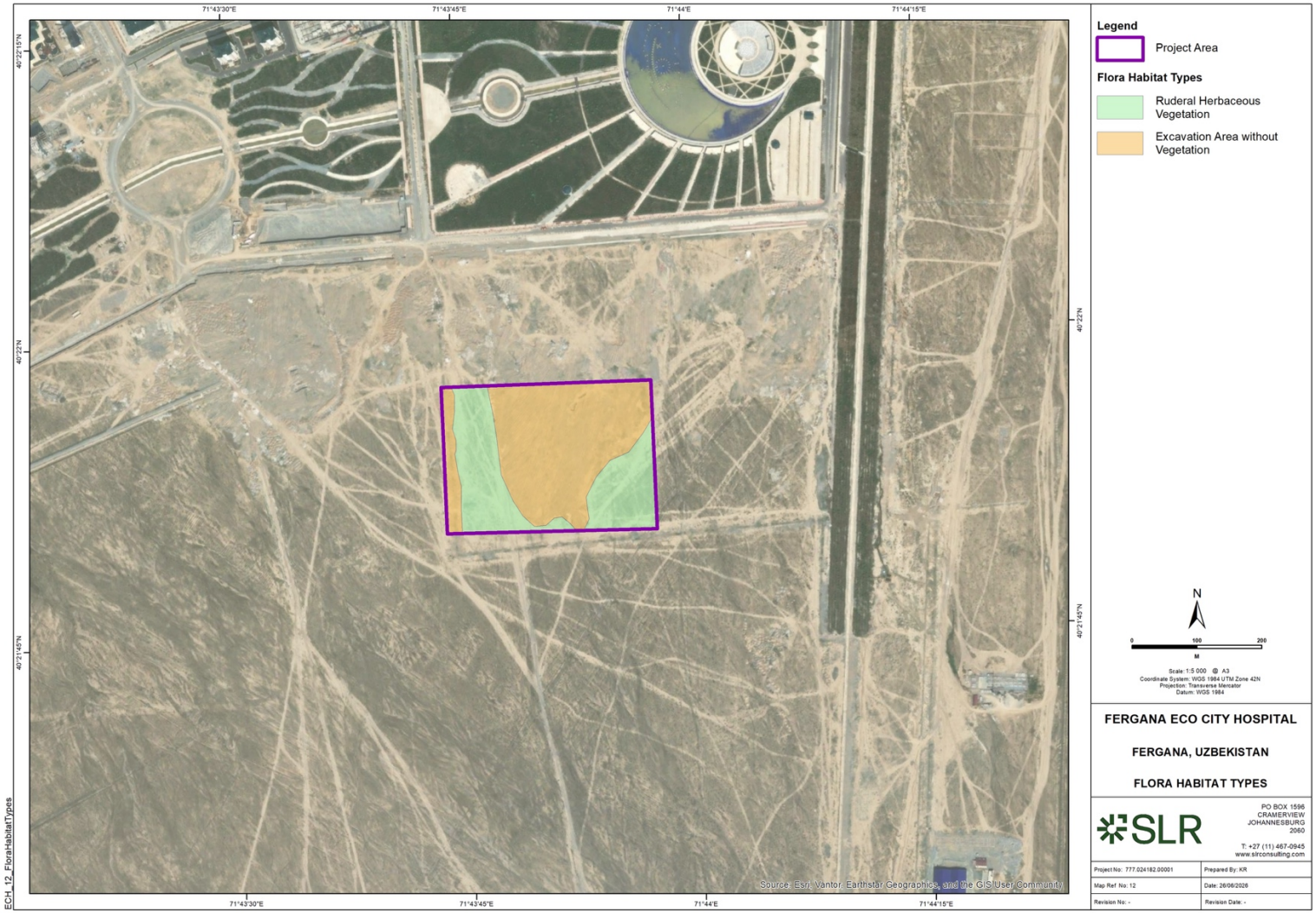


Figure 10-5 Habitats observed within the Project area

10.2.5 Fauna

10.2.5.1 Desktop Assessment

A preliminary biodiversity baseline was established through a review of species occurrence records available from the GBIF, eBird and iNaturalist databases within an approximately 5 km radius of the proposed Project site. The review was undertaken to identify ecological receptors that may occur within the wider landscape or Project's zone of influence and to provide an initial understanding of the biodiversity context. The GBIF database presented a total of 131 records of 41 faunal species including herpetofauna, mammals and birds. None of these species are classified as Threatened in IUCN Redlist.

10.2.5.2 Site Survey

Rapid faunal surveys were undertaken between 22 and 24 April 2026 within the Project site and its immediate surroundings. The survey comprised walking transects and point counts conducted during morning and afternoon periods. Transects (totalling approximately 12 km) covered representative habitats within the Site, including areas of remnant natural vegetation and disturbed ground, while observations targeted direct sightings as well as indirect evidence of fauna presence such as burrows, nests, tracks and other field signs. Surveys focused on identifying vertebrate fauna, including species of conservation concern, and assessing habitat use within the Project area. Due to the presence of excavated soil from adjacent construction sites within the Project area, the transects were adjusted to accommodate site accessibility for movement and to avoid areas designated for excavated soil storage.

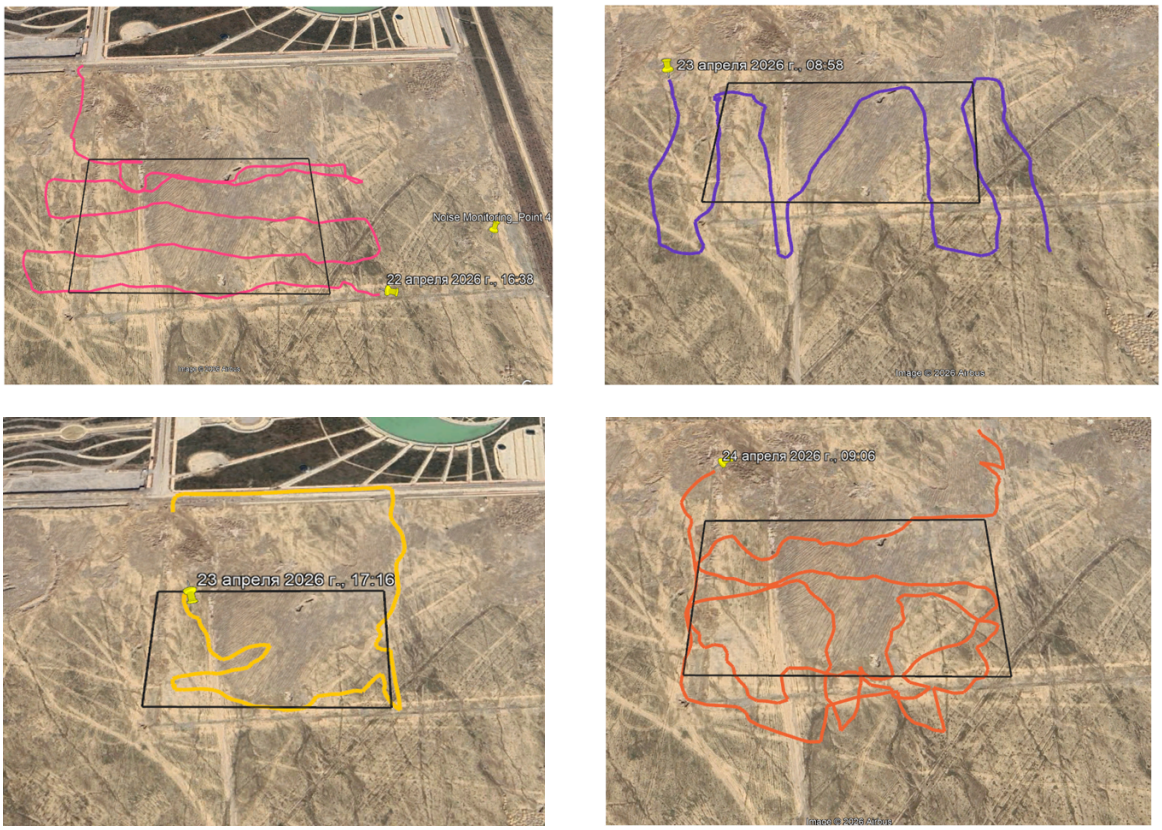


Figure 10-6 Walking transects conducted during faunal survey from 22nd to 24th April

10.2.5.3 Findings

Overall, 15 vertebrate species were recorded during the site survey, comprising two amphibians, two reptiles, ten birds and a mammal. The fauna assemblage was dominated by common, disturbance-tolerant species adapted to urbanised and modified environments. The only taxon (sub-species) of conservation significance was the nationally Endangered Said-Aliyev's Toad-headed Agama, recorded adjacent to the Project site. The survey findings indicate that the Project area supports relatively low faunal diversity and is characterised by disturbed habitats subject to ongoing anthropogenic pressures, including construction activities, vehicle movement and historical land disturbance.

Avifauna

Based on the review of online databases, a total of 35 species of avifauna has been reported from the wider landscape. All the species are IUCN Least Concern and none of the species has been categorized as globally threatened.

The secondary records indicate that the area surrounding the Project is dominated by urban, agricultural and other modified habitats characteristic of the Fergana Valley. Species observations are primarily composed of widespread and adaptable taxa commonly associated with settlements, agricultural lands, roadside vegetation, irrigation canals, urban green spaces, and disturbed habitats. Avifauna represents the commonly recorded taxonomic group. Generalist bird species such as Common Myna (*Acridotheres tristis*), Eurasian Tree Sparrow (*Passer montanus montanus*), Laughing Dove (*Spilopelia senegalensis*), Eurasian Magpie (*Pica pica*), Carrion Crow (*Corvus corone*), etc. all of which are well adapted to human-modified environments.

The primary survey recorded a total of ten bird species within the Project site and surrounding area. The avifaunal assemblage was dominated by common and widespread species associated with urban, semi-natural and open habitats, consistent with secondary data and literature, including Crested Lark (*Galerida cristata*), Masked Wagtail (*Motacilla personata*), Barn Swallow (*Hirundo rustica*), Common Myna (*Acridotheres tristis*) and Rock Dove (*Columba livia*). No bird species of national or global conservation concern were recorded. A total of 112 bird observations were documented, with the Crested Lark being the most frequently encountered species. A Crested Lark nest was also identified within the Project area, indicating local breeding activity. The recorded bird community was characterised primarily by resident species and a small number of migratory species typical of open and disturbed landscapes.

Avifaunal species known from literature and recorded during the survey have been provided in **Table** 10-4.

Table 10-4 Avifaunal species recorded or reported from the Project landscape

SN	Common Name	Scientific Name	IUCN Status (v. 2025-2)	Uzbekistan Red Data Book Status[7]	Confirmed/ Desktop
1	Common Myna	*Acridotheres tristis*	LC	Not Listed	Confirmed
2	Common Kingfisher	*Alcedo atthis*	LC	Not Listed	Reported
3	Mallard	*Anas platyrhynchos*	LC	Not Listed	Desktop

[7] The Red Book of the Republic of Uzbekistan, Volume II: Animals; Under the general editorship of J.A. Azimov. T.: "Tasvir" publishing house, 2019. - 392 p. - Tit. v. in Uzbek, Russian and English languages.

SN	Common Name	Scientific Name	IUCN Status (v. 2025-2)	Uzbekistan Red Data Book Status[7]	Confirmed/ Desktop
4	Common Swift	*Apus apus*	LC	Not Listed	Confirmed
5	Long-legged Buzzard	*Buteo rufinus*	LC	Not Listed	Desktop
6	White Stork	*Ciconia ciconia*	LC	NT	Desktop
7	Rock Dove	*Columba livia*	LC	Not Listed	Confirmed
8	European Roller	*Coracias garrulus*	LC	Not Listed	Desktop
9	Hooded Crow	*Corvus cornix*	LC	Not Listed	Desktop
10	Carrion Crow	*Corvus corone*	LC	Not Listed	Desktop
11	White-winged Woodpecker	*Dendrocopos leucopterus*	LC	Not Listed	Desktop
12	Common Chaffinch	*Fringilla coelebs*	LC	Not Listed	Desktop
13	Crested Lark	*Galerida cristata*	LC	Not Listed	Confirmed
14	Common Snipe	*Gallinago gallinago*	LC	Not Listed	Desktop
15	Barn Swallow	*Hirundo rustica*	LC	Not Listed	Confirmed
16	Isabelline Shrike	*Lanius isabellinus*	LC	Not Listed	Desktop
17	Red-tailed Shrike	*Lanius phoenicuroides*	LC	Not Listed	Confirmed
18	Long-tailed Shrike	*Lanius schach*	LC	Not Listed	Desktop
19	European Bee-eater	*Merops apiaster*	LC	Not Listed	Desktop
20	Blue-cheeked Bee-eater	*Merops persicus*	LC	Not Listed	Desktop
21	White Wagtail	*Motacilla alba*	LC	Not Listed	Confirmed
22	Grey Wagtail	*Motacilla cinerea*	LC	Not Listed	Desktop
23	Western Yellow Wagtail	*Motacilla flava*	LC	Not Listed	Confirmed
24	Isabelline Wheatear	*Oenanthe isabellina*	LC	Not Listed	Confirmed
25	Indian Golden Oriole	*Oriolus kundoo*	LC	Not Listed	Desktop
26	Great Tit	*Parus major*	LC	Not Listed	Desktop
27	House Sparrow	*Passer domesticus*	LC	Not Listed	Desktop
28	Afghan Tree Sparrow	*Passer montanus dilutus*	LC	Not Listed	Desktop

SN	Common Name	Scientific Name	IUCN Status (v. 2025-2)	Uzbekistan Red Data Book Status[7]	Confirmed/ Desktop
29	Eurasian Tree Sparrow	*Passer montanus montanus*	LC	Not Listed	Desktop
30	Common Chiffchaff	*Phylloscopus collybita*	LC	Not Listed	Desktop
31	Hume's Leaf Warbler	*Phylloscopus humei*	LC	Not Listed	Desktop
32	Eurasian Magpie	*Pica pica*	LC	Not Listed	Confirmed
33	Laughing Dove	*Spilopelia senegalensis*	LC	Not Listed	Desktop
34	Eurasian Collared Dove	*Streptopelia decaocto*	LC	Not Listed	Desktop
35	Common Starling	*Sturnus vulgaris*	LC	Not Listed	Desktop
36	Lesser Whitethroat	*Sylvia curruca*	LC	Not Listed	Desktop
37	Common Blackbird	*Turdus merula*	LC	Not Listed	Desktop

(Note: The species highlighted in green were recorded during the Site survey; LC: Least Concern, NT: Near Threatened)

Mammals

Based on the review of GIBF data, only one mammal species has been reported from the landscape, namely the Long-eared Hedgehog (*Hemiechinus auritus*). This species is widely distributed across Central Asia and is typically associated with open habitats, agricultural areas. The species is classified as Least Concern globally and is not listed in the Uzbekistan Red Data Book.

Site survey recorded a single mammal species. Evidence of the Libyan Jird (*Meriones libycus*) was observed through approximately 14 active and inactive burrow systems distributed across the Site. This species is common and widespread throughout the Fergana Valley and broader Uzbekistan. No mammal species of conservation concern were identified.

Herpetofauna

GBIF and iNaturalist databases report the presence of 5 herpetofaunal species in the landscape which includes three reptile species and two amphibian species namely Marsh Frog and Xinjiang Toad which are widespread throughout Central Asia and are commonly associated with ponds, irrigation canals, reservoirs and other freshwater habitats. None of these are considered globally threatened or nationally protected.

Primary site survey recorded a total of four herpetofaunal species, comprising two amphibians and two reptile species. Amphibians included the Green Toad (*Bufotes viridis*) and Marsh Frog (*Pelophylax ridibundus*), which were observed in nearby wetland habitats associated with an irrigation canal and park lake located outside the Project site.

Reptiles included the Steppe Agama (*Trapelus sanguinolentus*), recorded within the Project area, and *Phrynocephalus saidalievi* recorded in southern area outside the Project boundary. Overall, herpetofaunal diversity was observed to be low.

Phrynocephalus saidalievi is listed in the Red Book of Uzbekistan as Endangered (EN). It is assessed globally by the IUCN Red List as Vulnerable (VU) and is endemic to the Fergana valley region. IUCN Redlist assessment indicates that it is the most abundant species in

southwestern Kyrgystan and common in the Tajikistan and Uzbekistan portions of the Fergana Valley[8].

Although not recorded within the Project footprint, its presence in adjacent areas (approximately 100m) south of the Site indicates that the habitats in the surrounding landscape do support the species. However, the Project area is composed predominantly of highly disturbed and modified habitat, with only a single individual recorded outside the Site boundary.

The Project site primarily comprises highly disturbed urban land that has been extensively modified through historical military use, earthworks, vehicle tracks, waste deposition and other anthropogenic activities. The Site lacks the open sandy substrates, undisturbed ground conditions for the species. During the field survey, no individuals, burrows or other evidence of occupancy were recorded within the Project site. Accordingly, while isolated individuals could occasionally move through the wider landscape, the Project site is not expected to support a resident or significant population of *P. saidalievi*, nor does it represent habitat of importance to the long-term conservation of the species.

Herpetofaunal species known from literature and recorded during the survey have been provided in **Table** 10-5.

Table 10-5 Herpetofaunal species reported from the landscape

SN	Common Name	Scientific Name	IUCN Red List Status (2025-2)	Uzbekistan Red Data Book	Confirmed/ Desktop
1	Desert Lidless Skink	*Ablepharus deserti*	LC	Not Listed	Desktop
2	Green Toad	*Bufotes viridis*	LC	Not Listed	Confirmed
3	-	*Phrynocephalus saidalievi*	VU	EN	Confirmed
4	Spotted Desert Racer	*Platyceps karelini*	LC	Not Listed	Desktop
5	Steppe Agama	*Trapelus sanguinolentus*	LC	Not Listed	Confirmed
6	Transcaspian Bent-toed Gecko	*Mediodactylus russowii*	LC	Not Listed	Desktop
7	Marsh Frog	*Pelophylax ridibundus*	LC	Not Listed	Confirmed
8	Xinjiang Toad	*Bufotes pewzowi*	LC	Not Listed	Desktop

(Note: The species highlighted in green were recorded during the Site survey; LC: Least Concern, VU: Vulnerable, EN: Endangered)

Note: The biodiversity baseline is based on a combination of desktop studies and a single-season field survey. While seasonal variation may influence the detectability of some species, the confidence in the assessment is considered high because the Project site constitutes of a highly modified peri-urban landscape with low habitat diversity, extensive anthropogenic disturbance, and limited ecological value. The absence of protected areas, Key Biodiversity Areas, critical habitats, and suitable habitat for species of conservation

[8] https://www.iucnredlist.org/species/48836207/54473099#population

concern within the Project footprint indicates that additional seasonal surveys are unlikely to materially alter the biodiversity baseline, impact assessment, or the conclusions of this ESIA.

Phrynocephalus saidalievi

Steppe Agama

Crested Lark

Red-tailed Shrike

Western Yellow Wagtail

Jird Burrows

Figure 10-7 Fauna observed during the survey

10.2.6 Ecosystem Services

A screening of ecosystem services was undertaken with reference to IFC PS6 and EBRD ESR6, considering the ecological functions observed within the Project site and adjacent surveyed area and whether affected communities or the Project are likely to depend on them. The Project site is highly disturbed, with majority of the area excavated and devoid of

vegetation, while the remaining areas support sparse, fragmented ruderal vegetation. Accordingly, the ecosystem services currently provided by the Site are limited.

- Evidence of grazing was recorded in the area. However, vegetation cover and forage quality are low, and the survey did not establish regular use of the Project footprint or livelihood dependence by local communities.
- The remaining vegetation provides limited protection against wind and water erosion. Vegetation clearance could temporarily increase localized soil erosion and dust generation to some extent, requiring erosion control, dust suppression.
- Sparse ruderal vegetation provides limited shelter and foraging habitat for common flora and fauna. However, habitat condition was assessed as poor to very poor, and no threatened or restricted-range plant species were recorded.

Based on the survey evidence, none of these services is considered a Priority Ecosystem Service, as no material dependence by communities or the Project has been identified and the services are provided at a limited level.

10.3 Potential Impacts, Mitigation and Management

10.3.1 Area of Influence (AoI)

The Area of Influence (AoI) is the area within which project activities may affect receptors. Since each impact type may extend across different spatial ranges, the AoI varies accordingly, for example, with regards to habitat loss, the direct impact would pertain to species that currently occupy the Project's footprint.

Impacts related to direct mortality would be generally confined to the entire construction and operational footprint of the Project, including associated infrastructure.

Disturbance impacts, however, may extend beyond the immediate footprint of the Project. The extent of such impacts depends on the behavioural sensitivity of affected species. Impacts related to the introduction or spread of invasive species may extend from several meters to several hundred meters beyond the Project footprint, potentially affecting the wider landscape.

10.3.2 Receptors

Table 10-6 Potential Terrestrial Ecology Receptors

Receptor	Sensitivity	Justification
Flora	**Low**	The flora species identified within the Project site are limited, common to the region and are of low ecological value or vulnerability. A total of 37 plant species were recorded during field surveys, with no species listed in the Red Data Book of Uzbekistan, IUCN Red List, or restricted-range endemic species identified within the project site. Habitat quality was assessed as poor to very poor due to extensive historical and ongoing disturbance.
Fauna	**High**	The survey did not observe any specific habitat or any fauna species of IUCN Conservation Status within the Project site. A total of 16 vertebrate species were recorded during field surveys.

Receptor	Sensitivity	Justification
		However, a nationally threatened and IUCN Vulnerable reptile species was recorded adjacent to the Project site.

10.3.3 Construction Phase Impacts

Habitat and vegetation loss

Construction work including site preparation, foundations, excavations, etc. will result in the direct loss of the existing habitats within the Project site. Field surveys confirmed that approximately half of the Site is already devoid of vegetation due to previous disturbance and excavation activities, while the remaining areas support sparse and fragmented semi-desert vegetation dominated by common ruderal and disturbance-tolerant plant species. No plant species of conservation concern were recorded within the site.

Given the degraded nature of the habitat, low vegetation cover, absence of threatened flora, and availability of similar habitat in the surrounding landscape, the direct loss of vegetation is expected to be of minor significance pre-mitigation.

Disturbance to fauna

Construction activities, including site clearance, earthworks, vehicle movement, and operation of construction equipment, have the potential to cause temporary disturbance to fauna occurring within or adjacent to the Project site. Ground-dwelling species, such as reptiles, amphibians, small mammals, and invertebrates, may be disturbed by vegetation clearance and excavation activities, which could result in the temporary loss of shelter, refuge, or foraging opportunities. Any individuals present within the work area may disperse to adjacent habitats in response to construction activities, which this is expected to result in reduced impacts.

Field surveys recorded 15 vertebrate species within the Project area and surrounding habitats, including the presence of nationally listed Said-Aliyev's Toad-headed Agama approximately 100 m south of the Project boundary. Although construction activities may generate localized disturbance through noise, vibration, dust and increased human presence, the Project footprint does not provide preferred habitat for this species, and no individuals or evidence of occupancy were recorded within the Site. Construction-related disturbance could temporarily affect breeding birds and displace reptiles occupying habitats within the Project area, if any. However, given the disturbed nature of the Project area and the localized extent of construction activities, indirect impacts on the nearby occurrence of the Said-Aliyev's Toad-headed Agama are considered unlikely.

Construction-related noise, vibration, increased human presence, and vehicle movements may also disturb avifauna utilizing the site and surrounding areas. However, the Project site is located within a primarily modified urban landscape and does not contain habitats of particular importance for breeding, nesting, roosting, or congregation of bird species. Although the Site does not support habitats of high ornithological importance and no nationally or globally threatened bird species were recorded, construction activities undertaken during the breeding season could disturb any active nests of common resident bird species if present within the construction footprint.

Given the limited ecological value of the Project site and the availability of similar habitats within the surrounding landscape, any displacement of fauna resulting from construction activities is expected to be temporary and localized. Affected individuals are anticipated to disperse to suitable habitats in the immediate vicinity, with no measurable effects on local populations. Accordingly, the pre-mitigation significance of construction-related disturbance to fauna is assessed as negligible to minor.

Mortality or Injury to Fauna

Excavations, trenches, construction traffic, and operation of heavy machinery may result in accidental injury or mortality of small mammals, reptiles, amphibians, and invertebrates present within the construction footprint. The main risk is expected to be during site clearance and earthworks. There is also a risk of collisions of vehicles with small mammals, reptiles, amphibians, and birds on access roads. However, due to the low faunal diversity within the Project area, impacts are expected to be limited to individual animals rather than populations and of minor significance. However, due to the nationally threatened reptile sub-species recorded within the wider landscape (although not within the Project area itself), a possibility of injury or mortality affecting this species cannot be completely ruled out. Accordingly, the pre-mitigation significance of mortality or injury-related impacts on fauna is assessed as moderate.

Invasive Plant Species

Construction activities may increase the risk of introducing or spreading invasive or opportunistic plant species through soil movement, vehicle traffic, and imported construction materials. This impact can be mitigated through appropriate biosecurity and site management measures. Considering limited extent of ground disturbance and the application of standard biosecurity and site management measures during construction, the impacts are expected to be of minor significance pre-mitigation.

10.3.4 Impacts Assessment Summary – Ecological impacts during Construction

A summary of potential impacts from construction activities on the receptors are presented in following table including suggested mitigation measures and residual impacts after implementation of mitigations measures.

Table 10-7 Impact summary and mitigation measures – Construction phase

Potential Impacts	Magnitude of Impact	Receptor	Sensitivity	Potential Impact Significance	Residual Impacts
Habitat and vegetation loss	Negligible	Flora and Fauna	Low	Negligible	Negligible
Disturbance to fauna	Negligible	Ground-dwelling fauna	High	Minor	Negligible
Mortality or Injury to Fauna	Minor	Ground-dwelling fauna	High	Moderate	Minor
Invasive Species	Minor	Native flora	Low	Minor	Negligible
Proposed Mitigation Measures <u>Mitigation measures for habitat and vegetation loss</u> • Clearance and construction activities shall be restricted to the minimum area required for construction, and unnecessary disturbance outside the approved construction footprint shall be prohibited.					

Potential Impacts	Magnitude of Impact	Receptor	Sensitivity	Potential Impact Significance	Residual Impacts

- Construction boundaries, material storage areas, and access routes shall be clearly demarcated to prevent inadvertent encroachment into adjacent areas.

Mitigation measures for disturbance to fauna

- Pre-construction inspections shall be undertaken in areas scheduled for earthworks to identify the presence of any fauna, including IUCN or nationally red-listed/protected species of mammals, birds or herpetofauna, that may be affected by construction activities. Such surveys are required to be undertaken by a trained ecologist.
- Pre-construction inspections of the footprint areas shall be undertaken to identify any terrestrial fauna and the methods for their management. A Biodiversity Chance Finds Procedure will be followed in case of any encounters of fauna.
- All construction workers shall receive an induction training covering wildlife protection requirements, reporting procedures, and the Biodiversity Chance Finds Procedure.
- Construction personnel shall be instructed not to capture, harass, injure, or intentionally disturb wildlife encountered within or around the Project site.
- Construction activities shall be confined to work areas to minimize disturbance to adjacent habitats.
- Hunting, trapping, or intentional harm to wildlife by site personnel shall be strictly prohibited.

Mitigation measures for mortality or injury to fauna

- Pre-construction inspections of the footprint areas shall be undertaken to identify any terrestrial fauna, specifically the reptile species. A Chance Find Procedure will be followed in case of any encounters of fauna.
- Open excavations, trenches or pits shall be inspected daily prior to commencement of work to identify and safely remove any trapped fauna.
- Vehicle movements shall be restricted to designated access routes wherever practicable.
- A 25 km/hr speed limit to be imposed across the construction site in order to minimize risk of direct mortality of fauna.
- Any fauna mortality or injury observed on site, including incidents involving construction vehicles, shall be recorded and formally reported by the site team on the day of occurrence.
- Any wildlife injury or mortality observed during construction, including incidents involving vehicles or machinery, shall be documented, investigated, and reported to the Environmental Manager.

Mitigation measures for invasive plant species

- Soil, filling material or landscaping materials, if any, imported to the site shall be obtained from approved sources free from known invasive plant species.
- Appropriate training shall be provided to the EPC Contractor personnel to enable the identification, reporting of likely invasive alien plant species that may establish within the Project area.
- Disturbed areas within the Project site and immediate vicinity shall be regularly inspected for the establishment of invasive or opportunistic plant species during construction.
- Any invasive species identified within the Project site shall be removed and managed in accordance with good practices.
- The above prevention, inspection, early-detection, reporting, control and follow-up monitoring requirements shall be incorporated into the CESMP and the OESMP.

10.3.5 Operation Phase Impacts

Wildlife-Vehicle Collisions

Operation of the hospital will result in increased traffic associated with staff, patients, visitors and emergency vehicles. This may marginally increase the risk of collisions with small mammals, reptiles, amphibians on access roads. However, given the urban setting and existing disturbance in the surrounding area, the additional risk to wildlife populations is expected to be low and impact is expected to be of negligible significance.

Pollution from Waste and Wastewater

Improper management of operational waste, wastewater, or accidental releases could affect nearby habitats. However, hospitals are typically required to implement robust waste management and wastewater treatment systems. Provided that all wastes are managed in accordance with applicable regulations and procedures, residual impacts on biodiversity are expected to be negligible.

Attraction of Pest and Synanthropic Fauna

Operation of the hospital may result in the generation of food waste and other refuse that could attract opportunistic wildlife and synanthropic species such as feral dogs, feral cats, rodents, and certain bird species. The presence of stray dogs was already recorded during the baseline survey, indicating that such species are established within the wider area. An increase in these species could potentially lead to localized disturbance of native fauna through predation, competition, or displacement. However, given the urban setting of the Project and the implementation of appropriate waste management measures, including secure waste storage and regular waste collection, the likelihood of attracting significant populations of pest or invasive fauna is expected to be low. Thus, the residual impact is expected to be negligible.

10.3.6 Impacts Assessment Summary - Ecological impacts during Operation

A summary of potential impacts during the operational phase are presented in following table including suggested mitigation measures and residual impacts after implementation of mitigations measures.

Table 10-8 Impact summary and mitigation measures – Operation phase

Potential Impacts	Magnitude of Impact	Receptor	Sensitivity	Potential Impact Significance	Residual Impacts
Wildlife-Vehicle Collisions	Minor	Fauna	Medium	Minor	Negligible
Pollution from Waste and Wastewater	Negligible	Adjacent habitats and associated fauna	Low	Negligible	Negligible
Attraction of Pest and Synanthropic Fauna	Minor	Native fauna	Low	Minor	Negligible

Potential Impacts	Magnitude of Impact	Receptor	Sensitivity	Potential Impact Significance	Residual Impacts
Proposed Mitigation Measures Mitigation measures for wildlife-vehicle collision • Appropriate speed limits shall be maintained on internal Ecocity roads and access routes. • Adequate road lighting shall be provided to improve driver visibility while avoiding unnecessary light spill into adjacent areas. • Waste and food residues shall be appropriately managed to avoid attracting birds, mammals, or other wildlife to roads, parking areas. Mitigation measures for pollution from waste and wastewater • All solid, hazardous, medical waste shall be handled, transported and disposed of in accordance with applicable hospital waste management procedures. • Waste shall be stored in designated, secure, and covered facilities to prevent leakage, wind dispersal, scavenging by animals, and attraction of pest species. • Wastewater generated by the hospital shall be collected and treated in accordance with standard procedures and good practices. Mitigation measures for attraction of pest and synanthropic fauna • All food waste, municipal waste, and other potentially attractive waste shall be stored in covered, animal-proof containers and removed from the site regularly. • Good housekeeping practices shall be maintained throughout the operational phase to prevent the accumulation of food waste, litter, or other materials that may attract feral dogs, feral cats, rodents, or opportunistic bird species. • Routine inspections of the hospital premises shall be undertaken to identify the presence of pest species or increasing numbers of feral animals, and appropriate pest management measures shall be implemented where required in accordance with applicable regulations and animal welfare considerations.					

10.4 Monitoring

Monitoring	Parameters	Frequency & Duration	Monitoring Location	Roles & Responsibilities
Construction				
Fauna protection	• Fauna species observed on the site; • Presence of trapped, injured fauna; implementation of fauna protection measures; • Implementation of Chance Find Procedure and Translocation Protocol for	• On-going visual observations and documentation through videos and photographs of live fauna at the commencement of working activities; • Pre-construction survey before site excavation and relocation/rescue, if needed.	In all working area requiring land grading or earthworks.	EPC Contractor EHS Officer to implement monitoring and fauna protection measures; Qualified Ecologist to undertake pre-construction surveys and any required rescue/relocation; Project Company to oversee compliance.

Monitoring	Parameters	Frequency & Duration	Monitoring Location	Roles & Responsibilities
	any encounters			
Housekeeping and waste management	• Presence of litter, food waste, waste accumulation, or conditions attracting wildlife; proper waste storage and disposal	• Weekly throughout construction	Construction site, worker facilities, waste storage areas	EPC Contractor EHS Officer
Operation				
Waste management	• Proper segregation, storage, and disposal of domestic, medical, and hazardous wastes; evidence of wildlife attraction	• Quarterly during operation	Waste storage and handling areas	Hospital EHS/Facility Manager to monitor waste management practices; Licensed Waste Contractor to manage waste disposal.
Alien plants management	• Presence and abundance of alien/invasive plant species within landscaped areas, vacant land and facility boundaries • Evidence of spread into adjacent habitats or green spaces • Implementation of alien plant control and eradication measures	• Quarterly inspections during the first two years of operation; • Biannual inspections thereafter	Landscaped areas, drainage corridors, boundary fences, undeveloped/open areas within the hospital property, if any, and any adjacent areas potentially affected by the spread of alien plant species.	Hospital Facility Manager/Landscape Contractor to inspect and control invasive plants

11 Water Resources

11.1 Applicable Requirements

11.1.1 National Requirements

Water Resources

Water resource management, allocation and use in Uzbekistan falls under the Ministry of Agriculture and Water Resources (MAWR), which oversees national authorities i.e. provisional and district departments of agriculture and water resources and inter provincial and inter district river management authority.

- Constitution of the Republic of Uzbekistan: Article 55 states “Land, depths, water, flora and fauna and other natural resources are national wealth, should be rationally used and are under state protection.”
- The Law of the Republic of Uzbekistan “On water and water use” (1993 as amended on 01.12.2021).

This law enshrines the key objectives for water legislation in Uzbekistan setting the following requirements:

- Article 1 requires “Regulation of water relations; effective use of water; protection of water from pollution, littering and exhaustion; prevention and liquidation of harmful impact on water resources; improvement of state water objects; and protection of the rights of enterprises, organisations, farms and citizens in the field of water relations.”
- Article 3 stipulates that “Water resources are the state property and wealth of the Republic of Uzbekistan, should be rationally used and is protected by the state.”

The law authorises the State through authorized agencies to carry out management and control of water use and protection.

Other key legislations and standards relevant to the Project include:

- SanN&R No. 0083-24 (22 Nov. 2024) – Sanitary rules, norms and hygiene regulations for the protection of underground and surface water bodies.
- Decree of the Cabinet of Ministers No.255 of 31.03.2018 On the approval of some administrative regulations of the provision of public services in the field of nature use (scheme for issuing permits for special water use or water consumption) as amended on 15.01.2020.
- SanPiN RUz No. 0318-15. Hygienic and anti-epidemic requirements for the protection of water in reservoirs on the territory of the Republic of Uzbekistan.

The Decree № 981 of December 11, 2019 "Regulation on procedure of establishing water protection zones and sanitary protection zones for water bodies on the territory of the Republic of Uzbekistan”.

11.1.2 Lender Requirements

11.1.2.1 IFC

The IFC Performance Standards requires adherence to IFC Performance Standard 3 on ‘Resource Efficiency and Pollution Prevention’ and this requires the client and/or the Project to:

- Prevent the release of pollutants to water and land due to routine, non-routine, and accidental circumstances, or when not feasible, minimize and/or control the intensity and mass flow of their release.

11.1.2.2 EBRD

ESR 3 on Resource Efficiency and Pollution Prevention and Control establishes general requirements for pollution prevention as follows:

- The assessment process will identify technically and financially feasible and cost-effective pollution prevention and control techniques that are best suited to avoiding or minimising adverse impacts on human health and the environment. The techniques applied to the project will favour the prevention or avoidance of risks and impacts over minimisation and reduction, in accordance with the mitigation hierarchy and consistent with GIP and be appropriate to the nature and scale of the project's adverse risks and impacts and to the potential impacts on vulnerable people.
- Throughout the project lifecycle, pollution prevention and control techniques will be applied, consistent with the mitigation hierarchy to minimise potential adverse impacts on human health and the environment while remaining technically and financially feasible and cost effective. This applies to the release of pollutants due to routine, non-routine or accidental circumstances.
- The client will structure the project to meet relevant EU substantive environmental standards, where these can be applied at Project level.

11.2 Observations and Baseline Conditions

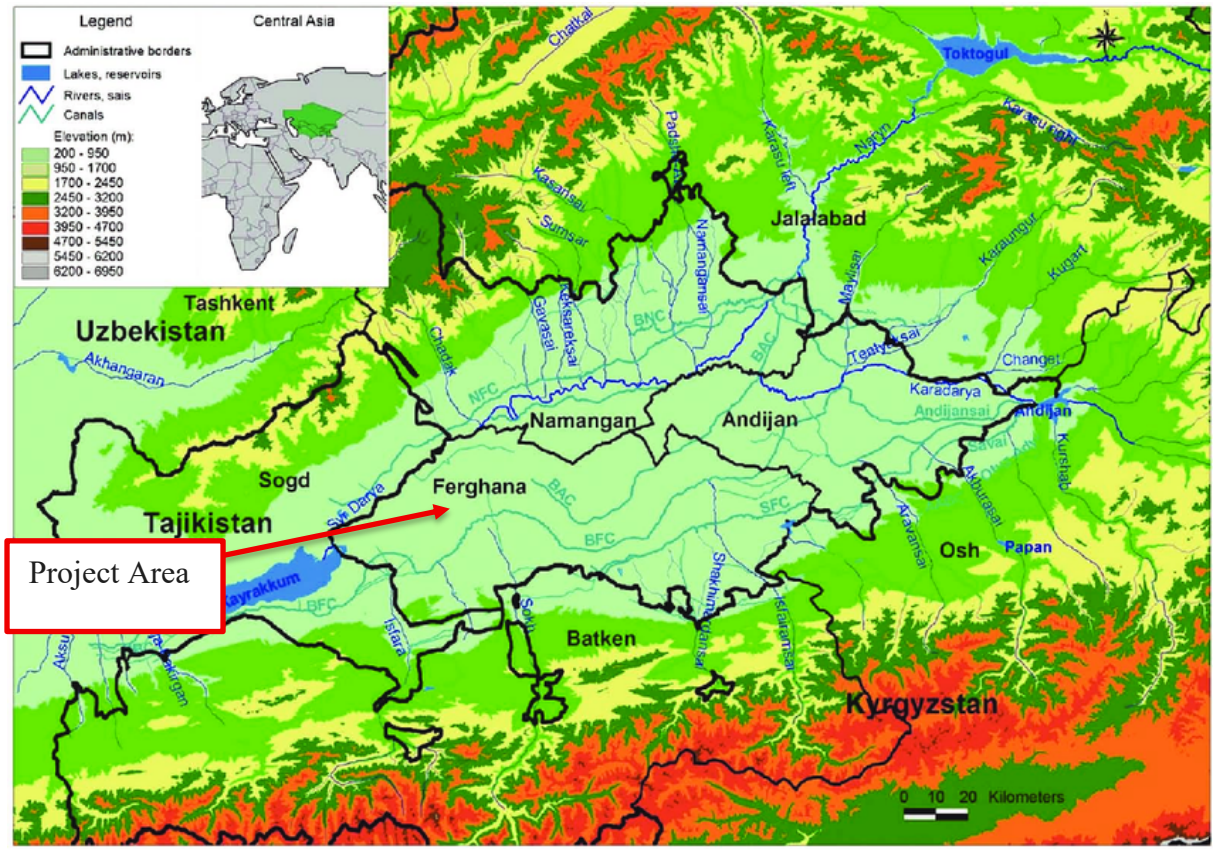
11.2.1 Baseline Conditions

11.2.1.1 Surface Hydrology

The Fergana Valley's transboundary water resources are dominated by the Syr Darya River, which carries an average annual flow of 37 billion cubic meters (BCM). This mainstream forms from the confluence of the Naryn River (13.8 BCM) and Karadarya River (3.9 BCM), both originating in Kyrgyzstan's mountains. The Naryn's flow is regulated by the upstream Toktogul Reservoir in Kyrgyzstan (14 BCM active storage), while the Karadarya is controlled by the Andijan Reservoir on the Kyrgyzstan-Uzbekistan border (Osh and Andijan provinces; 1.75 BCM active storage). Upon exiting the valley, the Syr Darya is further regulated by the Kayrakkum Reservoir in Tajikistan (2.6 BCM active storage). The valley also features approximately 20 small transboundary tributaries (STTs) that collectively contribute 7.8 BCM to the Syr Darya's flow; many of these STTs include their own smaller reservoirs (Soliev et al., 2015).

The Fergana Valley's geographical location is peculiar as it is enclosed by high mountains of Tajikistan and Kyrgyzstan, while the valley floor remains predominantly flat and arid. These topographic and climatic features constrain the sustainable expansion of land and water resources thus the Fergana region relies on Syr Darya River inflows, but irrigation overuse raises salinity from 0.60-0.63 g/L upstream to 1.6-1.8 g/L downstream, with 13% mineral fertilizers washing into drainage. Agriculture plays a vital role in the economy of Fergana resulting in high water abstraction and due to high water use and demand, withdrawing approximately 90% of the region's available resources (CAWATERinfo 2012), whilst climate change exacerbates scarcity through droughts and glacier melt reduction.

The transboundary surface hydrology of the Fergana region is shown on the following figure, from which it is evident that the immediate project area lacks presence of surface waters.



AABC - Aravan-Akbura Canal, BAC - Big Andijan Canal, BFC - Big Ferghana Canal, BNC - Big Namangan Canal, KBC - Khodja-Bakirgan Canal, NFC - North Ferghana Canal, SFC - South Ferghana

Figure 11-1 Transboundary surface hydrology of Fergana Valley (Soliev et al., 2015).

A Geotechnical study was undertaken within the Project boundary in June 2025 by UzGashkliti LLC, where it was identified that there are no surface waters pertaining to significant rivers, streams, or permanent surface water bodies within or adjacent to the project area. The nearest hydrological feature is the Syrdarya River (located approximately 270 km away) and its tributaries; the Chirchiq river located approximately 280 km from away and the Sokh river located approximately 120 km away, however, these are located at significant distances thus they have no direct impact on the Project site.

11.2.1.2 Groundwater

The Fergana Valley is located within a prominent depression in the Tien Shan Mountains that functions as a vast natural reservoir and hydraulic conduit for surface and groundwater. Its hydrogeology features a thick sedimentary sequence hosting extensive, predominantly transboundary aquifers. These groundwater systems are strongly influenced by anthropogenic factors, particularly artificial recharge from irrigation canals.

The groundwater hydrogeological map of Uzbekistan is shown in the following figure, with the Project area (pointed by the red arrow).

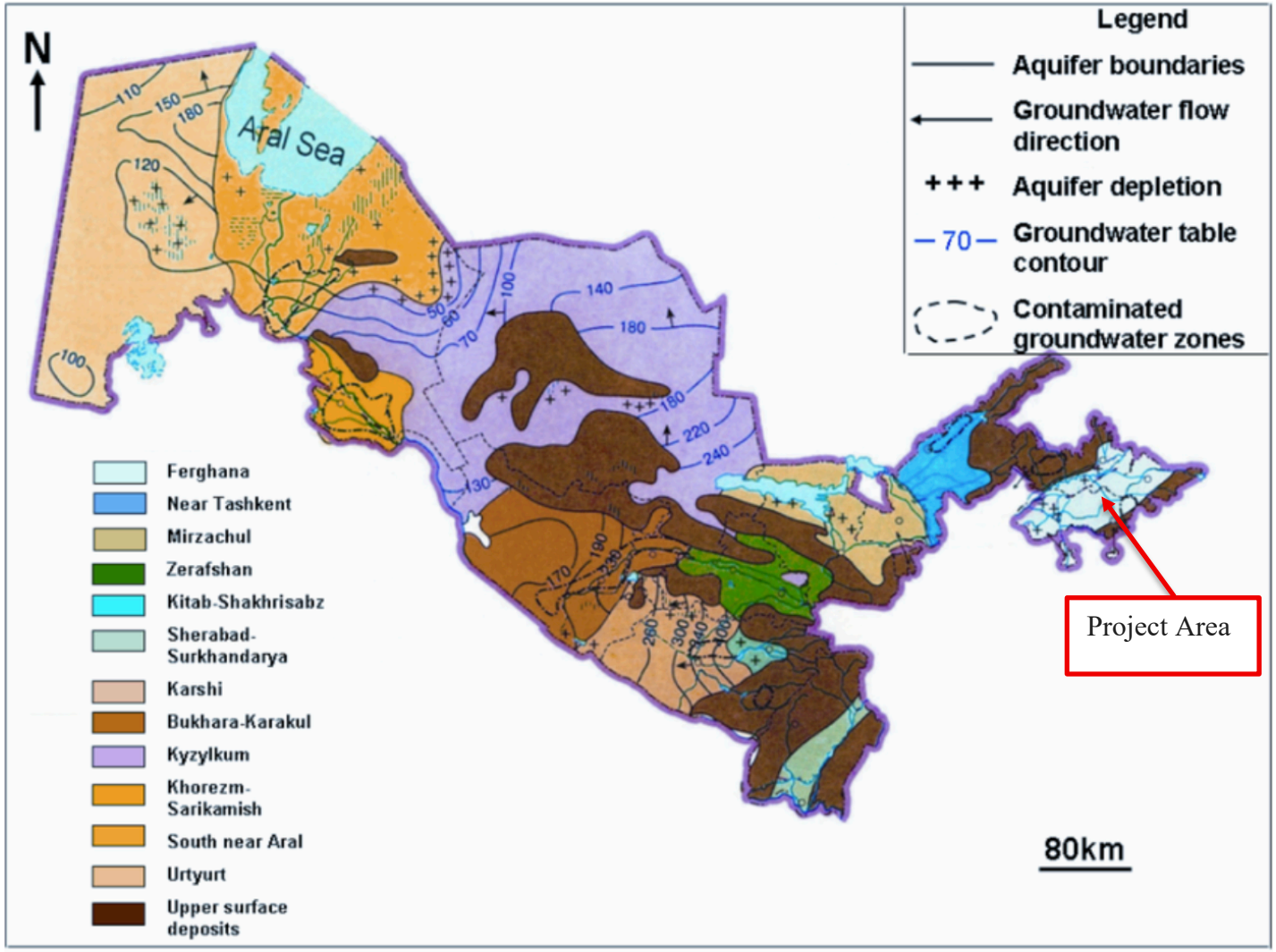


Figure 11-2 Hydrogeological map of Uzbekistan (Rakhmatullaev et al., 2012).

According to the Geotechnical study undertaken in June 2025 by UzGashkliti LLC where the drilling and sampling of 6 boreholes to a depth of 15 meters each, with a total drilling meterage of 90 meters was undertaken, it was noted that no active erosion processes or groundwater outcrops were observed during the site investigations. The groundwater levels were estimated in the report to be at approximately 20 meters depth, with no influence on surface geomorphology, however, it is important to note that groundwater was not encountered or otherwise observed on-site.

11.2.2 Survey Methodology and Site Observations

The site investigation conducted on 23 April 2026 to identify any surface water bodies (e.g., rivers, canals, ponds) and groundwater sources (e.g., wells, boreholes) within and around the Project area. Additionally, another site investigation was conducted.

It is to be noted that no surface waterbodies were observed on site or within the vicinity of the site. The nearest water feature is an artificial lake irrigation canal located approximately 300 m northeast of the site, which supplies water to the adjacent park. As no surface water bodies are present within the project boundaries; impacts are considered negligible and will not be assessed further in this report.

Additionally, any runoff as a result of rain events will be managed through the Eco City stormwater drainage system and conveyed off-site

Several sealed geological boreholes and piezometers were identified within the project area, likely associated with previous geotechnical and hydrogeological investigations.

11.2.3 Sensitive Receptors

Table 11-1 Water Resources Sensitive Receptors

Receptor	Sensitivity	Justification
Groundwater	Low	Local groundwater can be assigned a low sensitivity due to the groundwater depth being estimated at 20 meters deep. Any resultant runoff will be managed through the Eco City stormwater drainage system and conveyed off-site, thus no impacts to groundwater.
Surface water	Low	No surface waterbodies were observed on site or within the vicinity of the site. Any resultant runoff will be managed through the Eco City stormwater drainage system and conveyed off-site, thus no impacts to the surface water crossings.

11.3 Potential Impacts, Mitigation and Management

11.3.1 Construction Phase Impacts

11.3.1.1 Accidental Spills and Leaks

Construction activities will involve the transportation and storage of various construction materials and wastes, as well as the operation and maintenance of heavy machinery. Bare ground within the Project's access roads and off-loading and pick-up bays could be subject to contamination due to accidental spillage of transited products. Soil within areas designated for light and bulk storage of construction materials and waste (e.g., diesel, concrete washout water, used oils, hydraulic fluids), is equally prone to contamination from inadvertent spills and leakages associated with compromised containment structures/ packaging and handling.

Concrete washout will be generated during the site preparation, building construction and some civils activities. Concrete washout is caustic and has a high pH. The inappropriate disposal or other exposure to soils can result in impacts to soil quality and can potentially affect groundwater quality. In addition, areas dedicated for maintenance of heavy machinery (e.g., workshops) also bear the risk of contamination resulting from accidental spills and leakages which are likely to seep into the ground, resulting in groundwater contamination if no mitigation measures are in place. Additionally, any resultant runoff will be managed through the Eco City stormwater drainage system and conveyed off-site, thus no impacts to groundwater.

Table 11-2 Construction Phase – Water Resources Impacts and Mitigation Measures

Potential Impacts	Magnitude of impact	Receptor	Sensitivity	Impact Significance	Residual impact
Accidental Spills and Leaks	Minor	Groundwater	Medium	Minor	Negligible
<u>Mitigation to manage groundwater impacts from accidental spills and leaks</u> • Ensure proper PPE is worn; to include at a minimum: gloves, safety shoes, and safety googles • Prompt and effective action be initiated to stop the spillage/leakage and its pollution at source. • Contain the spillage and prevent it from reaching sensitive areas by using the absorbent materials in the available spill kit • After the spillage or leakage has been contained, the contaminated material and the absorbent material should be placed within the disposal bags available in the spill kit and properly enclosed with tape or twist ties. Disposal bag shall be removed and treated as hazardous waste. • Make sure that the used spill kits are replaced with new ones and that enough absorbing materials are available for future potential environmental accidents. • Hazardous materials and wastes should be stored in accordance with GIIP, namely impermeable flooring, bunds, shade, etc. to ensure that leaks to the soil and groundwater do not occur. • Provide concrete bunding (or other suitable impervious barrier) for fuel storage and transfer on site. The bunding should be bigger than the fuel storage tank/s to allow a bit of working space around tank/s (e.g. 20% bigger than the tank/s). Use of sheeting to prevent soil contamination (e.g. during vehicle servicing). • Concrete slabs or other suitable impervious layer should be installed at each point where hazardous materials are handled. • The fuel tanks should stand on a concrete slab or other suitable surface to prevent the leakage of contaminants into the soil. • All vehicles and machinery should be fitted with oil drip trays to prevent oil dripping to the ground. • The EPC Contractor will maintain an inventory of all potentially hazardous materials and chemicals used and stored on-sites and maintain Material Safety Data Sheets (MSDS) at point of material storage. • Store all chemicals/materials according to manufacturer's instructions and MSDS. This includes consideration/assessment of compatibility with other substances. • The chemical storage areas will have effective ventilation and be sheltered from rain/sun. Segregated storage areas will be provided to allow for separation of any incompatible chemicals. • All mobile equipment using oils or fuels will have drip trays underneath to capture any oil leaks or drips. • The Contractor will develop and implement an Emergency Response Plan (ERP) and Spill Response and Contingency. • Relevant personnel to be trained on emergency and spill response, containment, material handling and storage procedures.					

Potential Impacts	Magnitude of impact	Receptor	Sensitivity	Impact Significance	Residual impact
• All spills and leaks will be reported promptly to the Construction Manager and investigated to confirm the cause and put in place appropriate corrective/preventative actions. The spill or leaks incidents will be documented with evidence of investigation and close out. • No vehicle or machinery maintenance or repair will be carried out on sites. • Refuelling and maintenance of vehicles/equipment will be within a dedicated and approved area, on impermeable surface and with drip trays and spill clean-up materials. • Any fuel transport vehicles and its equipment to be maintained and routinely inspected to ensure the tank, pumps, pipe work and the vehicle itself are free from leaks and fit for purpose-No equipment will be placed in service until deficiencies are corrected. • Emergency drills will be held with staff to practice timely and effective spill response. • Implement regular maintenance program of vehicles and equipment to minimise leaks or mechanical failures and keep document evidence. • Washing equipment, machinery and vehicles will only be permitted in designated areas, with impermeable surfaces and dedicated drainage systems. • Washout of concrete trucks will be performed in designated areas only at approved concrete washout areas. • Implementation of good housekeeping practices during construction activities including procedures and requirements for proper handling, storage, and transport of hazardous materials and waste. • Wastewater storage tanks shall be installed above ground for visual inspection within bunding of 110% the capacity of the wastewater tank. • Wastewater storage tanks will be regularly inspected and will be equipped with a level gauge to monitor any leaks and ensure the tanks are emptied to avoid over-flowing.					

11.3.2 Operation Phase Impacts

11.3.2.1 Accidental Spills and Leaks, Stormwater Runoff and Groundwater Quality

During the operational phase, the potential for uncontrolled releases to soils from a number of sources is possible. Such releases have the potential to occur during transportation, handling, and storage as well as during cleaning activities and accidental spillages to the ground. Potential contamination sources will likely include:

- Bulk storage of diesel for the emergency generator;
- Stored operational phase chemicals;
- Waste oils (e.g. oily sludge, spent maintenance oils, oil from leaking vehicles);
- The use of solvents/cleaning fluids;
- Potentially contaminated stormwater;
- Accidental release of wastewater;

The Project will not involve groundwater abstraction, direct discharge to surface water bodies, as there are none within the Project footprint, or the storage of significant volumes of fuels and hazardous liquids. As such, operational impacts to surface water and groundwater are expected to be minimal. Potential impacts would be limited to small-scale, accidental releases (e.g. from maintenance activities), which would be localised and manageable through standard operational controls and infrastructure such as drainage and wastewater systems.

Additionally, natural and unplanned hazards such as extreme rainfall events and fire can lead to the generation of excessive stormwater and spill-over of contaminated water, which can result in the pollution of groundwater through exposed soil. The development of the Project will increase the extent of impermeable surfaces, which will result in an increased surface water runoff during rainfall events compared to the existing baseline conditions. Rainwater collection and disposal will be considered as part of the detailed engineering. Additionally, there will be paving around the building to minimise erosion, therefore potential operational impacts have been assessed taking into account that majority of the area within the Project will be paved limiting the chances of seepages to below ground, assuming the runoff is appropriately managed.

Drains will be designed and sloped away from the hospital building and connected to municipal stormwater drainage disposal system. This runoff will be managed through the Eco City stormwater drainage system and conveyed off-site, ultimately to a watercourse. There is a potential for runoff to carry sediments or pollutants into the wider drainage network and ultimately to the receiving environment. Additionally, it is anticipated that potential oil leaks from visiting vehicles in the Hospital premises could be a significant pollutant.

Table 11-3 Operation Phase – Water Resources Impacts and Mitigation Measures

Potential Impacts	Magnitude of impact	Receptor	Sensitivity	Impact Significance	Residual impact
Stormwater Runoff	Minor	Groundwater	Medium	Minor	Negligible
Accidental Spills and Leaks	Minor	Groundwater	Medium	Minor	Negligible
• FM Company shall develop and implement an Emergency Response Plan (ERP) to include or link to a Spill Response and Contingency Plan. • Appropriate training of staff in regard to the handling and response to spill/leak events. • Fuel tanks monitoring system shall be operational at all times and any leak detected shall be immediately stopped with applicable correction measures implemented. • Storage of all hazardous materials such as fuels and chemicals on an impermeable base with liners and/or secondary containment bund with enough capacity to hold 110% of the bulk storage container and 25% of the total volume of the multiple containers. • All spills and leaks will be reported promptly and investigated to confirm the cause and put in place appropriate corrective/preventative actions. The spill or leaks incidents will be documented with evidence of investigation and close out. • Restrict access to hazardous materials. • Availability of complete spill kits in all hazardous material storage areas. • Availability of MSDS on-site for any chemicals in use (to be made available at the chemical storage area). • Availability of a chemical register for all the hazardous chemicals on site.					

11.3.3 Monitoring

Table 11-4 Water Resources Monitoring Requirements

Monitoring	Parameter	Frequency & Durations	Monitoring Location	Responsibility
Construction				

Potential Impacts to Groundwater	Visible spills & leaks of hydrocarbons and other potentially hazardous or chemicals	Daily during construction as part of the daily walkdown	The entire project area during construction	EPC Contractor
Operation				
Stormwater Runoff, Accidental Spills & Leaks, and Groundwater quality	Visible spills and leaks of chemicals/ waste	Daily during operations	Storage and maintenance areas	FM Company

12 Topography, Geology, and Soil

12.1 Applicable Requirements and Standards

12.1.1 National Standards

It is to be noted that Uzbekistan does not have national standards for assessing soil contamination. National standards for soil quality exist, but are applicable to agricultural soils for arable crop cultivation for human consumption.

12.1.2 Lenders Requirements

12.1.2.1 IFC

IFC Performance Standard 3 on 'Resource Efficiency and Pollution Prevention' requires the client and/or the Project to:

- Avoid or minimize adverse impacts on human health and the environment by avoiding or minimizing pollution from project activities; and
- Prevent the release of pollutants to water and land due to routine, non-routine, and accidental circumstances, or when not feasible, minimize and/or control the intensity and mass flow of their release.

Good Industry Practice

The Dutch Standards list Target and Intervention Values. Target values refer to background concentrations that occur naturally in soils (based on the Netherlands) and are considered to reflect good soil quality that requires no remediation (no action). Intervention Values relate to cases of soil and groundwater contamination which are dangerous to the health of humans and the natural environment. These levels of contamination typically require remediation and appropriate treatment and disposal. The Dutch Standards for the most significant pollutants are presented on the following table. Where a parameter is not covered by the National Standards shown in the Table below, the Dutch Standards will be referenced for benchmarking purposes.

Table 12-1 Dutch Standards for Soil and groundwater Contamination (2013)

Parameters	Soil (mg/kg dry matter)	
	Target value*	Intervention value
Heavy Metals		
Arsenic	29	76
Barium	160	-
Cadmium	0.8	13
Chromium	100	-
Chromium III	-	180
Chromium IV	-	78
Cobalt	-	190
Copper	36	190
Lead	85	530

Parameters	Soil (mg/kg dry matter)	
	Target value*	Intervention value
Mercury	0.3	36 (inorganic) 4 (organic)
Molybdenum	3	190
Nickel	35	100
Zinc	140	720
Aromatic Compounds		
Benzene	0.01	1.1
Ethyl benzene	0.03	110
Toluene	0.01	32
Xylene (sum)	0.1	17
Styrene (vinylbenzene)	0.3	86
Phenol	0.05	14
Cresols (sum)	0.05	13
Chlorinated Hydrocarbons		
Monochloroethene (vinyl chloride)	0.01	0.1
dichloromethane	0.4	3.9
1,1-dichloroethane	0.02	15
1,2-dichloroethane	0.02	6.4
1,1-dichloroethene	0.1	0.3
1,2-dichloroethene (sum)	-	1
Dichloropropanes (sum)	-	2
Trichloromethane (chloroform)	0.02	5.6
1,1,1-trichloroethane	0.07	15
1,1,2-trichloroethane	0.4	10
Trichloroethene (Tri)	0.1	2.5
Tetrachloromethane (Tetra)	0.4	0.7
Tetrachloroethene (Per)	0.002	8.8
Chlorobenzenes		
Monochlorobenzene	-	15
Dichlorobenzenes (sum)	-	19
Trichlorobenzenes (sum)	-	11
Tetrachlorobenzenes (sum)	-	2.2
Pentachlorobenzene	-	6.7
Hexachlorobenzene	-	2.0
Chlorophenols		

Parameters	Soil (mg/kg dry matter)	
	Target value*	Intervention value
Monochlorophenols (sum)	-	5.4
Dichlorophenols (sum)	-	22
Trichlorophenols (sum)	-	22
Tetrachlorphenols (sum)	-	21
Pentachlorophenol	-	12
Source: Soil Remediation Circular 2013, (*Target values for soil refer to 2000 version as they are not present in the 2013).		

Note: *The soil values are calculated for a 'Standard Soil' with 10% organic matter and 25% clay. A case of environmental contamination is defined as 'serious' if >25 m³ soil or >100 m³ groundwater is contaminated above the intervention value.*

Where contaminants are found to exceed 'intervention' levels, this is considered to be a case of soil contamination, which is dangerous to the health of humans and the natural environment. Such a level of contamination should prompt a need for remediation, appropriate treatment and disposal.

12.1.2.2 EBRD

ESR 3 on Resource Efficiency and Pollution Prevention and Control establishes general requirements for pollution prevention as follows:

- The assessment process will identify technically and financially feasible and cost-effective pollution prevention and control techniques that are best suited to avoiding or minimising adverse impacts on human health and the environment. The techniques applied to the project will favour the prevention or avoidance of risks and impacts over minimisation and reduction, in accordance with the mitigation hierarchy and consistent with GIP and be appropriate to the nature and scale of the project's adverse risks and impacts and to the potential impacts on vulnerable people.
- Throughout the project lifecycle, pollution prevention and control techniques will be applied, consistent with the mitigation hierarchy to minimise potential adverse impacts on human health and the environment while remaining technically and financially feasible and cost effective. This applies to the release of pollutants due to routine, non-routine or accidental circumstances.
- The client will structure the project to meet relevant EU substantive environmental standards, where these can be applied at project level.

12.2 Observation and Baseline Conditions

12.2.1 Baseline Conditions

12.2.1.1 Topography

The Fergana Valley spans approximately 22,000 km² across Uzbekistan, Tajikistan, and Kyrgyzstan, with Uzbekistan holding the biggest potion of the valley. This inter-mountain basin is located between Kyrgyzstan's northern Tian Shan mountains and Tajikistan's southern Gissar-Alai ranges. Fergana forms a broad triangular plain encircled by mountains

on all sides. The topography of Fergana Valley region is shown on the following figure. Based on Google Earth, the hospital site is at a location of 590m above sea level.

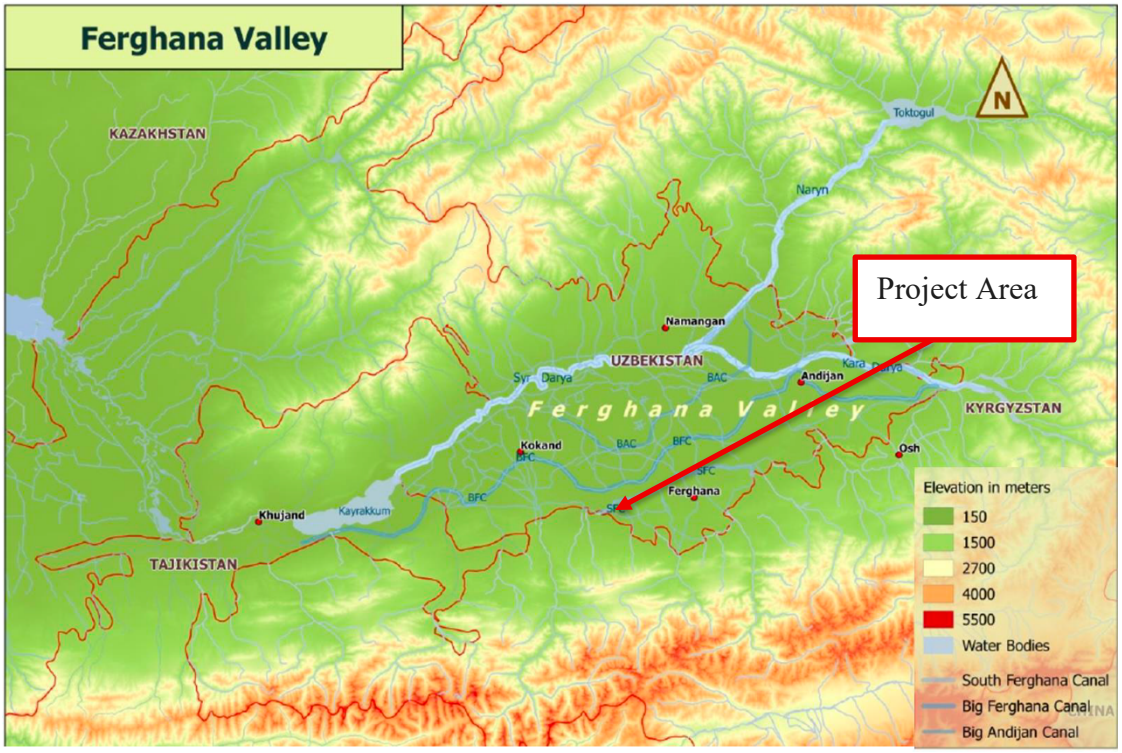


Figure 12-1 Topography of the Fergana Valley Region

The Project area lies within the Fergana city which lies within the Fergana Valley, an intermountain basin surrounded by mountain ranges on three sides and open to the west; the valley floor is low and relatively flat compared with the surrounding uplands, while relief rises sharply toward the bordering mountains.

12.2.1.2 Geology

The Project site lies within the broader intermontane depression between the Tian Shan ranges to the north and east and the Alai Mountains to the south. Geologically, the valley forms a neotectonically active structure marked by thick sequences of Quaternary sediments overlying older Cenozoic formations.

The wider Project area is dominated by proluvial, alluvial, and deluvial deposits of gravel, sand, silt, and clay in varying degrees of consolidation, which have accumulated over time through erosion and sediment transport from the surrounding highlands.

Within the shallow depths relevant to construction, the stratigraphy is relatively simple. Site investigations undertaken in June 2025 by UzGashkliti, indicate that the area is underlain by Pleistocene proluvial deposits (coarse gravel with a sandy matrix), overlying deeper Quaternary alluvial formations. The surface layer consists of heterogeneous, technogenic fill soils. At the regional scale, no active faulting directly crosses the project site; however, the wider Fergana Valley lies within a seismically active zone shaped by regional tectonic activity.

According to the borehole data, the geological profile down to 15 meters comprises:

- Technogenic fill soils of varying composition and density, consisting of a mixture of clay soils and construction debris, with thickness ranging from 0.5 m to 2.7 m, and

- Proluvial deposits consisting of coarse gravel with sandy matrix, occasionally interbedded with thin sand lenses.

Intensive irrigation and land-levelling since the mid-20th century have altered the vertical structure and salinity profile of these soils, amplifying compaction and chemical modification in the top and upper subsoil layers.

The following figure shows the geology of Uzbekistan, with the Project area delineated to show Quaternary sediments.

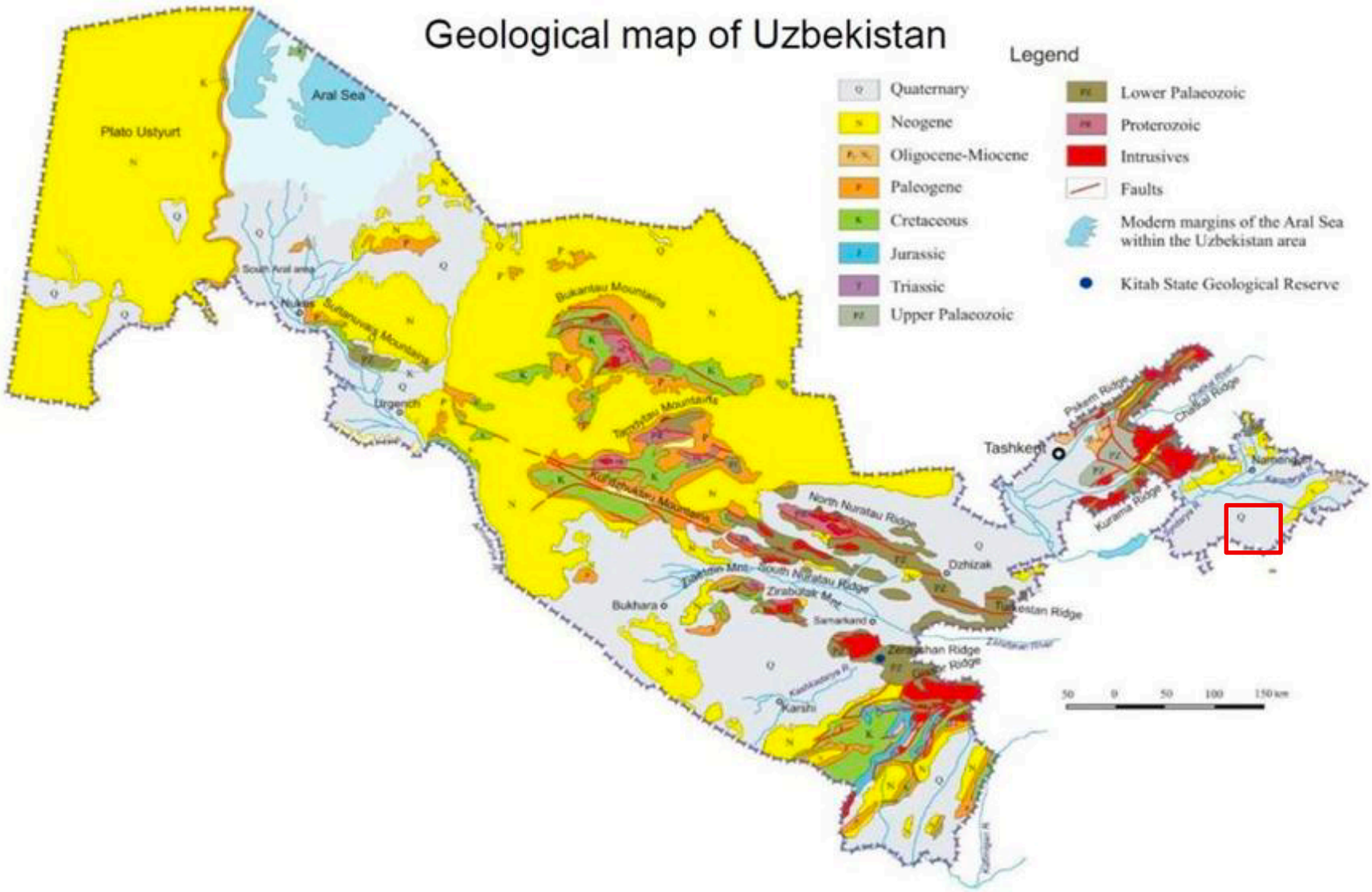


Figure 12-2 Geological Map of Uzbekistan Relative to the Project Area (red outline) (UzGashkliti, 2025).

12.2.1.3 Soil

The Project area is overlain with Luvic Calcisols soils. Luvic Calcisols are characterised by visible calcium carbonate accumulation and an argic horizon composed of clay-enriched subsurface starting within 100 cm of the surface. These types of soils occur in the northern and southern Fergana Valley on eroded alluvial-proluvial materials, with neutral to alkaline pH that ranges from 7.0 - 8.5. Additionally, these soils have medium-fine textures, good water retention, and moderate fertility under irrigation. However, it has been found that Irrigation alters their physicochemical properties, increasing salinity risks in valley lowlands.

The soil classification of the Project area is shown on the following figure.

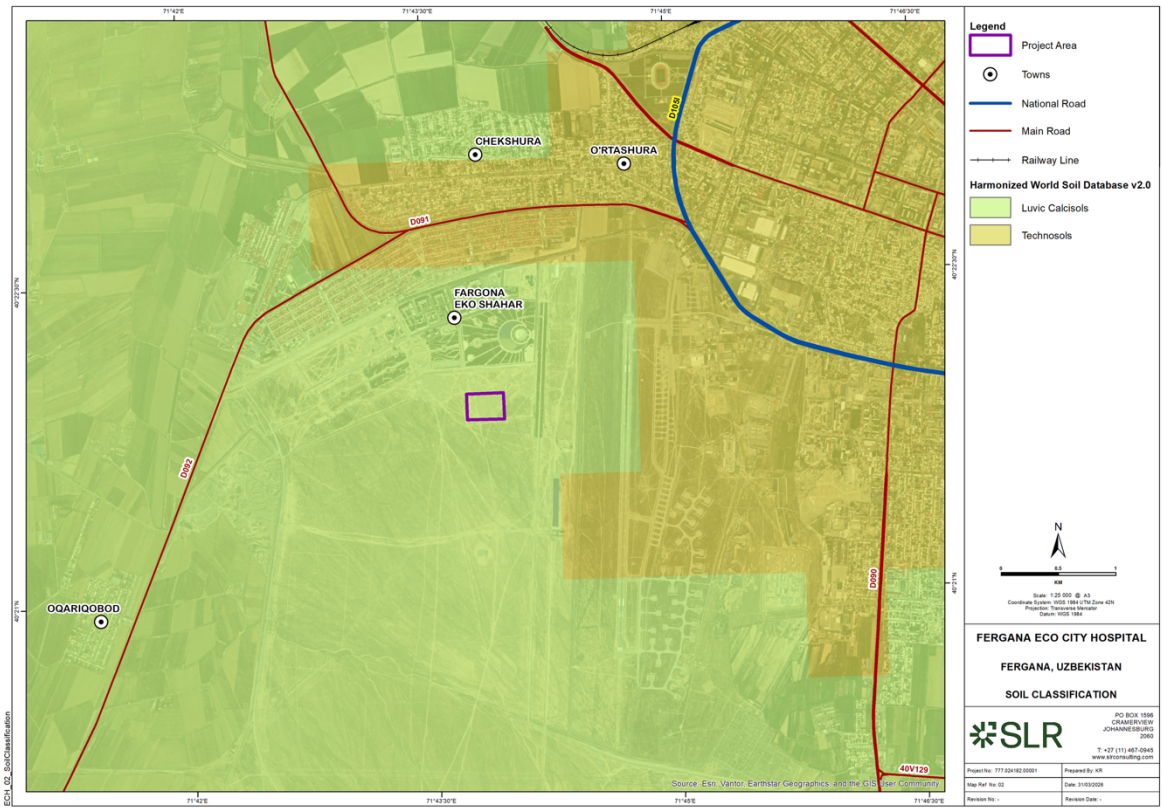


Figure 12-3 Soil Classification of the Project Area

12.2.2 Site Conditions

12.2.2.1 Topography

During the geotechnical investigations undertaken in June 2025 by UzGashkliti LLC, it was observed that the site is relatively flat with minor slopes and was undeveloped at the time of investigation as shown on the following figure.

Figure 12-4 Topographical Conditions of the Project Area (UzGashkliti,2025).

The Project site has undergone significant prior modification as part of land clearance and preparation works associated with the wider Eco City development. Site observations indicate that the upper soil layers have been subject to levelling, reworking and redistribution, with evidence of stockpiled soils and scattered construction-related materials present across the site.

As a result, near-surface soils are expected to be relatively homogeneous in nature due to the disturbance and mixing associated with these activities, although some localised variability or isolated hotspots may occur. Based on the preliminary site visits undertaken in March 2026, no obvious signs of contamination or specific areas of concern were identified. The materials observed on site appear to be largely inert in nature.

The surrounding area consists of urban infrastructure including roads and residential developments as shown on the above figure. The Project site topography is relatively flat, with a slight natural slope from southwest to northeast. There was no surface hydrographic network within or near the site observed during the site investigation undertaken in June 2025. Furthermore, during the site visits undertaken both in June 2025 and the recent site investigation for the ESIA in April 2023, it was noted that the Project site is partially covered with construction debris in other parts of the site as shown on the following figure.

Figure 12-5 Construction Debris Observed within the Project site

The site is characterized by significant anthropogenic disturbance. Construction activities are currently ongoing in the surrounding areas. While no construction has yet commenced within the project footprint, the land is being actively used for the movement of heavy equipment and as a temporary storage area for construction materials and surplus excavated soil generated by nearby developments. Furthermore, construction of the Sakura Garden Mall & Residence development by Burch Development has recently commenced immediately north of the proposed project site. Current works include excavation for the foundations of 16-storey residential buildings, with excavated material being stockpiled on-site.

Due to its predominantly rocky substrate, the Project footprint is considered unsuitable for agricultural purposes. Remnants of natural vegetation occur in limited patches across the eastern, southeastern, southwestern, and central sections of the site. No woody vegetation was observed, with the existing plant communities consisting mainly of herbaceous plants and semi-shrub species.

12.2.3 Sensitive Receptors

Table 12-2 Topography, Soil and Geology Receptors

Receptor	Sensitivity	Justification
Topography	**Low**	The project site is flat, low-relief valley floor with no active erosion or visible groundwater outcrops and is geomorphologically and tectonically sensitive.

Receptor	Sensitivity	Justification
Geology	**Low**	There are no known features of geological significance, and the Project will not interact with or affect any regionally important geological resources.
Soil	**Low**	Given the heavily modified and reworked nature of the site, the predominance of inert materials, and the absence of identified contamination concerns.

12.2.4 Survey Methodology

Soil samples were collected at several locations within the Project footprint from a total of four (4) sample locations. The top-soil samples were collected and analysed at an accredited laboratory; the Agency of the Hydrometeorological Service under the National Committee on Ecology and Climate Change of the Republic of Uzbekistan. Parameters analysed are as follows:

- Heavy metals (copper, zinc, lead, cadmium);
- Nitrate nitrogen;
- Mobile phosphorous;
- Petroleum products; and
- pH

The soil sampling locations are shown on the following table and figure.

Table 12-3 Soil sampling locations coordinate

Samples Number	Coordinate
Soil Samples 1	**40°21'51.19"N 71°43'55.45"E**
Soil Samples 2	**40°21'51.48"N 71°43'45.26"E**
Soil Samples 3	**40°21'54.11"N 71°43'50.66"E**
Soil Samples 4	**40°21'55.73"N 71°43'46.24"E**

The above-specified soil sampling locations are presented in the following figure.

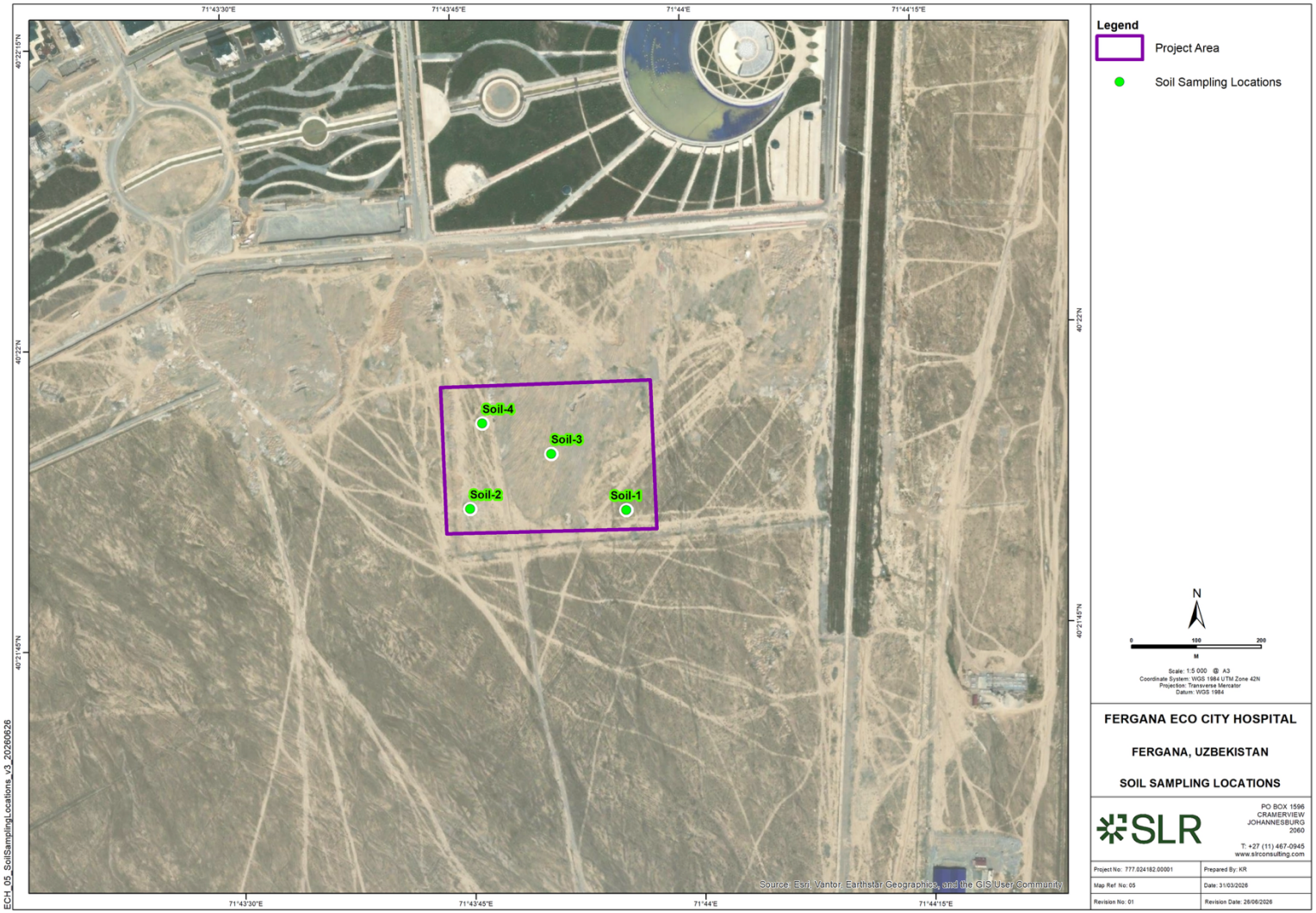


Figure 12-6 Soil Sampling Locations

12.2.5 Results and Analysis

The results of the soil analysis are provided in Table 12-4. In the absence of applicable national standards, the results were compared against the Dutch Soil Quality Standards (Target and Intervention Values), which are commonly used as international reference criteria for screening-level assessment.

Table 12-4 Soil Quality Analysis Result

No	Component	Unit	Content of Component in Samples				Dutch Standard	
			Soil - 1	Soil - 2	Soil - 3	Soil - 4	Target value*	Intervention value
1	Copper, acid-soluble form	mg/kg	42.86	28.31	39.22	42.81	36	190
2	Zinc, acid-soluble form		154.5	106.7	142.3	141.4	140	720
3	Lead, acid-soluble form		77.41	81.49	75.34	79.98	85	530
4	Cadmium, acid-soluble form		2.696	2.773	2.636	2.333	0.8	13
5	Nitrate Nitrogen		11.29	6.67	13.86	1.54	-	-
6	Mobile Phosphorous		132.3	177.6	136	120.9	-	-
7	Petroleum Products		35	53.34	46.67	64.99	-	-
8	pH		7.95	8.4	8.2	8.4	-	-

Heavy Metals

Copper (Cu) concentrations range from 28.31 to 42.86 mg/kg. These are all well below the Dutch intervention value and are not considered to be contaminated; although some samples are above the idealised Dutch target values.

Zinc (Zn) concentrations range from 106.7 to 154.5 mg/kg. All concentrations are well below the Dutch Intervention Value (720 mg/kg) and are therefore not considered indicative of significant contamination, although some samples are above the Target Value (140 mg/kg).

Lead (Pb) concentrations range from 73.34 to 81.49 mg/kg. All concentrations are below the Dutch Target Values (85 mg/kg) and substantially below the Intervention Value (530 mg/kg) and are therefore not considered indicative of contamination.

Cadmium (Cd) concentrations range from 2.333 to 2.773 mg/kg. All concentrations are above the idealised Target Value (0.8 mg/kg) but remain well below the Intervention Value (13 mg/kg) and are therefore not considered indicative of contamination.

Overall, while concentrations of certain heavy metals exceed the Dutch Target Values, all remain well below the respective Intervention Values, which indicate contamination in soils requiring remediation. The results are therefore not considered indicative of significant soil contamination requiring remediation and no specific mitigation measures are considered necessary for the handling, or disposal of soil within the Project site.

12.3 Potential Impacts, Mitigation and Management

12.3.1 Construction Phase

Construction activities such as site preparation, civil works, electrical and mechanical works, materials delivery, chemical storage and waste management can lead to land degradation through contamination of soil and groundwater. Construction activities may result in localized

impacts on soil, including disturbance, compaction, and potential contamination from accidental spills or leaks of fuels, oils, or other hazardous substances.

Table 12-5 Aspects and Impacts – Topography, Geology, and Soil during Construction

Activity	Environmental Aspect	Impacts and Zone of Influence	Potential Receptors
Site clearance	Cross-contamination in case of unknown legacy contamination in site soils	Areas for construction	Soil (quality) Site workers (direct exposure).
	Soil compaction		Soil (structure)
Storage, handling and use of hazardous materials, chemicals, fuels, wastes and construction wastewater	Potential spillage/leak/wash off contaminants	Direct impacts to soil quality or other water bodies, with potential for flow to surrounding areas	Soil within the Project footprint and immediate surrounds

Cross-contamination from Site Clearance

As the Project will require excavations for the construction of foundations and other subsurface infrastructure, particularly for the proposed hospital building, construction workers will interact with and handle underlying soils. As per the baseline soil quality results, no significant soil contamination has been identified and the excavated soils are not expected to present specific contamination-related risks to workers or the environment.

Potential impacts associated with excavation and soil handling are therefore primarily related to general construction activities, including dust generation, erosion, sediment runoff and the inappropriate handling or disposal of excavated material.

As a precautionary approach and in case there are islocated unknonwn hotspots of contamination, common construction health, safety and environmental management measures will be implemented by the EPC Contractor, including appropriate PPE, dust suppression and appropriate handling, storage, reuse and disposal of excavated materials. Should any unexpected evidence of contamination be encountered during excavation, such as staining, odours or buried waste, works in the affected area should cease and the material should be appropriately assessed and managed prior to further disturbance or disposal.

Soil Contamination (from the Project)

The construction phase of the Project will involve the storage, handling, and use of fuels, lubricants, chemicals, and other hazardous substances. Exposed soils within construction areas, including access roads, off-loading areas, and material handling zones, may be susceptible to contamination from accidental spills or leaks associated with the transport and use of these substances. Such incidents could result in localized soil contamination if not promptly contained and remediated.

In addition, construction activities will generate both general and hazardous solid and liquid wastes. Particular attention is required for the management of hazardous waste streams, including used oils, concrete washout water, hydraulic fluids, lubricants, paints, and other chemical residues. Although hazardous waste is expected to constitute a relatively small proportion of the total waste generated, its potential toxicity, persistence, and bioaccumulative characteristics necessitate careful handling, storage, and disposal.

Inadequate temporary storage, poor housekeeping practices, or improper handling prior to collection and treatment could lead to soil contamination, particularly during periods of rainfall when contaminants may be mobilized and transported through surface runoff.

The magnitude of the potential impact on soil quality is considered minor due to the already disturbed nature of the site and the presence of areas that may have been affected by previous activities. Furthermore, there are no surface water bodies within or immediately adjacent to the Project site; the nearest water receptor is an irrigation canal located approximately 300 m from the site. Consequently, any contamination arising from construction activities is expected to be localized and limited in extent. The impact would be direct and generally reversible through the implementation of appropriate spill prevention, containment, and remediation measures. However, if hazardous substances and wastes are not properly managed, contaminants could migrate beyond the Project boundary, resulting in adverse effects on surrounding soils and potentially affecting nearby environmental receptors.

12.3.1.1 Impacts Assessment Summary – Topography, Geology, and Soil During Construction

A summary of potential impacts on topography, geology, and soil during construction and their effects on identified receptors are presented in following table including suggested mitigation measures and residual impacts after implementation of mitigations measures.

Table 12-6 Impact Assessment Summary – Topography, Geology, and Soil during Construction

Potential Impacts	Magnitude of Impact	Receptor	Sensitivity	Impact Significance	Residual Impacts
Cross contamination of soil and exposure risks during construction	Minor	Soil quality	Medium	Minor	Negligible
		Site workers	Medium	Minor	Negligible
Contamination of soil and groundwater due to accidental spills, leakages, and uncontrolled disposal of chemical products and wastes.	Minor	Soil quality	Medium	Minor	Negligible
<u>Mitigation for impacts due to unexpected existing contamination</u> • Limit the exposed area and duration of open excavations to reduce the potential mobilisation of contaminated soils and minimise dust generation. • Ensure all site personnel involved in excavation and soil handling are provided with and use appropriate (PPE), supported by training on soil-related health and safety risks, including the identification of potneitally contaminated soils. • Conduct visual inspections and periodic monitoring of excavated and imported soils during construction to identify any unexpected contamination and trigger corrective actions if required. <u>Mitigation to avoid contamination of soil</u> • Washing of equipment, machinery and vehicles will only be permitted in designated areas, with impermeable surfaces and dedicated drainage systems that lead to separate sumps or, treatment facilities and/or lined evaporation ponds.					

Potential Impacts	Magnitude of Impact	Receptor	Sensitivity	Impact Significance	Residual Impacts
• Concrete washout areas will be located away from storm drainage & canals and will be designed with adequate holding capacity. The wastewater will be contained within the designated impervious bund. • Washout of concrete trucks will be performed in designated areas only at the batching plant or any other approved concrete washout areas at the site. • Storage of all hazardous materials such as fuels and chemicals on an impermeable base with liners and/or secondary containment bund with enough capacity to hold 110% of the bulk storage container and 25% of the total volume of the multiple containers. • Store all chemicals/materials according to manufacturer's instructions and Material Safety Data Sheet (MSDS). • The chemical storage area will have proper ventilation and cover from the elements (i.e. rain, snow, sun) and different storage areas to allow for segregation of incompatible chemicals. • All equipment using oils will have drip trays underneath to capture any oil leaks or drips. • Contractor will develop and implement an Emergency Response Plan (ERP) and Spill Response and Contingency. • Maintain an inventory of all potentially hazardous materials and chemicals used and stored on-site. • All spills and leaks will be reported promptly to the Construction Manager and to be investigated to confirm the cause and put in place appropriate corrective/preventative actions. • Spill kits shall be available at chemical storage areas and fully stocked with appropriate absorbent materials. • Refuelling and maintenance of vehicles/equipment will be within a dedicated depot area at the site, on impermeable surface. • Availability of suitable containment and spill clean-up materials/equipment at specific locations within the project site (e.g. where refuelling is to take place). • Relevant personnel to be trained on emergency and spill response, containment, material handling and storage procedures. • Regular emergency drills to practice timely and effective spill response. • Fuel transport vehicles and equipment to be maintained and routinely inspected to ensure the tank, pumps, pipe work and the vehicle itself are free from leaks and fit for purpose-No equipment will be placed in service until deficiencies are corrected. • Implement regular maintenance program of vehicles and equipment to minimise leaks or mechanical failures and keep document evidence. • The EPC Contractor will obtain relevant permits to store large quantities of hazardous materials such as diesel etc (where necessary) in accordance with Uzbek regulations. • The implementation of the project CESMP and associated Waste Management Plan and Procedures will ensure that spills are kept to a minimum and are cleaned up quickly using spill kits located in risk areas. • Develop and maintain a hazardous waste inventory to document and track and show chain of custody of hazardous wastes generated, and their disposal route. • Implementation of good housekeeping practices during construction activities including procedures and requirements for proper handling, storage, and transport of hazardous materials and waste. • The EPC Contractor and sub-contractors will provide induction training and Toolbox Talks (TBTs) relating to the management, transportation and handling of hazardous materials and wastes.					

12.3.1.2 Operations Phase

Potential impacts are expected to be limited to small-scale, accidental contamination (e.g. from maintenance activities), which would be localised and manageable through standard operational controls. No significant or widespread soil impacts are anticipated due to the lack of major stores of fuels and liquid chemicals; further protected by impermeable surfacing in most areas.

Soil Contamination from Fuel and Chemical Storage Spills

The Project will utilise water cooled, turbo-charged Tier-II compliant generators. Generator rooms and auxiliary systems will be located on the ground floor, inside enclosed acoustic-rated generator rooms further equipped with critical grade silencers that are deemed hospital compliant. The Project is envisioned to have 24 hours of on-site fuel (main gensets) and 48 hours for the fire-life safety generator.

The risk of pollution is associated with accidental incidents or leakage from the fuel storage or during the handling/transfer of hazardous and non-hazardous waste. The potential risk arises from the diesel fuel storage tank; however, this tank will be equipped with appropriate containment and leak detection systems, significantly reducing the likelihood of leaks. Any potential impacts would be limited to the project site and are expected to be temporary, as corrective measures will be promptly implemented in the event of an incident. The hazardous and non-hazardous waste handling will be conducted in accordance with the Waste Management Procedure and the team responsible for this will be trained before they allowed to the activities.

12.3.1.3 Impacts Assessment Summary – Topography, Geology, and Soil During Operation

A summary of potential impacts on topography, geology, and soil during operation and their effects on identified receptors are presented in following table including suggested mitigation measures and residual impacts after implementation of mitigations measures

Table 12-7 Impact Assessment Summary – Topography, Geology, and Soil during Operation

Potential Impacts	Magnitude of Impact	Receptor	Sensitivity	Impact Significance	Residual Impacts
Soil Contamination from Fuel Storage	Minor	Soil quality	Medium	Minor	Negligible
Impacts associated with waste handling and disposal	Minor	Soil quality	Medium	Minor	Negligible
<u>Mitigation measures for contamination from chemicals, fuel and maintenance activities</u> • Segregate stormwater from potentially contaminated areas. • Implement spill response protocols, including ready access to spill kits, absorbents, and trained personnel. • Conduct regular inspections of fuel storage and chemical storage areas. • Store all chemicals in secondary containment systems (e.g., bunded areas or lined storage pads). • Apply proper handling procedures, training staff on safe use, storage, and disposal of chemicals. • Monitor soil near fuel storage and chemical handling areas for early detection of contamination. <u>Mitigation measures related to waste management</u>					

Potential Impacts	Magnitude of Impact	Receptor	Sensitivity	Impact Significance	Residual Impacts
• Store all hazardous wastes in designated, paved, and bunded areas with secondary containment to prevent infiltration to soil. • Ensure hazardous waste storage areas are covered and clearly labelled, with impermeable flooring and spill containment systems. • Implement spill prevention and emergency response procedures specific to waste handling areas. • Arrange for regular collection and off-site treatment or disposal by licensed waste contractors in accordance with national regulations. • Develop and implement a Waste Management Plan in line with IFC EHS Guidelines, detailing waste classification, storage, handling, transport, and disposal procedures.					

12.3.2 Monitoring

The minimum expected requirements for the monitoring are outlined in the table below. The final monitoring methodology with specific monitoring details (i.e. locations, frequencies, durations, parameters etc.) will be developed in the specific 'Environmental and Social Monitoring Plan' as part of the respective construction or operational phases ESMS.

Table 12-8 Monitoring Requirements for Soil and Groundwater

Monitoring	Parameters	Frequency & Duration	Location
Construction			
Soil quality	Visible spills & leaks of hydrocarbons and other potentially hazardous or chemicals	Weekly during construction	The entire project area during construction
	Records of spill response drills and training provided to workers handling hazardous material, waste, and wastewater.	Monthly	Internal Audit to review internal Records and documentation
Operations			
Inspections for signs of contamination and/or leakage	Periodic visual inspections of the fuel storage, chemical storage area, and waste handling area.	Weekly	Unpaved and landscaped areas, hazardous and fuel storage, drainage channels, and waste handling areas

13 Solid Waste and Wastewater

13.1 Applicable Requirements and Standards

13.1.1 National Standards

13.1.1.1 Solid Waste

The legislation on waste management consists of the Law "On Waste" and other subordinate legislative acts listed below.

Law of the Republic of Uzbekistan No. 362-II "On Waste" (2002, as amended):

The main objectives of this Law are to prevent the harmful effects of waste on the life and health of citizens, the environment, reduce the generation of waste and ensure their rational use in economic activities.

According to the Law "On Waste", hazardous waste is defined as waste containing substances that have at least one hazardous property (toxicity, infectivity, explosion hazard, fire hazard, high reactivity, radioactivity) and are present in such quantities and in such a form that they pose an immediate or potential danger to the life and health of citizens, the environment, both independently and in contact with other substances. This law also applies in parallel to healthcare waste and governs the hazardous waste provisions relevant, including transport certification, vehicle requirements, and disposal authorisation requirements.

Key provisions of the Law relevant to the Project include the following:

- Article 19 provides that where generated waste is subject to export and import operations, or where hazardous waste is subject to transportation, an environmental certification procedure shall be completed by the Project to confirm compliance with sanitary and environmental norms and standards associated with waste management.
- Article 20 states that transportation of hazardous waste shall be in specially designated vehicles with a waste certificate and permit. Responsibility for the safe transportation of hazardous waste rests with the transporting organisation.
- Article 22 specifies the general requirements for waste storage and disposal. Disposal of recyclable waste is prohibited in Uzbekistan. Storage and disposal of waste in protected natural areas, settlements, health and recreational areas, or historical and cultural facilities is also prohibited.

Decree of the Cabinet of Ministers of the Republic of Uzbekistan. "On approval of the regulations on the procedure for developing and approving draft environmental standards" (2014, amended in 2022)

The decree establishes the procedure by which project-specific waste generation and disposal norms are developed and submitted for regulatory approval. The inventory of waste generation and disposal is carried out in accordance with the requirements of Appendix No. 14 of this decree, while Appendix No. 15 determines the hazard class of the waste based on a waste classification catalogue.

SanPiN No. 0127-02 "Sanitary rules for inventory, classification, storage and disposal of industrial waste"

This regulation ensures optimal hygienic accounting and inventory of industrial wastes, determination of the toxicity index and classification of waste by hazard class, and the

optimal selection of methods for neutralisation and utilisation. Waste hazard classes are defined as follows:

- Class I: Extremely hazardous waste;
- Class II: Highly hazardous waste;
- Class III: Moderately hazardous waste;
- Class IV: Low hazardous waste.

When determining the hazard class of industrial waste, all chemical hazardous substances contained within the waste must be accounted for, which is achievable through laboratory analysis or reference to published data. Where it is not possible to identify all components, hygienic assessment is carried out for the most toxic substances present. In the absence of an indicated hazard class in regulatory or design documentation, the class is determined by the hazard index, calculated on the basis of the Maximum Permissible Concentration (MPC) of the harmful substance in the soil, the LD50 of the substance, and the hazard class of the substance in the working area air.

SanPiN No. 0128-02 "Hygienic classifier of toxic industrial waste in the conditions of the Republic of Uzbekistan"

The regulation provides data used in the absence of results from studying the chemical composition of industrial waste, which is intended to improve accounting and reporting of industrial toxic waste, determine methods for their disposal, processing or placement in the environment. The classifier shows the values of 134 toxic industrial wastes, including 16 of the Class I, 53 Class II, 37 of Class III, and 28 of the Class IV.

SanPiN No. 0300-11 - "Sanitary rules and regulations for organizing the collection, inventory, classification, neutralization, storage and disposal of industrial waste in the conditions of Uzbekistan"

Describes the procedure for selecting methods of neutralization and disposal of industrial waste (including toxic waste), as well as the sanitary requirements for the collection, transportation and disposal of asbestos-containing waste.

Other Relevant Legislations

The following regulations contain additional requirements that are relevant to the project:

- SanPiN No. 0157-04 "Sanitary Requirements for the Storage and Neutralisation of Solid Domestic Waste on Special Grounds in Uzbekistan"
- SanPiN No. 0158-04 "Sanitary Rules and Norms on Collection, Transportation and Disposal of Wastes Containing Asbestos in Uzbekistan"
- Regulation "On the Procedure for the Disposal, Collection, Pay Settlement, Storage and Removal of Waste Industrial Oils", annexed to the Decree of the Cabinet of Ministers dated 04/09/2012 No. 258
- Regulation "On the Procedure for Handling Ferrous and Non-Ferrous Metal Scrap", annexed to the Decree of the Cabinet of Ministers dated 06/06/2018 No. 425
- Presidential Decree No. DP-4291 (17 April 2019) approving the Strategy for Solid Waste Management in the Republic of Uzbekistan for the period 2019-2028, which sets the national policy direction for waste reduction, recycling, and circular economy development against which the Project's waste management approach should be framed.

13.1.1.2 Healthcare and Medical Waste

The management of healthcare and medical waste in Uzbekistan is governed by a specific regulatory framework operating in parallel to the general and industrial waste provisions described above.

SanPiN No. 0317-15 "Sanitary Rules and Norms for Collection, Storage and Disposal of Waste in Medical and Preventive Treatment Facilities of the Republic of Uzbekistan

This regulation is the primary technical standard governing healthcare waste management. It defines the scope of medical waste as all types of waste generated in hospitals, clinics, health centres, emergency wards, blood transfusion stations, longitudinal care facilities, research institutes, medical educational institutions, veterinary facilities, pharmacies, pharmaceutical production facilities, sanitary facilities, forensic institutions, medical laboratories, and private healthcare facilities.

Under SanPiN No. 0317-15, medical waste is classified into five categories:

- **Class A**: Epidemiologically safe waste, including stationery, furniture, bedding that has not been in contact with infectious patients, disposable gowns, personal protective equipment such as disposable masks and gloves, and shoe covers.
- **Class B**: Waste tools and materials that may be contaminated with microorganisms carrying a high risk of infection, including sharps, syringes, blood transfusion systems, and items in contact with infectious patients.
- **Class C**: Waste from infectious disease departments contaminated with patients' biological fluids, and waste from microbiological laboratories working with tuberculosis pathogens.
- **Class D**: Expired pharmaceutical products, mercury-containing devices, and disinfectants that are no longer fit for use.
- **Class E**: Radioactive waste

The SanPiN prescribes approved treatment methods for each waste class, including incineration at controlled high temperatures with flue gas purification, sterilization by water vapour under pressure, chemical disinfection, microwave treatment, and sterilization by ionising, radioactive, or infrared radiation. Following the application of any approved treatment method, decontaminated solid medical waste may be co-disposed with municipal solid waste at an authorised landfill; liquid decontaminated waste may be discharged to a public sewer. Incinerator facilities must be located no closer than 500 metres from residential premises and must comply with atmospheric emissions standards under the Law "On Atmospheric Air Protection".

Law of the Republic of Uzbekistan "On Sanitary and Epidemiological Welfare of the Population" (No. ZRU-393, 26 August 2015, as amended to No. ZRU-1109, 30 December 2025)

Provides the statutory basis for the SanPiN instruments governing medical waste management and designates the Committee for Sanitary and Epidemiological Welfare and Public Health under the Ministry of Health as the competent supervisory authority for compliance with healthcare waste management requirements.

Presidential Decree No. UP-189 "On Priority Measures to Reform the Waste Management Organisation System" (11 August 2022)

Provides the strategic and fiscal framework for the private sector waste management industry in Uzbekistan, including organisations engaged in the collection, transportation, sorting, and processing of waste. Under the arrangements established by this Decree and the associated Cabinet of Ministers Resolution No. 95 (6 February 2019) on regulatory legal

acts in the field of waste management, disposal of medical waste -- including hazardous healthcare waste requiring a special permit -- is undertaken by licensed private companies operating under the oversight of the Centre of State Sanitary Epidemiological Surveillance. Healthcare facilities and project medical facilities are required to engage licensed operators for the disposal of Class B, C, D and E waste streams.

13.1.1.3 Wastewater

The legislation governing wastewater management in Uzbekistan comprises the Water Code and the subordinate legislative acts listed below.

Law of the Republic of Uzbekistan No. ZRU-784 "On Potable Water Supply and Effluent Wastewater Discharge" is the dedicated instrument governing potable water supply infrastructure and the discharge of wastewater effluent. It is directly relevant to the Project where wastewater is discharged to municipal sewerage systems or where the Project connects to public water supply networks, and establishes the framework of rights and obligations governing those connections and discharges.

Law of the Republic of Uzbekistan "On Environmental Protection" No. 754-XII (9 December 1992, as amended) establishes the legal, economic, and organisational basis for the preservation of the environment and the rational use of natural resources. The Law provides for water use provisions, development of environmental criteria and standards regulating Maximum Permissible Concentrations (MPC/PDK) of pollutants in water bodies, and the requirement for State Environmental Expertise (SEE) for activities with potential impacts on the water environment.

Law of the Republic of Uzbekistan "On Sanitary and Epidemiological Welfare of the Population" (No. ZRU-393, 26 August 2015, as amended to No. ZRU-1109, 30 December 2025) provides the overarching public health legislative basis under which sanitary norms and rules (SanPiN instruments) governing wastewater quality and effluent discharge standards derive their legal force. The Law authorises the Ministry of Health, through the State Sanitary Epidemiological Service, to exercise state sanitary supervision over compliance with sanitary norms, rules, and hygienic standards by all organisations operating in Uzbekistan.

13.1.2 Lenders Requirements

13.1.2.1 IFC Performance Standards and WBG EHS Guidelines

PS3 on Resource Efficiency and Pollution Prevention and Control requires projects to manage waste in a manner that protects human health and the environment. This involves minimizing waste generation where feasible and prioritizing the reuse, recycling, and recovery of waste materials. Hazardous wastes must be handled, transported, treated, and disposed of following recognized international guidelines and applicable national regulations. Projects must also ensure that any third-party waste contractors are licensed and operate according to Good International Practice (GIP), with appropriate documentation and monitoring in place to verify environmentally sound management and disposal. Additionally, the efficient use of water and management of wastewater through reduction, reuse, and treatment measures is encouraged to minimize environmental impacts.

SOLID WASTE

Section 1.6 of “the IFC/WBG General EHS Guidelines” is entitled Waste Management and is applicable to all projects that generate, store or handle any quantity of waste; whilst Section 1.5 of the IFC EHS Guidelines covers Hazardous Materials Management. The waste management guidelines state that facilities that generate and store wastes should practice the following:

- Establish waste management priorities at the outset of activities;
- Identify EHS risks and impacts and consider waste generation and its consequences;
- Establish a waste management hierarchy that considers prevention, reduction, reuse, recovery, recycling, removal and finally disposal of wastes;
- Avoid or minimize the generation of waste materials, as far as practicable;
- Identify where waste generation cannot be avoided but can be minimized or where opportunities exist for, recovering and reusing waste; and
- Where waste cannot be recovered or reused, identify means of treating, destroying, and disposing of it in an environmentally sound manner.

Based on WBG EHS Guidelines for Health Care Facilities (HCF) (Draft for Consultation. June 2025), health care waste could be divided into two main groups as following:

- General non-hazardous waste, like domestic waste, such as waste from administrative activities, housekeeping, and maintenance activities.
- Hazardous health care waste, such as sharps and clinical wastes, including infectious, pharmaceutical, chemical, cytotoxic, and radioactive wastes.

HCF operators should regularly assess waste quantities and categories for waste management planning and minimization and should refer to guidance on solid and hazardous waste management in the “General EHS Guidelines”. The HCF operator should establish and maintain a Health Care Waste Management System (HWMS) suitable for the facility’s scale, activities, and waste streams.

WASTEWATER

The World Bank Group General EHS Guidelines (2007) establish general requirements for direct or indirect discharges of process wastewater, wastewater from utility operations or storm water to the environment.

‘Projects with the potential to generate process wastewater, sanitary (domestic) sewage, or storm water should incorporate the necessary precautions to avoid, minimize, and control adverse impacts to human health, safety, or the environment’.

However, wastewater effluent pollutant limits are only established for sanitary wastewater for discharge to the sanitary sewer systems. Water effluent guidelines in industrial wastewater for discharge to surface waters are established for the power sector in World Bank EHS Guidelines for Thermal Power Plants (Draft for Second Public Consultation - May/June 2017) and have been presented in the Standards and Regulatory Requirements sub-section of Section 5.3: Water Environment.

The World Bank Group General EHS Guidelines (2007) (ref. Table 1.3.1 of IFC EHS Guidelines), provides indicative values for treated sanitary wastewater effluent.

Based on WBG EHS Guidelines for Health Care Facilities (HCF) (Draft for Consultation. June 2025), HCF generates wastewater from medical wards, operating room, laboratories, pharmaceutical and chemical storages, cleaning activities, haemodialysis, dental departments, kitchens, and other medical supporting facilities. In the event that HCF discharging wastewater to municipal sewage systems with a centralized wastewater treatment (WWT) facility, HCFs should confirm compliance with applicable permits and that the municipal Wastewater Treatment (WWT) facility can handle the effluent, as per the General EHS Guidelines. Otherwise, the HCF has to treat its wastewater prior to discharge.

13.1.2.2 EBRD

EBRD ESR3 on Resource Efficiency and Pollution Prevention and Control establishes general requirements with regards to:

- The Project will prioritise avoiding or minimising the generation of hazardous and non-hazardous waste and seek to reduce its harmfulness to the environment and human health wherever practical.
- Where waste generation is unavoidable, waste that cannot be reused or recovered will be treated and disposed of in an environmentally sound manner consistent with Good International Practice (GIP).
- For hazardous waste, the Project will identify and implement technically and financially feasible options for safe disposal, taking into account any applicable restrictions on transboundary movement.
- When waste management activities are outsourced, the applicable parties (Public Partner or Private Partner) will ensure that contractors are licensed, reputable, and operate in compliance with regulatory requirements, and maintain chain-of-custody documentation to confirm final waste destination. The Project shall also assess disposal site compliance with environmental and safety standards, and consider alternative solutions, and
- The Project will implement measures to minimise water use and reduce wastewater generation.

13.2 Survey Methodology

A desktop study has been undertaken for the collection of secondary information regarding current waste management facilities and associated services used in Fergana, and the country more broadly. This secondary information has been used to assess the Project's capacity to manage the anticipated waste streams to be generated throughout the construction and operation phase.

Further to the secondary data collection, a desktop assessment has been undertaken.

13.3 Baseline Conditions

13.3.1 Solid Waste Management in Uzbekistan

Before 2019, the municipal solid waste sector in Uzbekistan was characterised by very low recycling rates and predominantly uncontrolled landfilling. By 2017, approximately 7 million tonnes of MSW were produced nationwide with only about 10–11.5% of waste sorted and recycled, and the rest sent to landfills and dumpsites. Waste management infrastructure was largely Soviet era, with outdated landfills lacking leachate collection, gas capture, or proper environmental controls. The sector suffered from limited institutional capacity, lack of baseline data on air pollution and groundwater impacts, and minimal public awareness of waste sorting[9]. The country had no formal waste-to-energy (WtE) capacity, no extended producer responsibility (EPR) system, and no national e-waste management infrastructure (Tursunov et. al, 2024).

Currently, the reported municipal waste generation had more than doubled to 15.1 million tonnes of MSW annually, reflecting rapid population growth (37.5 million people), urbanization, rising consumption, significantly expanded collection coverage. In 2025, 8,105 of 9,452 neighbourhoods (23.9 million people) were covered by sanitation services, with the "Toza Makon" unified electronic billing system operational nationwide[10].

[9] https://www.trade.gov/market-intelligence/uzbekistan-waste-management-opportunities

[10] https://jch.kun.uz/en/news/2026/01/15/uzbekistan-records-151-million-tons-of-municipal-waste-in-2025

Uzbekistan operates 185 municipal waste landfills under the Agency for Waste Management and Development of the Circular Economy, of which 47 landfills were recultivated and closed from 2024–2025. In 2025 alone, 23 non-compliant landfills covering nearly 100 hectares were shut down for failing to meet environmental standards. The country is constructing waste-to-energy facilities in six regions (including Fergana) and 14 waste transfer stations across 11 regions, as well as eco-industrial zones in six regions.

13.3.2 Solid Waste Management in Fergana

The Fergana region is one of the most densely populated areas in Uzbekistan, located in the fertile Fergana Valley, and faces significant pressure from urbanisation and population growth. The region's existing waste management infrastructure has been outdated and insufficient to handle growing waste volumes, with inefficient collection, transportation, sorting, and processing contributing to environmental pollution and public health risks. Historical data indicates that Fergana, like other regions, relies heavily on uncontrolled landfills and dumpsites, with minimal recycling and no formal WtE capacity.

Waste management in the Fergana faces challenges from rapid urbanisation, on-going industrial activities. At the national level, Uzbekistan has shifted toward "Zero Waste" principles, emphasizing separate collection, recycling, and incineration over landfilling, with stricter construction waste rules.

It is noted that at the time of writing this report, it had not been conclusively determined which waste management facilities or third-party waste contractors will be engaged by the Project.

Fergana currently has the following waste management facilities and contractors, that may be potentially engaged by the Project.

- The municipal waste disposal and landfill facility serving Fergana city is located to the northwest of Fergana city, approximately 8 km from the Project site (Figure 13-1). Solid waste of different categories is collected from the region by various private waste collectors from hospital facilities and transported to this facility. The facility incorporates a healthcare waste management function, whereby medical waste received is kept separate from other solid waste and incinerated. However, it was reported in February 2023 that the incineration facility was non-operational anymore, and as a consequence all categories of healthcare waste were being disposed of at the landfill site alongside municipal solid waste. A planned upgrade of the existing disposal facility is referenced under Presidential Decree No. 446 and Cabinet of Ministers Resolution No. 349, which provide for the development of a state-of-the-art waste management facility within the footprint of the current disposal site, to be funded by the Government and developed by the Fergana city Hokimiyat. No targeted completion timeline for this facility is available. (IFC Fergana Hospital Land Plot Presentation, 2025).

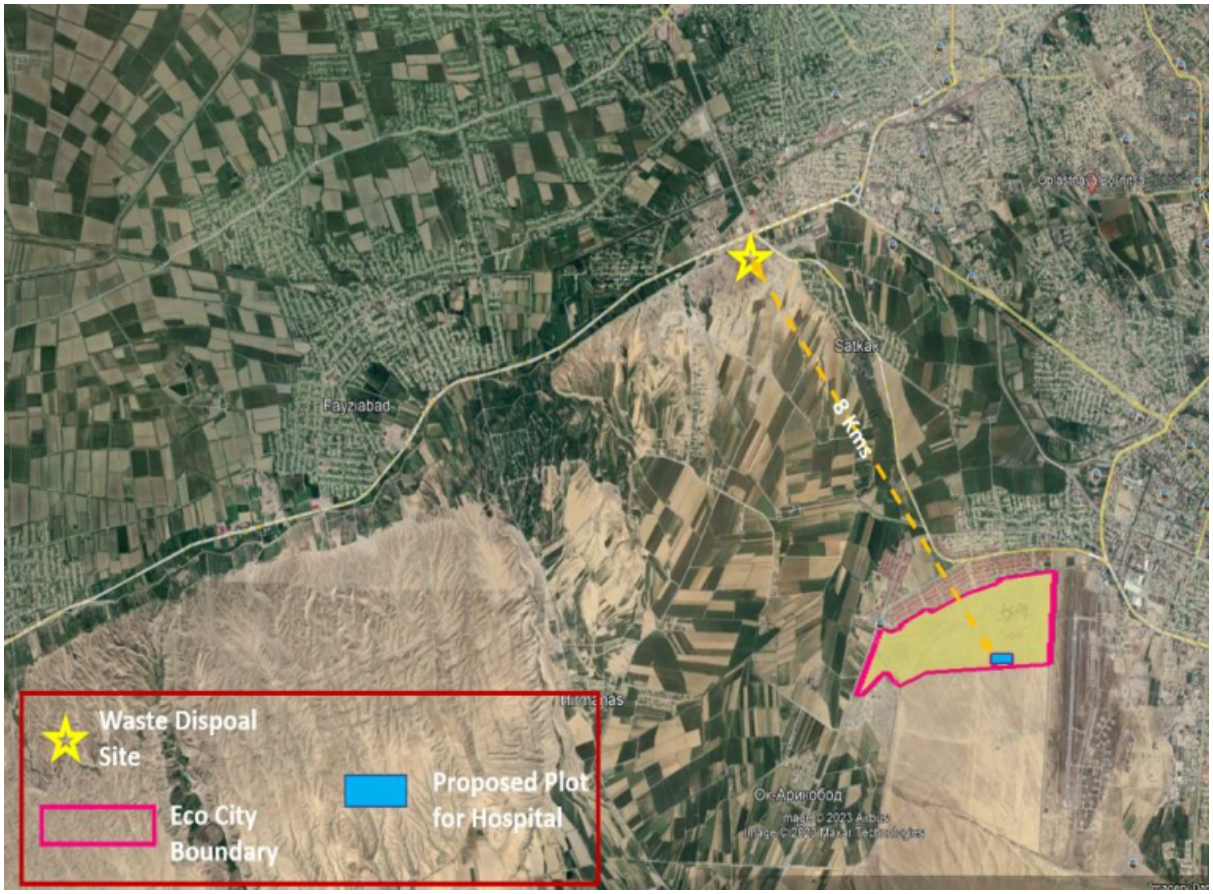


Figure 13-1 Fergana Solid Waste Disposal Site Location

- **Toza Hudud** is the primary state-mandated regional enterprise responsible for the licensed collection and transportation of municipal solid waste in the Fergana region. It should be noted that Toza Hudud operates as a collection and transportation operator and does not itself constitute a disposal facility. The identity of the compliant receiving landfill to which waste collected by Toza Hudud is directed has not been confirmed at the time of writing and requires project-specific verification prior to finalisation of the Project's waste management plan. Waste disposal contracts must stipulate the specific receiving facility to be used, and that facility must be confirmed to meet applicable sanitary and environmental standards.
- **Oqbilol Waste Processing & Energy Plant** is currently being developed in the village of Oqbilol, Fergana district, located approximately 15 km from the Project site, it will be the largest waste-to-energy facility designed to process 1,500 tons of household waste per day. Construction commenced in November 2025, with commissioning required by 2028. Given the anticipated construction timelines it is assumed that the Oqbilol Waste Processing & Energy Plant will be completed prior to the Project being operational.
- **Regional Sanitary Landfills:** waste disposal in the region relies on designated, municipally approved landfills. Modernisation efforts backed by international lenders are continually upgrading these sites to meet strict sanitary and environmental standards, resulting in the rehabilitation and closure of 47 landfills nationwide including 6 within Fergana region[11]. The identity of the currently operational and

[11] https://zamin.uz/en/uzbekistan/165954-47-landfills-closed-in-uzbekistan.html

compliant landfill serving the Fergana district must be established as part of the Project's waste management planning.

13.3.3 Hazardous Waste

Fergana Region has no formal, publicly documented hazardous waste management infrastructure as of 2025. The region relies on national-level capacity building programs to develop hazardous waste identification, inventory, and management systems. There is limited to no comprehensive national inventory of hazardous waste generation by region due to limited capacity to identify, classify, and track hazardous waste streams. This means that there is the possibility of hazardous waste being co-disposed with general waste in the regional landfill until the Oqbilol Waste Processing & Energy Plant is in operation. Given the anticipated construction timelines, it is assumed that the Oqbilol Waste Processing & Energy Plant will be completed prior to the Project being operational.

13.3.4 Medical Waste

Medical waste disposal and neutralisation have remained one of the most pressing environmental problems in Uzbekistan and throughout Central Asia as of 2024. Historically, medical waste in Uzbekistan was not always disinfected and was transported to general sanitary landfills alongside other waste types, posing significant public health risks, environmental contamination, and infection transmission hazards. However, given the lack of disposal options for medical waste in the region there is the likelihood that any medical waste will be co-disposed of with municipal waste in the regional landfill until the Oqbilol Waste Processing & Energy Plant is in operation. Given the anticipated construction timelines it is assumed that the Oqbilol Waste Processing & Energy Plant will be completed prior to the Project being operational.

The scale of medical waste generation in Uzbekistan is substantial: 90,000 tonnes of medical waste are generated annually across the country according to Jamshid Hasanov, chief specialist of the Waste Management and Circular Economy Development Agency. This includes infectious waste, sharps (syringes, needles), pharmaceutical waste, pathological waste, chemical waste, and radioactive medical waste from hospitals, clinics, laboratories, and healthcare facilities[12].

Uzbekistan opened its first medical waste incineration plant producing thermal energy in Tashkent (September 2025). The Project through the public partner has engaged a licensed private medical waste disposal operator authorised under the oversight of the Centre of State Sanitary Epidemiological Surveillance, in accordance with the requirements of SanPiN No. 0317-15 to ascertain the support readiness of local infrastructure to support the Project.

13.3.5 Wastewater

The existing sewerage system serving Fergana and Margilan is also used by Tashlak and surrounding districts. A single wastewater treatment plant, constructed in the 1970s and serving all these areas, currently operates at only about 20% of its designed capacity due to aging infrastructure and insufficient maintenance. The treated effluent exiting the plant still contains high levels of pollutants, and untreated sewage is discharged directly into the adjacent river whenever the facility is bypassed/not functioning.

The Fergana city's sewage treatment plant has a maximum daily treatment capacity of 300,000 cubic meters. According to a PwC feasibility report (year, unknown), it currently operates at 150,000 – 180,000 cubic meters per day, due to operating problems. This leaves room to accommodate further effluent volumes if the facility were to be brought up to full operational ability. The final disposal point of treated wastewater from the facility is the Syr

[12] https://www.gazeta.uz/en/2025/09/04/waste/

Darya River. The effluent generated from the Eco City including that from the proposed Project will be directly connected with the existing sewage network of the city through an 800 mm diameter pipeline.

13.4 Waste Handling Capacity and Management Available in Fergana

13.4.1 Non-Hazardous Waste

All general (non-hazardous) waste, including paper, packaging materials, food waste, and non-contaminated items (approximately 85% of the total waste stream) will be managed through the municipal waste system.

The disposal of general waste will be carried out by "Toza Hudud" (the regional sanitation and municipal waste service provider) on a contractual basis.

Toza Hudud has been confirmed to hold a sanitary-epidemiological permit issued by the Fergana Regional Centre for State Sanitary and Epidemiological Surveillance (document No. 0149-04, dated 2018). This permit authorizes the acceptance, transport, and subsequent disposal of Class B (hazardous) medical waste, subject to the following conditions:

- Collection of Class B waste only after it has been decontaminated;
- Regular disinfection of temporary storage containers;
- Transport of Class B waste in single-use, tightly packed containers;
- Use of dedicated vehicles for waste transport (not used for any other purpose).

13.4.2 Medical Waste

Stakeholder engagement with Azizbek Best Plast, an approved local private medical waste handling entity was undertaken. Azizbek Best Plast is a manufacturing enterprise registered in the Tashlak District of the Fergana Region at 13 Al-Fargoniy St. The company has been operating since 2019 and specializes in the utilization (disposal) of medical waste.

It was confirmed that the company utilises an incineration plant is located in the Industrial Zone in the Kirguli district, a large industrial and manufacturing zone in Fergana City. Additionally, it was confirmed that the anticipated medical waste to be produced by the Project can be accommodated by Azizbek Best Plast. The company currently covers approximately over 50 hospitals and private clinics across the region.

The company operational capacity details are outlined below

Operational Capacity

- Treatment capacity: Up to 50 tons of medical waste per month
- Collection frequency: 3 times per week on a contractual basis (with the option for daily collection if required)
- Service area: Currently covers Fergana city and Margilan, with expansion potential to other districts

Technology

- Type: Industrial, factory-manufactured muffle furnaces (incinerators) imported from China
- Model example: WFS-30 (burn rate 10–30 kg per load, dual-chamber combustion at 850–1200°C, ash residue <5%)

- Method: High-temperature thermal destruction (incineration) of all types of medical waste

13.5 Potential Impacts, Mitigation and Management

13.5.1 Receptors

Receptor	Sensitivity	Justification
Existing solid waste infrastructure	**High**	Additional waste volumes from the Project, including construction waste and operational healthcare waste streams (including medical waste streams) will increase treatment/disposal demand. There is the possibility that all of the solid waste generated, including medical and hazardous waste, will be co-disposed of at the regional landfill until the Oqbilol Waste Processing & Energy Plant is in operation leading to possible environmental impacts on water resources and atmospheric emissions from the facility. Given the anticipated construction timelines it is assumed that the Oqbilol Waste Processing & Energy Plant will be completed prior to the Project being operational.
Existing wastewater infrastructure	**High**	The existing WWTP, constructed in the 1970s, is already operating under significant stress with inadequate treatment performance and intermittent discharge of untreated sewage to the receiving water body. The WWTP effluent is already subject to intermittent discharge of inadequately treated and untreated sewage. Additional hospital effluent - carrying elevated concentrations of pathogens, pharmaceutical residues, disinfectants will increase the pollutant load to the receiving water body. The existing sewerage network is of Soviet-era construction with a documented high proportion of deteriorated pipelines requiring rehabilitation. Leakage from the network into shallow groundwater represents a contamination pathway, with hospital effluent increasing the pathogenic and pharmaceutical load of any such leakage.
Construction workers	**Medium**	Due to the nature of this receptor, it is considered to be of medium sensitivity due to the presence of human receptors that will be susceptible to cumulative impacts of construction activities, however for a limited time.

Receptor	Sensitivity	Justification
Residential Communities	**High**	Populations that rely on the impacted water resources for domestic water supply or agricultural purposes are exposed to increased contamination risk from elevated pathogenic and chemical loads in hospital wastewater.
Licensed waste transport operators	**Medium**	Workers engaged in the collection, handling, and transport of medical waste, and any radioactive medical waste requiring transport to the Republican Centre for the Storage of Radioactive Waste in Tashkent (approximately 420 km), are exposed to occupational health risks in the event of inadequate storage/handling or road accidents.

13.5.2 Construction Phase Impacts

13.5.2.1 Generation and Improper Management of Construction Solid Waste and Wastewater

The construction of the Fergana Eco City Hospital will include activities such as site preparation, internal road construction, structural/civil works, electrical and mechanical installation, delivery and storage of construction materials, and operation of worker accommodation facilities. From these activities, various waste streams will be generated, including construction and demolition waste, and solid waste and wastewater.

The construction phase is expected to span approximately 3 years and will employ up to 1,865 personnel during peak construction periods. Waste generation will be relatively limited during the initial stages of site preparation but is anticipated to increase significantly. Packaging waste, including wooden pallets, cardboard boxes, plastic wrapping, and metal or plastic straps, will constitute a large portion of the construction waste. Much of this waste can be reused or recycled if managed properly. However, if left unmanaged, it can become windblown and contribute to site littering, soil contamination, and potential fire hazards. Effective on-site waste segregation, containment, and disposal procedures will be essential to mitigate environmental risks and ensure compliance with best practices for construction-phase waste management.

Non-Hazardous Solid Waste

Non-hazardous construction waste is typically inert and does not pose a threat to human health or the environment. However, proper management is required to reduce associated secondary impacts such as unnecessary resource use, littering, dust emissions, etc.

Inappropriate handling, storage, transport and/or disposal of these solid wastes during construction might pose the potential to pollute the surrounding environment (i.e. soil and groundwater resources), cause odour and visual nuisance, encourage pests or result in occupational health and safety issues. Waste management strategy and planning are therefore critical to minimise potential significant effects on sensitive receptors such as soil and groundwater.

The expectation for the management of solid non-hazardous wastes during construction is that it will be managed in line with existing processes in the Fergana region and at existing facilities referenced in the baseline above. There are not anticipated to be specific

requirements for special handling of non-hazardous waste streams and this will be common in line with current practices. Based on a typical construction project of this magnitude, the impact would still be considered to be relatively minor.

Construction & Demolition Waste (CDW)

During construction, waste may be generated during earthworks where there is a balance of excess soils, construction of the fences, and buildings. Typical CDW includes concrete, scrap steel, glass, plastic, wood, packaging materials (wooden pallets, wooden boxes/crates, cardboard, plastic ties, plastic wrap and potentially some metal frames), and domestic waste from construction workers (i.e., food consumption, plastic bottles, metal cans, etc.).

The soil baseline has identified certain ambient parameters (including copper, zinc and lead) to exceed national MPC soil quality standards and hance in the event that there is a balance of cut soil material for disposal from the site, there will need to be consultation with the relevant waste management facilities and transporters to ensure that any necessary provisions (and if required, permits) are implemented for appropriate handling, transportation and disposal.

The remainder of CDW likely to be generated on-site would be inert and does not pose a threat to human health or the environment. Waste from construction workers will be temporarily stored on-site and to be disposed and further managed by the licensed third party.

Hazardous Solid Waste

Due to the nature of the project and the scope of construction works being undertaken, there will be limited hazardous materials used. Such materials may include fuel containers waste, oily residues, paints, paint cans, chemical drums, used spill kits, replacement parts from vehicles, plant and equipment and wastes from chemical cleaning products.

Therefore, the types of hazardous waste generated during construction will likely include the following:

- Chemical drums, aerosol cans, contaminated metals, used containers, adhesives, machinery lubricants, used rags, used spill kits, waste oil, paint, batteries, and clean-up material.
- Replacement part from construction vehicles and equipment.

Due to its potential impact, hazardous waste needs careful handling and management. The hazardous waste potentially contaminates soil and groundwater. Inappropriate management, storage, handling and transportation, may lead to accidental spill or leaks, which could result in environmental impacts and potential health risk to workers. Contamination events may also arise because of transportation by unlicensed waste contractors or disposal to unlicensed/unauthorised landfills.

Hazardous wastes require segregation from the non-hazardous waste and suitable storage facilities on-site prior to collection for off-site disposal. While hazardous waste is commonly generated in much smaller quantity than non-hazardous waste, the environmental risk associated with its storage and disposal is considered to be significantly greater. Inappropriate management, storage, handling, transferring or transportation through lack of personnel training on site may lead to accidental spills or leaks to the soil resulting in environmental impacts and potential health risk to workers.

Expected volumes of hazardous waste generation during construction have not been confirmed, however are not expected to be markedly different to a similar project of a commensurate scale. However, given the existing waste infrastructure within the region, the impact is considered to be of moderate magnitude.

Wastewater

Wastewater generated from construction activities at the project site will include the following:

- Sanitary/domestic wastewater generation;
- Wastewater from any vehicles or equipment washing/cleaning;
- Liquid hazardous waste such as fuels, chemicals, paints, lubricants, solvents, waste oil, hydraulic fluid, resins, waste solvents and thinners, etc.; and,
- Concrete washout.

The domestic wastewater is expected from the activities of the construction workers, which will be in quite high volume during the peak period of the construction.

It is intended that all wastewater generated from the construction site (from domestic and sanitary activities) will be collected through a controlled underground drainage system, temporarily stored in a watertight septic tank, and periodically removed by a licensed vacuum tanker contractor. Wastewater will be temporarily stored in watertight reinforced concrete tanks of 385 m^3 and 790 m^3 capacity respectively.

Even though project will utilize impermeable septic tanks for the temporary storage of wastewater, the existing wastewater infrastructure within the region is under stress and limited, thus this impact is considered to be of **moderate** magnitude**.**

Other wastewater from processes such as equipment washing can pose potential pollution concerns to soil and potentially groundwater where there are residues that wash off and are exposed to soils.

Where concrete washout is not undertaken in properly constructed designated areas with leak-tight collection systems, there is a risk of concrete washout water and cementitious residues infiltrating surrounding soils and potentially groundwater. Given the highly alkaline nature of concrete washout, this could result in localised soil and groundwater contamination if not appropriately managed.

13.5.3 Impact Assessment Summary – Waste and Wastewater Management during Construction

A summary of potential impacts on identified receptors as a result of Project wastes during construction are presented in following table including suggested mitigation measures and residual impacts after implementation of mitigation measures.

Table 13-1 Construction Phase – Solid Waste and Wastewater Management Impacts and Mitigation Measures

Potential Impacts	Magnitude of impact	Receptor	Sensitivity	Impact Significance	Residual impact
Generation and improper management of non-hazardous domestic and	Minor	Waste infrastructure within	High	Minor	Negligible

Potential Impacts	Magnitude of impact	Receptor	Sensitivity	Impact Significance	Residual impact
municipal solid waste		Fergana Region Residential Communities Construction Workers			
Generation and improper management of hazardous waste	Moderate	Waste infrastructure within Fergana Region Residential Communities Construction Workers	High	Moderate	Minor
Generation and improper management of wastewater	Moderate	Waste infrastructure within Fergana Region Residential Communities Construction Workers	High	Moderate	Minor

<u>Mitigation for the improper management of non-hazardous domestic and municipal solid waste</u>

- The EPC Contractor will coordinate with relevant local authorities (e.g. municipalities) in the Fergana Region to identify licensed waste management facilities with adequate capacity to receive Project-related waste. Relevant utilities and communities will also be consulted to determine whether additional mitigation measures are required to prevent disruption to existing infrastructure and services.
- Prior to the commencement of construction, the EPC Contractor will confirm available capacity at designated landfills, recycling centres, hazardous waste facilities, and wastewater treatment plants, and will establish formal contracts specifying permitted waste types, forecast volumes, and delivery schedules to avoid overloading receiving facilities.
- A construction-phase Waste Management Plan (CWMP) will be prepared and implemented in accordance with GIIP.
- The Project will implement a staggered waste transport schedule aligned with construction phases to avoid large, short-term surges in waste delivery.
- The EPC Contractor will ensure that all waste consignments requiring off-site treatment and/or disposal will be transferred only to licensed waste management facilities allocated by relevant authorities.

Potential Impacts	Magnitude of impact	Receptor	Sensitivity	Impact Significance	Residual impact
• Material procurement and storage practices will be optimised to minimise off-cuts, spoilage, and packaging waste, including through accurate material take-offs and, where feasible, the use of modular construction techniques. • On-site reuse of inert construction materials, and suitable aggregates for backfilling and landscaping will be maximised, and dedicated segregation areas will be established to increase recovery rates of recyclable materials (e.g. metal, wood, plastics, and cardboard). • Where excess soil is required to be disposed off-site, the EPC Contractor will consult with the licensed waste transportation and disposal companies in regard to the baseline soil content that had concentrations of copper, zinc and lead exceeding national MPC values for soil quality. • Collection of waste to its final disposal location will be through the licensed waste collector. The licensed waste collector will be responsible for project waste management and act as a waste contractor and transport the waste to authorized recycling/recovery and /or final disposal facilities that are licensed according to national regulations. • The EPC contractor will promote and implement a hierarchy of controls in managing wastes which include prevention, reuse, recycling, recovery and disposal in order of most preferred to least preferred option. • Domestic solid wastes to be segregated and identified from the other waste streams into separate waste containers/skips clearly to facilitate recycling. • Waste containers/skips will be clearly labelled and placed in designated waste storage locations. Labels will be waterproof, securely attached, and written in English and other languages as required. • Waste containers will have lids in order to mitigate wind dispersed waste. • For litter (food waste, domestic waste), an adequate number of covered bins will be strategically placed throughout the site at locations where construction workers and staff consume food. These will be regularly collected and taken to the main waste storage area. • Food waste will be stored within a sealed metal or plastic skip or bin to prevent pests from gaining access. • Ongoing housekeeping training will be provided to all staff on the importance of the need to avoid littering. <u>Mitigation for the improper management of hazardous waste</u> • Hazardous waste collection will be determined on a case-by-case basis. • For liquid hazardous wastes, all liquid bins and containers will be leak-proof and sealed. In addition, secondary containment will be implemented to prevent any hazardous liquid escaping – e.g. to soil/ground. Secondary containment must be provided with a capacity of 110% of the largest storage bin/container or 25% of the total storage capacity. • Implement spill response procedures and maintain spill kits at all waste and fuel storage areas. • All Hazardous waste must be labelled and a waste manifest completed when arranging collection and safe disposal. • All waste collection vehicles must be supplied with a spill kit. • Develop and maintain a hazardous waste inventory to document and track hazardous wastes generated, segregated, reused and consignments.					

Potential Impacts	Magnitude of impact	Receptor	Sensitivity	Impact Significance	Residual impact
• Segregate and identify hazardous waste from the other waste streams into separate signed and labelled waste containers/skips. • Store hazardous waste in allocated impervious hard standing areas in sealed containers stored with impermeable bases, sufficient containment and separation capacity, sun/rain shelter, separate drainage system, good ventilation and equipped with spill kits & spill response procedures. This area will be placed away from any sources of ignition. • The hazardous waste storage area will be constructed away from the drainage system. • Provide training and ready information on chemical compatibility to employees in order to ensure wastes are appropriately handled and stored. • Only licensed waste transporters and waste management facilities will be engaged for wastes. • Sanitary wastewater tanks to be properly maintained and inspected to ensure tanks do not overflow. • Site inspections will be carried out regularly by the EPC contractor to ensure that all wastewater generated is properly managed, and no leakages or spill occur. In the event of a spill or overflow, immediate action will be taken per spill containment procedures and clean up procedures. <u>Mitigation for the improper management of wastewater</u> • Establish designated concrete washout areas with impermeable containment; prohibit washout to ground or open drains. • Avoid onsite vehicle washing activities. • Prohibit discharge of fuel, oil, or chemical-contaminated water to any surface water or drainage system; manage under a dedicated Hazardous Materials Management Plan. • Regular inspection of the wastewater septic tanks and ensure adequate tank emptying procedures are in place.					

13.5.4 Operational Phase Impacts

Waste generation estimates by the Project during the operational phase are detailed below.

13.5.4.1 Solid Waste Generation and Treatment by the Project

Hazardous and Non-Hazardous Waste

Waste generation for the 800-bed hospital is established based on international healthcare benchmarks and calibrated to reflect operational realities in Uzbekistan, including patient turnover, clinical intensity, and service mix. It is anticipated that the typical waste generation rate projected is 1-3 kg/bed/day with a minimum of approximately 800 kg/day and a maximum load of approximately 2,400 kg/day. The overall average anticipated operational waste generation is approximately 1,600 kg/day to 1,800 kg/day at a worst-case scenario.

It is however noted that higher waste generation is expected in tertiary care environments, particularly with intensive care, surgical services, and diagnostic units. Seasonal fluctuations (e.g., epidemics, peak admissions) may increase volumes by 15–25%, requiring scalable waste handling capacity. Waste generation benchmarks are integrated into manpower planning, storage capacity design, and disposal logistics.

As an overarching management of waste stream, the MoH will implement a dynamic waste tracking system (kg/bed/day KPI) to continuously monitor actual generation rates, enabling data-driven optimization, cost control, and regulatory reporting compliance.

The hospital waste stream is categorized based on risk classification and regulatory requirements, ensuring appropriate handling and disposal pathways. Hospital wastes are categorized into 5 types as per the SanPin outlined below,

- Class A: non-hazardous,
- Class B: epidemiologically hazardous,
- Class C: extremely epidemiologically dangerous,
- Class D: toxic/chemical waste, and

Standard Waste Composition as per healthcare benchmark, it is anticipated to comprise of the following outlined waste stream compositions

- General, non-hazardous waste will account for approximately 85% of total generated waste thus making up to 1,360 kg/day to 2,040 kg/day
  - General waste will be comprised of paper, packaging materials, food waste, and non-contaminated items and will be managed through municipal waste systems and recycling streams.
- Hazardous waste will account for approximately 15% of the total generated waste, resulting in approximately 120 kg/day to 360 kg/day
  - Hazardous waste will comprise of infectious waste, sharp, pathological waste, chemical waste, and radioactive materials. These waste streams will require specialised handling, treatment, and disposal through licensed contractors and disposal facilities.

Further classification of hazardous waste streams in accordance with the projected 15% to be generated is provided on the following table.

Table 13-2 Hazardous Waste Streams Composition

Hazardous Waste Stream	% Assumed Of Total Waste	Estimated Quantity Per Day	Estimated Quantity Per Year
Medical Infectious Waste	10%	160 kg/day	58,400 kg/year
Sharps Waste	1%	16 kg/day	5,840 kg/year
Chemical/Pharmaceutical Waste	3%	48 kg/day	17,520 kg/year
Cytotoxic/Special Hazardous Waste	0.50%	8 kg/day	2,920 kg/year

In addition to the above specified hazardous waste streams, it is anticipated that there will be a wide range of non-medical wastes that will be generated from the hospital management activities.

Department-based Waste Streams

Waste generation within the hospital is department-dependent, with each clinical and support area contributing distinct waste types and risk levels. The MoH will develop a strategy to address these variations through targeted handling protocols.

- **High-Risk / High-Generation Areas**

  - Intensive Care Units (ICU) will result in high volume of infectious waste, PPE, and disposable medical supplies of continuous waste generation requiring frequent collection cycles accounting for approximately 400 kg/day,
  - Operating Theatres (OT) will generate significant pathological waste, sharps, and contaminated materials that require immediate segregation and controlled handling. OT will result in approximately 192 kg/day of waste, and
  - Laboratories (Diagnostic & Pathology) will result in the generation of chemical waste, biological samples, and contaminated consumables that require specialised containment and disposal procedures. Lab and pathology related wastes will result in approximately 112 kg/day.
- **Specialised Waste Areas**
  - Pharmacy will result in the generation of expired drugs, cytotoxic substances, and chemical waste of approximately 64 kg/day that require secure storage and disposal through licensed hazardous waste handlers, and
  - Isolation Wards will result in the generation of high-risk infectious waste of approximately 128 kg/day, especially during outbreaks/pandemics that require enhanced infection control measures and dedicated waste streams.
- **Moderate to Low- Risk Areas**
  - General Wards & OPD will result in the generation of mixed waste with majority being general waste of approximately 400 kg/day, and
  - Administrative & support areas will generate predominantly non-hazardous waste such as food waste, paper, packaging, office waste. It is anticipated that approximately 160 kg/day of waste will be generated by the kitchen/food service, and approximately 80 kg/day of waste from admin and public areas.

In addition to the above, it is anticipated that the maintenance areas are also classified as moderate to low-risk areas as maintenance works results in the production of hazardous wastes such as paints, oils, solvents, etc. as well as hon-hazardous waste.

13.5.4.2 Wastewater and Treatment by the Project

The Project operational activities are anticipated to result in the estimated wastewater of approximately 575 m³/day, with assumed 85% return to sewer. The wastewater streams are expected to consist of the following:

- Domestic sanitary wastewater of approximately 380 m³/day;
- Laundry wastewater of approximately 105 m³/day;
- Kitchen wastewater from food preparation and dishwashing areas) of approximately 50 m³/day, anticipated to be routed through grease separators prior to discharge; and
- Medical/laboratory wastewater from sterilization areas, laboratories, decontamination rooms, autopsy areas, soiled utility rooms, of approximately 40 m³/day, anticipated to be subjected to neutralization prior to discharge.

The anticipated wastewater streams will be collected through separate internal piping networks and discharged into the external municipal sewer system.

Onsite Waste Treatment

The Project will use a segregated wastewater collection and pre-treatment system designed to manage different wastewater streams at source and prevent cross-contamination within the drainage network. The system will be designed based on BS EN 12056-2 and/or

applicable local codes, with gravity drainage used wherever feasible; where site levels do not permit gravity flow, wastewater lifting stations will be installed in basement-level pits/rooms, subject to detailed coordination.

Source Segregation

- Wastewater will be separated into dedicated streams according to source and risk profile, including:
- Black water from WCs, urinals, and bidets.
- Grey water from washbasins, showers, and floor gullies.
- Greasy wastewater from kitchens.
- High-temperature wastewater from sterilization, CSSD, endoscopy, dialysis, and mattress disinfection areas.
- Acidic chemical drainage from laboratories.
- Special drainage from ER decontamination showers and morgue areas.
- Hydrocarbon-contaminated runoff from garage and service areas.

Pre-Treatment at Source

Each wastewater stream will receive appropriate onsite treatment before discharge to the municipal sewer or external drainage system:

- Kitchen wastewater will be conveyed through a dedicated pipeline to a grease separator, where fats, oils, and grease will be removed before discharge.
- Sterilization, CSSD, endoscopy, dialysis, and mattress disinfection wastewater will be collected independently through pipework rated for hot fluids and passed through a neutralization device before connection to the manhole system.
- Laboratory wastewater will be collected separately and routed through a neutralization device designed for acidic wastewater before discharge.
- ER decontamination shower and morgue drainage will be handled through an independent specialist drainage system.
- Garage and service-area runoff will pass through a petrol/hydrocarbon interceptor for spill and wash-down capture before discharge, with linkage to the building management system and local alarm where required.
- Imaging/nuclear medicine drainage is not applicable for this hospital project, as no nuclear department or nuclear waste is anticipated.

Dedicated drainage pipework will be provided throughout the building to keep wastewater streams separate and reduce the risk of contamination spread from blockages or operational incidents. Where gravity drainage is not possible, lifting stations with gas/odour-proof, plug-and-go, flexible connections will be used to transfer wastewater to the downstream drainage network.

After onsite pre-treatment, wastewater will be discharged to the external drainage/manhole system in compliance with local discharge requirements. Wastewater originating from laboratory reagents will be collected separately from the hospital's domestic wastewater system. It will be conveyed through dedicated, chemically resistant pipework to a special neutralisation and treatment device before discharge to the sewage system. Where required, the neutralisation system will include automatic dosing, mixing, monitoring, alarms, and a holding arrangement to allow corrective treatment before discharge. Wastewater generated

by infectious disease hospitals, departments, isolation rooms, and other areas handling patients with infectious diseases will be collected and disinfected before discharge to the external sewage network.

Treated effluent from each stream will be controlled to ensure that only acceptable wastewater quality enters the public sewer or other receiving system. The wastewater system will be supported by routine inspection, maintenance, and cleaning of separators, neutralization units, and interceptors to maintain performance. Access for maintenance will be incorporated into the design, and operational procedures will be established for safe handling of sludge, grease, neutralizing media, and intercepted pollutants.

Engagement was undertaken with Fergana Uzsuvtaminot, it was confirmed that the collected sewage is disposed at the Ferghana WWTP. The designed capacity of WWTP is 300 000 m3/day, current loudness is 240,000 m3/day. It was confirmed that there is existing capacity to accommodate wastewater from the Project. Additionally, Fergana Uzsuvtaminot confirmed that there are no separate regulations for sewage from medical entities.

It was further confirmed that there are no intentions to extend the existing WWTP since design capacity of facilities is designed for population grow till 2045.

The public partner (through the Ministry of Health) will be responsible for all clinical operations at the hospital and will be responsible for the management of medical/clinical waste generated during operations. Non-clinical waste will be the responsibility of the FM Co.

13.5.4.3 Generation and Improper Management of Solid Waste

The proposed 800-bed hospital facility is anticipated to generate approximately 1 to 3 kg of solid waste per occupied bed per day, based on international healthcare benchmarks calibrated to reflect operational conditions in Uzbekistan, including patient turnover, clinical intensity, and service mix. This equates to a minimum generation load of approximately 800 kg/day and a maximum of approximately 2,400 kg/day under full occupancy.

Higher waste generation rates are expected in tertiary care departments, particularly intensive care units, surgical services, and diagnostic units. Seasonal fluctuations associated with epidemic events and peak admission periods may further increase generation volumes by 15 to 25% above baseline, requiring scalable waste handling capacity.

Of total waste generated, approximately 15% is anticipated to comprise hazardous healthcare waste, equating to approximately 120 to 360 kg/day. Hazardous waste streams include infectious waste, pathological waste, pharmaceutical and cytotoxic waste, chemical waste, and radioactive materials. These waste streams pose significant risks to human health and the environment if not properly managed: infectious waste may contain pathogenic microorganisms capable of infecting patients, healthcare workers, and the wider community, and inadequately managed waste may contribute to the release and spread of drug-resistant microorganisms into the surrounding environment. The remaining approximately 85% of total waste generated comprises non-hazardous waste from domestic, administrative, and non-clinical activities.

Hazardous waste requires specialised handling, treatment, and disposal, and the Project will engage licensed contractors for this purpose. National regulations, including SanPiN No. 0127-02, strictly govern the classification, storage, and disposal of such waste streams.

Waste generation profiles vary by department, with each clinical and support area contributing distinct waste types and risk levels. The waste management strategy for the Project is designed to address these variations through targeted handling protocols, as described in the following sections.

The table below shows the types of wastes from hospital operation and the treatment/disposal to be considered.

Table 13-3 Health Care Facilities Typical Waste and Treatment Option[13]

Type of Waste	Treatment and Disposal Options
Sharps: Includes needles, scalpels, blades, knives, infusion sets, saws, broken glass, and nails	Waste segregation strategy: Yellow or red color code, marked "Sharps." Rigid, impermeable, puncture-proof container (e.g., hard plastic) with cover. Sharps containers should be placed in a sealed, yellow bag labelled "infectious waste." Treatment: Chemical disinfection; autoclaving; microwave irradiation; encapsulation; incineration • Following incineration, residues should be landfilled. • Sharps disinfected with chlorinated solutions should not be incinerated due to risk of generating POPs. If sharps are to be disinfected prior to incineration, disinfection methods that do not involve chlorinated disinfectants should be used. • Needles and syringes should undergo mechanical mutilation (e.g., milling or crushing) prior to wet thermal treatment.
Infectious waste: Includes waste suspected to contain pathogens (e.g., bacteria, viruses, parasites, or fungi) in sufficient concentration or quantity to cause disease in susceptible hosts. Includes pathological and anatomical material (e.g., tissues, organs, body parts, human fetuses, animal carcasses, blood, and other body fluids), clothes, dressings, equipment/instruments, and other items that may have come into contact with infectious materials.	Waste segregation strategy: Yellow- or red-coloured bag/container, marked "infectious" with international infectious symbol. Strong, leak-proof plastic bag, or container capable of being autoclaved. Treatment: Chemical disinfection; autoclaving; microwave irradiation; sanitary landfill; incineration. • Highly infectious waste, such as cultures from lab work, should be sterilized using wet thermal treatment, such as autoclaving. • Anatomical waste should be treated using incineration (rotary kiln or pyrolytic incinerator).

[13] WBG EHS Guidelines for Health Care Facilities, 2025 (Draft for Consultation)

Type of Waste	Treatment and Disposal Options
Pharmaceutical waste: Includes expired, unused, spoiled, and contaminated pharmaceutical products, drugs, vaccines, and serums that are no longer needed, including containers and other potentially contaminated materials (e.g., drug bottles, vials, tubing etc.).	Waste segregation strategy: Brown bag/container. Leak-proof plastic bag or container. Treatment: Sanitary landfill; encapsulation; return expired, spoiled or recalled drugs to supplier if possible; incineration • Small quantities: Landfill disposal acceptable; however, cytotoxic and narcotic drugs should not be landfilled. Incineration, provided pharmaceuticals do not exceed 1 percent of total waste to avoid hazardous air emissions. Intravenous fluids (e.g., salts, amino acids) should be landfilled. Ampoules should be crushed and disposed of with sharps. Active pharmaceuticals, such as antibiotics and antimicrobials should be thermally, chemically or enzymatically deactivated through validated methods or incinerated. • Large quantities: Incineration at temperatures exceeding 1200°C. Encapsulation in metal drums. Landfilling not recommended unless encapsulated in metal drums and groundwater contamination risk is minimal.
Genotoxic/cytotoxic waste: Waste may have mutagenic, teratogenic, or carcinogenic properties and typically arises from the faeces, urine, and vomit of patients receiving cytostatic drugs, and from treatment with chemicals and radioactive materials. Cytotoxic drugs are commonly used in oncology and radiology departments as part of cancer treatments.	Waste segregation strategy: See above for “infectious waste.” Cytotoxic waste should be labelled “Cytotoxic waste.” Treatment: Return expired, spoiled or recalled drugs to supplier; chemical degradation; encapsulation; inertization; incineration (double chamber). • Cytotoxic waste should not be landfilled or discharged to sewer systems. • Incineration is the preferred treatment option. Waste should be returned to the supplier where incineration is not an option. For particular drugs, incineration should be undertaken at specific temperatures and time specifications. Municipal or single-chamber incinerators are not adequate for cytotoxic waste disposal. Open burning of waste is not acceptable. • Chemical degradation may be used for certain cytotoxic drugs—refer to WHO (2014) Annex 3 for details. • Encapsulation and inertization should be a last resort waste disposal option

Type of Waste	Treatment and Disposal Options
Chemical waste: Waste may be hazardous, depending on the toxic, corrosive, flammable, reactive, and genotoxic properties. Chemical waste may be in solid, liquid, or gaseous form and is generated through use of chemicals during diagnostic/experimental work, cleaning, housekeeping, and disinfection. Chemicals typically include formaldehyde, photographic chemicals, halogenated and nonhalogenated solvents, organic chemicals for cleaning/disinfecting, and various inorganic chemicals (e.g., acids and alkalis).	Waste segregation strategy: Brown bag/container. Leak-proof plastic bag or container resistant to chemical corrosion effects. Treatment: Return unused chemicals to supplier; encapsulation; incineration (pyrolytic incinerator); treatment/conversion and temporary safe disposal for remote HCF premises for some chemical waste • Facilities should have permits for disposal of general chemical waste (e.g., sugars, amino acids, salts) to sewer systems. • Small hazardous quantities: Incineration, encapsulation, or landfilling. • Large hazardous quantities: Transported to appropriate facilities for disposal or returned to the original supplier using shipping arrangements. Large quantities of chemical waste should not be encapsulated or landfilled. • Formaldehyde: A request for disposal may be submitted to local authorities or private hazardous waste disposal companies. Alternatively, a laboratory may develop a formaldehyde treatment procedure where the lab treats their formaldehyde waste for disposal in the sink (this procedure requires consultation with local authorities).
Radioactive waste: Waste includes solid, liquid, and gaseous materials that have been contaminated with radionuclides. Radioactive waste originates from activities such as organ imaging, tumour localization, radiotherapy, and research/clinical laboratory procedures, among others, and may include glassware, syringes, solutions, and excreta from treated patients	Waste segregation strategy: Lead-lined leak proof box, labelled with the radioactive symbol. Treatment: Radioactive waste should be managed according to national requirements and current guidelines from the International Atomic Energy Association (IAEA) 2019. Predisposal Management of Radioactive Waste from the Use of Radioactive Material in Medicine, Industry, Agriculture, Research and Education. No. SSG-45. Annexes III to V of IAEA (2019) provide detailed flowcharts for the disposal solid, biological, and disused source (equipment) radioactive wastes. The main common steps in all radioactive waste treatment processes involve waste minimization, segregation, storage in radiation-proof containers, allowing time for sufficient natural decay, and further waste treatment/disposal depending on the residual waste characteristics.
Waste with high content of heavy metals: Waste includes batteries, broken thermometers, blood pressure gauges (e.g., mercury and cadmium content).	Waste segregation strategy: Waste containing heavy metals should be collected separately from general health care waste. Treatment: Safe storage site designed for final disposal of hazardous waste. • Waste should not be burned, incinerated, or landfilled. Transport to specialized facilities for metal recovery.

Type of Waste	Treatment and Disposal Options
Pressurized containers: Includes containers/cartridges/cylinders for nitrous oxide, ethylene oxide, oxygen, nitrogen, carbon dioxide, compressed air, and other gases.	Waste segregation strategy: Pressurized containers should be collected separately from general health care waste. Treatment: Recycling and reuse, send reusable containers to specialized gas refilling facilities. For disposal, crush the containers followed by landfilling or recycling. • Incineration is not an option due to explosion risks. • Halogenated agents in liquid form should be disposed of as chemical waste, as described above.
General health care waste: Includes food waste and paper, plastics, and cardboard.	Waste segregation strategy: Black bag/container. Halogenated plastics such as PVC should be separated from general health care facility waste to avoid disposal through incineration and associated hazardous air emissions from exhaust gases (e.g., hydrochloric acid and dioxins). Treatment: Disposal as part of domestic waste. Segregate and compost food waste. Segregate and send for recycling component waste including paper, cardboard, recyclable plastics (PET, PE, PP), and glass.

Processes to manage clinical waste will be fully under the responsiblility of the public partner through the Ministry of Health and their standard operating porcedures for the management, handling and disposal of such wastes in accordance with applicable Uzbek laws. Full details on the specific processes for clinical waste handling are not currently known, however, it is understood that a licensed medical waste incinerator in Uzbekistan will be used for medical waste treatment. The specific facility has not been confirmed at this time.

The type of non-hazardous waste consists of domestic solid waste, wastewater from operating room, etc., and hazardous waste (medical, pharmaceutical, etc.). Effective management of these waste streams is essential to minimise environmental impacts and safeguard human health. Each waste type presents unique management challenges and risks. For non-clinical waste, the FM Co. will implement a dynamic waste tracking system (kg/bed/day KPI) to continuously monitor actual generation rates, enabling data-driven optimization, cost control, and regulatory reporting compliance. The Project anticipates the benchmark for standard waste composition to constitute of general non-hazardous waste of approximately 85% of the waste source, resulting in approximately 1,360 to 2,040 kg/day of waste comprising of paper, packaging materials, food waste, and non-contaminated items. This waste stream will be managed through municipal waste systems and recycling streams.

The generation of increased volumes of municipal solid waste will place additional pressure on local waste management systems, including waste collection services and landfill capacity. This could affect local residents and municipal waste infrastructure within and around the hospital.

Based on the above, the potential impacts from the generation of hazardous medical waste are considered to be of **major** magnitude given that the status of the existing waste infrastructure in the region.

On the other hand, considering the lower risk that non-hazardous waste that will be generated by the hospital when operational, the magnitude of the potential impacts is deemed to be considered as **minor**.

13.5.4.4 Generation and Improper Management of Wastewater

Operational activities will generate wastewater, from medical wards, operating room, laboratories, pharmaceutical and chemical storages, cleaning activities, haemodialysis, dental departments, kitchens, and other medical supporting facilities. For domestic wastewater, estimated that around 575 m^3/day wastewater will be generated, and approximately 40 m^3/day is medical / laboratory wastewater (sterilization areas, laboratories, decontamination rooms, autopsy areas, soiled utility rooms), which is subject to neutralization prior to discharge. All the wastewater generated will be collected through segregated internal piping networks and discharged into the external sewerage system.

The hospital will include pre-treatment facilities for the various wastewater streams, which are undergoing final design. Even though hospital will practice pre-treatment before the discharge of the effluents to the external network, the chemical composition and biological risk of the direct discharge of the wastewater might pose a health and environmental risk considering that the wastewater infrastructure in the region is under developed and under operational stress. Thus, the impact is considered to be of **major** magnitude**.**

13.5.5 Impacts Assessment Summary – Solid Waste and Wastewater Management during Operation

A summary of potential impacts on identified receptors as a result of Project wastes during operation are presented in following table including suggested mitigation measures and residual impacts after implementation of mitigations measures.

Table 13-4 Operation Phase – Waste and Wastewater Management Impacts and Mitigation Measures

Potential Impacts	Magnitude of impact	Receptor	Sensitivity	Impact Significance	Residual impact
Generation and improper management of medical hazardous waste	Major	Waste infrastructure within Fergana Region Residential Communities Licensed waste transport operators Water resources	High	Major	Minor
Generation and improper management of non-hazardous waste	Minor	Waste infrastructure within Fergana Region Residential Communities	High	Minor	Negligible

Potential Impacts	Magnitude of impact	Receptor	Sensitivity	Impact Significance	Residual impact
Generation and improper management of wastewater	Major	Waste infrastructure within Fergana Region Residential Communities Water resources	High	Major	Moderate

Mitigation for the improper management of medical hazardous waste

Note: *The following measures are presented as recommended good practice for implementation by the Ministry of Health through the public partner. They may differ from the standard operating procedures currently adopted for the management of clinical and infectious healthcare waste in Uzbekistan. The Project Sponsors cannot guarantee that these measures will be implemented. However, where practicable, the Project Sponsors will seek to exercise reasonable influence through engagement with the Ministry of Health and the public partner to encourage the adoption of these measures, commensurate with the Project's environmental and social standards.*

- Implement strict waste segregation at point of generation based on the class and type of medical waste.
- Medical waste to be disposed of in designated colour-coded and labelled containers according to its type and class. Containers must be leak-proof and puncture-resistant for sharps and infectious waste.
- Seal waste containers when three-quarters full
- Transport waste within the facility using designated routes and dedicated trolleys that are not used for other purposes
- Designate a secure, ventilated, access-controlled interim waste storage area on-site, separate from food storage, patient areas, and public access zones
- Limit on-site storage duration: infectious waste not to exceed 24 hours at ambient temperature or 72-hours under refrigeration
- Maintain on-site storage areas in clean condition; disinfect regularly
- Apply decay-in-storage for short-lived radioactive waste in shielded, access-controlled storage.
- Maintain source inventories, radiation survey records, and controlled transfer procedures for sealed sources.
- Transfer long-lived radioactive waste only to the authorized national radioactive waste system.
- Apply the treatment method appropriate to each waste class
- Use only licensed waste contractors with documented authorisation for the specific waste class being transported (as approved by MoH)
- Require waste transport vehicles to meet applicable standards for infectious or hazardous waste transport; vehicles must be enclosed, cleanable, and dedicated to waste transport
- Use a waste transfer manifest (consignment note) system for all hazardous waste movements, tracking from point of generation to confirmed disposal

Potential Impacts	Magnitude of impact	Receptor	Sensitivity	Impact Significance	Residual impact
• Confirm and document the receiving disposal facility for each waste stream prior to operations; facilities must hold valid operating licenses. • Do not use open dumpsites or non-engineered landfills for any healthcare waste stream. Medical waste shall be treated and managed in MoH authorized treatment facilities only that are suitable for the type of medical waste. • Provide mandatory initial and annual refresher training to all staff -- clinical and non-clinical -- on waste segregation, container handling, spill response, and personal protective equipment use • Conduct waste audits at minimum annually to quantify generation by stream and assess segregation compliance in coordination with MoH. • Maintain records of all waste consignments including type, quantity, contractor, and disposal destination. • Investigate and report all waste-related incidents (spills, segregation failures, contractor non-compliance) within 24 hours; implement corrective actions within 30 days • Provide appropriate PPE to all waste handling staff: puncture-resistant gloves, heavy-duty aprons, closed footwear, and eye protection as a minimum • Prohibit manual sorting or handling of unsegregated medical waste <u>Mitigation for the improper management of non-hazardous waste</u> • Prior to start of operation of the hospital, MoH/M Co. will coordinate with the local municipality and waste receiving facilities to ensure sufficient capacity is available for receiving wastes. • Implement a formal waste minimisation programme with measurable annual reduction targets for general waste streams • Conduct periodic waste composition audits to identify reduction opportunities by department and waste stream • Reduce unnecessary packaging through procurement policy; prioritise suppliers using minimal or recyclable packaging • Implement food waste minimisation measures in catering and kitchen operations, including portion control and demand-based procurement • Substitute single-use items with reusable alternatives where infection control protocols and clinical safety permit • Domestic solid wastes to be segregated and identified from the other hazardous waste streams. Non-hazardous waste must not be co-mingled with infectious, pharmaceutical, chemical, or sharps waste at any stage. • Waste containers/skips will be clearly labelled and placed in designated waste storage locations. Labels will be waterproof, securely attached, and written different languages, as required. • For litter (food waste, domestic waste), an adequate number of covered bins will be strategically placed throughout the site at locations where operational staff consume food. These will be regularly collected and taken to the main waste storage area. • Food waste will be stored within a sealed metal or plastic skip or bin, to prevent pests from gaining access. • Engage with local recycling contractors or informal sector cooperatives where these are formally recognised and operating					

Potential Impacts	Magnitude of impact	Receptor	Sensitivity	Impact Significance	Residual impact
• Explore opportunities for organic waste composting or controlled biological treatment for food and garden waste where technically feasible and compliant with national sanitary requirements • Only licensed waste transporters and waste management facilities will be engaged, and copies of the waste management licenses will be maintained on site. • Completed waste manifests will be maintained to show the chain of custody of the waste generated on-site, its transportation and treatment/disposal. All records will be maintained on-site. • Prohibit disposal of non-hazardous waste to open dumpsites. <u>Mitigation for the improper management of wastewater</u> • Pre-treat hospital wastewater prior to discharge to the municipal sewer network. • Separately collect and treat laboratory wastewater, autoclave condensate, and radiopharmaceutical wastewater under specific protocols. • Manage domestic wastewater from non-clinical areas (kitchens, laundries, sanitary facilities, administrative areas) in accordance with applicable national discharge standards. • Install grease traps on kitchen and catering wastewater discharge lines prior to connection to the sewer to prevent blockage and comply with municipal sewer acceptance standards. • Treat laundry wastewater where detergent and surfactant loads are likely to exceed sewer acceptance standards prior to discharge.					

13.6 Monitoring

An overview of essential monitoring requirements to track the effectiveness of recommended mitigation measures for waste management are tabulated below. The final monitoring methodology with specific monitoring details (i.e. locations, frequency, durations, parameters etc.) will be developed in the specific 'Environmental and Social Management Plan'.

Table 13-5 Waste Management Monitoring – Construction and Operation

Monitoring	Parameters	Frequency & Duration	Monitoring Location
Construction			
Generation of Construction Solid Waste	Number of grievances from waste management service providers and/ or affected communities and commercial/ industrial establishments with regards to disruption of waste management services	Monthly	Public waste management utility offices
	Number of waste consignments exported out of the project area without regulatory permits.	Monthly	Project offices
	Volume of generated waste	Continuous throughout construction	Project offices

Monitoring	Parameters	Frequency & Duration	Monitoring Location
Operation			
Generation of Solid Waste	Number of grievances from waste management service providers and/ or affected communities and commercial/ industrial establishments with regards to disruption of waste management services	Monthly	Public waste management utility offices
	Volume of generated waste (medical and domestic waste)	Continuous	Fergana Hospital
Waste handling, storage and transfer	• Inspect and monitor proper handling and storing of waste materials. • Check storage areas containment and control procedures	Daily	Waste Storage locations
	• Record keeping of waste transfer notes	Continuous	Fergana Hospital
Third party waste contractors and disposal facilities	Ensuring engaged contractors, their vehicles and waste management facilities have applicable registrations/licenses at time of procurement	At procurement and annually thereafter	Contractors, transport vehicles and waste management facilities
Wastewater	The Hospital will maintain records of all wastewater analysis for inspection of compliance and relating permitting (as required).	On-going	Wastewater analysis records.

14 Landscape and Visual

14.1 Applicable Requirements and Standards

14.1.1 National Standards

Specific legislation in regard to landscape and visual impacts is not known to exist in Uzbekistan and there are no specific requirements for this linked to lender guidelines. However, any Project activities/design that could impact cultural resources may need to be assessed in the context of that cultural resource.

14.1.2 Lender Standards

14.1.2.1 IFC

The IFC Performance Standards require that landscape and visual impacts be managed to protect community welfare and cultural heritage. Under IFC PS1, there is an expectation that the project identifies risks to the "aesthetic value" of the area. With regard to 'Physical Environment', IFC PS8 (Cultural Heritage) requires the protection of "Cultural Landscapes," ensuring that the hospital and its associated infrastructure do not adversely affect the visual integrity of significant historical or traditional sites.

14.1.2.2 EBRD

ESR 3 defines “pollution” broadly to include not just air, water, and land contamination, but also explicitly visual impacts, including light. In addition, ESR 8 makes reference to the potential for impacts upon cultural landscapes.

14.1.2.3 Good Practice Guidelines

The Landscape and Visual Impact Assessment methodology will be guided by the current good practice, guidelines and guidance from the following sources:

- ‘Guidelines for Landscape and Visual Impact Assessment’, Landscape Institute (LI) and Institute of Environmental Management and Assessment (IEMA), Third Edition, 2013; and
- ‘An Approach to Landscape Character Assessment’, Natural England, 2018.

14.2 Observations and Baseline Conditions

14.2.1 Baseline Conditions

14.2.1.1 Landscape Character

The Project site is located within the Fergana Valley, which is characterised by a broad, predominantly flat landscape enclosed by distant mountainous terrain associated with the Tien Shan range. While these mountains provide a wider visual backdrop, the immediate Project area is defined by low relief and an absence of notable topographical features.

The site itself lies within the planned Fergana Eco City development area and has been subject to prior land clearance and levelling, having historically been used for military purposes. As such, the immediate landscape is largely barren and disturbed, with minimal vegetation cover and limited existing land use. The visual character of the site is therefore currently dominated by open, exposed ground and with evidence of previous earthworks.

The surrounding area reflects a transitional landscape in a state of ongoing change. To the north, elements of the Eco City masterplan are beginning to emerge, including landscaped areas, internal road networks and features such as the amphitheatre, alongside early-stage construction activity. Beyond this, the urban fabric of Fergana city becomes more prominent to the north and east, with more established residential and commercial development. To the east, Fergana International Airport is a notable feature, with the runway located approximately 1 km from the Project site and associated terminal and operational infrastructure contributing to the local landscape character. To the west of the Project site, evidence of construction activities was observed approximately 150 m away from the Project boundary as shown on the following figure.

Figure 14-1 Active construction observed near the Project site

In contrast, areas to the south remain largely undeveloped, with similarly disturbed or vacant land.

Overall, the landscape character can be described as a developing peri-urban environment undergoing transformation from previously undeveloped or low-use land into a planned mixed-use urban area. The character is currently fragmented and transitional, with the final landscape setting yet to be established as the Eco City development progresses.

14.2.1.2 Visual Amenity

The Project development area, although undeveloped, is surrounded by an extensive development just outside of the proposed Eco City development area characterised by commercial and residential buildings as shown on the following figure.

Although the information pertaining the exact building heights for future projects planned within the Eco City is not yet confirmed, the proposed Project is not envisioned to stand out from the existing visual amenity and character of the surrounding environment as the hospital building will only go up 9 floors.

Figure 14-2 Development surrounding the Eco City development footprint.

The Project area is currently characterised by open and expansive views across a largely flat and undeveloped landscape, previously reserved for military activity. The absence of significant built form, vegetation or vertical features results in a high degree of visual permeability, with long-range views available across the site and surrounding areas, including from parts of the Eco City and nearby infrastructure.

The Project site itself presents as a disturbed, low-lying area with limited visual features, while the wider setting includes similarly open land, the airport to the east, and emerging elements of the Eco City to the north. As such, the current visual character is defined by openness and a lack of visual containment. However, this is transitional and is expected to change as the Eco City masterplan is implemented, with future development likely to introduce built form, landscaping and infrastructure that will alter existing views and reduce visual openness over time.

14.2.2 Sensitive Receptors

Table 14-1 Visual and Landscape Receptors

Receptor	Sensitivity	Justification
Landscape character	**Low**	The landscape is already highly modified, flat and of limited intrinsic character, and is currently in a transitional state due to ongoing and planned development within the Eco City, reducing its sensitivity to further change.

Receptor	Sensitivity	Justification
Visual amenity	**Medium**	The area currently exhibits a high degree of openness and visual exposure due to the lack of built form and screening features; however, this is a temporary condition that will change as surrounding development progresses, moderating overall sensitivity.

14.3 Survey Methodology

A Geographic Information System (GIS) was used to conduct an assessment of the project site as it provides an accurate geographical representation of the project site and the surrounding areas where visibility may be impacted. Furthermore, a qualitative assessment was undertaken to investigate the nature of the Project area and landscape features.

The baseline conditions of the site were ascertained through a review of baseline conditions through site visits conducted by Oqtavia in April 2026, supported by photographs to document existing landscape character and visual amenity across the Project site and its surroundings. These photographs have been used to establish representative viewpoints and to illustrate the current extent of visual openness and lack of screening features.

14.4 Potential Impacts, Mitigation, and Management

14.4.1 Construction Phase Impacts

14.4.1.1 Change in Landscape Character

The construction of a new development has the potential to result in changes to the landscape character of a locality through land use and topographical changes or other factors. In situations where the visual horizon is disturbed by a development, such impacts may include the anthropogenic intrusion of the landscape by buildings/structures where no intrusion previously existed; or the change in the landscape character of an area, which could arise from new/out of place development or from changes in the land use.

Construction activities will introduce temporary changes to the local landscape through the presence of construction plant, equipment, temporary facilities and on-going earthworks. One of the first stages of construction activities will result in the levelling, grading and other site preparation activities. However, given that the site is already highly modified, flat and in a transitional state characterised by heavy construction and development associated with the wider Eco City development, these changes are not expected to materially alter the existing landscape character.

14.4.1.2 Reduction in Visual Amenity

Construction activities are likely to result in temporary adverse effects on visual amenity. These will include the introduction of visually intrusive elements such as cranes, machinery, stockpiles, temporary structures and increased vehicle movements, which may be noticeable from nearby receptors and surrounding areas due to the current openness and lack of screening.

Additionally, the movement of heavy construction vehicles such as trailers, dump trucks, graders, excavators, loaders, tower and vehicle cranes to and from the Project site and earthworks on sandy surfaces can potentially result in dust generation and result in temporary haze causing disturbance to the current visual envelope of any nearby receptors and/or Project workforce. However, visual obstruction due to dust is envisaged to be temporary, for a limited duration and is reversible. Furthermore, these impacts are consistent

with the wider ongoing development of the Eco City, which is expected to progressively reduce visual openness and alter the existing visual baseline over time.

The potential impacts during construction are presented in following table including suggested mitigation measures and residual impacts after implementation of mitigation measures.

Table 14-2 Construction Phase – Landscape and Visual Impacts and Mitigation Measures

Potential Impacts	Magnitude of impact	Receptor	Sensitivity	Impact Significance	Residual impact
Change in Landscape Character	Moderate	Receiving Environment	Low	Minor	Negligible
Reduction in Visual Amenity	Moderate	Nearby Receptors	Low	Minor	Negligible
Mitigation to avoid visual and landscape impacts • Construction activities will be limited to the areas required. • Only designated access roads will be used. • Good housekeeping will be implemented across the site. • Lighting will be managed to avoid light spill.					

14.4.2 Operation Phase Impacts

14.4.2.1 Change in Landscape Character

The change in landscape character is envisioned to be continuous throughout the operation phase. The Project is to be developed as part of the greater Eco City masterplan, envisioned to constitute of mixed-use developments such as industrial facilities, and residential areas. The presence of the hospital building for the duration of the Project lifespan is not envisioned to result in adverse impacts influencing change to the receiving environment landscape character.

14.4.2.2 Reduction in Visual Amenity

It is to be noted that the Project building is envisioned to be 9 floors and is to be subjected to a limited height as per the PPPA due to its proximity to the airport. It is thus deduced that the Project building will not stand out but rather blend into the character of the Project area. The impact magnitude on the receiving environment landscape is considered to be negligible.

14.4.2.3 Solar PV Glint and Glare Impacts

In accordance with Uzbekistan's renewable energy and energy efficiency requirements, the Project will incorporate a rooftop Solar Photovoltaic (PV) system. Uzbekistan has introduced requirements for new and reconstructed buildings to include renewable energy installations, including solar panels, and previously required solar panels to be installed on at least 50% of the available roof area of new multi-storey buildings.

The Project's rooftop PV system is expected to comprise monocrystalline panels covering approximately 3,200–3,500 m² and installed using a ballast-type mounting system with wind-resilient anchorage. The rooftop PV system is not expected to result in significant visual, glint, or glare impacts during operation. Modern PV panels are designed to absorb solar radiation and are typically manufactured with dark, anti-reflective materials; guidance notes that modern panels can reflect as little as approximately 2% of incoming sunlight, which is

lower than many common surfaces (Massachusetts Department of Energy Resources, 2015).

Given the Project's location approximately 1 km from Fergana International Airport, the Project will align with applicable aviation safety requirements and, where required, engage with the airport operator and the Civil Aviation Agency of Uzbekistan (UZCAA) to confirm that the rooftop PV installation will not result in adverse visual effects, glint/glare impacts, or obstruction to pilots or air traffic control sightlines. Should any specific requirements be identified by the relevant aviation authorities, these will be incorporated into the final Project design.

Table 14-3 Operation Phase – Landscape and Visual Impacts and Mitigation Measures

Potential Impacts	Magnitude of impact	Receptor	Sensitivity	Impact Significance	Residual impact
Change in Landscape Character	Moderate	Receiving Environment	Low	Minor	Negligible
Reduction in Visual Amenity	Moderate	Nearby Receptors	Low	Minor	Negligible
Visual impacts on airport operations	Negligible	Fergana International Airport – Aircraft Operators	High	Minor	Negligible

<u>Mitigation to reduce visual and landscape impacts</u>

- Only designated access roads will be used.
- Good housekeeping will be implemented across the site.
- Lighting will be managed to avoid light spill.

<u>Minimise glint and glare impacts from PV panels</u>

- Design and install the rooftop Solar PV system in accordance with applicable national regulations, GIIP, and the Project's engineering design requirements to minimise the potential for glint and glare.
- Consider the use of PV modules and associated equipment with low-reflectance or anti-reflective finishes, where practicable, to minimise reflected light.
- Optimise the orientation, tilt and layout of the PV array during detailed design to minimise potential glint and glare towards nearby sensitive receptors, including the Airport.
- Coordinate with the UZCAA and the airport operator, where required, to confirm that the proposed PV installation does not adversely affect aircraft operations, pilot visibility or air traffic control sightlines.
- Maintain the PV system in accordance with the manufacturer's recommendations to ensure continued safe operation and minimise the potential for unintended reflective effects.
- Develop and implement a procedure for recording, investigating and responding to any complaints or incidents relating to glint and glare, including liaison with the airport operator and relevant authorities where appropriate.

14.5 Monitoring

Table 14-4 Monitoring Measures for Landscape and Visual Impacts

Monitoring	Parameter	Frequency & Durations	Monitoring Location	Responsibility
Construction				
No monitoring is proposed for landscape and visual impacts, however, any grievances will be covered on a case-by-case basis, as received, through the Project E&S Management System.				
Operation				
Glint and glare	Glint and glare from rooftop PV system	Visual inspections for evidence of excessive glare, complaints received, and any reported impacts to airport operations	Rooftop PV system and surrounding area	FM Co.

15 Traffic and Transportation

15.1 Applicable Requirements and Standards

15.1.1 National Standards

The Ministry of Transportation is responsible for all transport related activities and their requirements should be fully complied with in terms of routing of HGVs and site vehicles, licensing, road diversions, heavy/wide loads etc. Some of the relevant national requirements for the Project include:

- Law “About traffic safety” of the Republic of Uzbekistan August 19, 1999 No. 818-I (as amended on 29-12-2015): The main objective of this law is to ensure protection of life and health of citizens and their protection.
- Regulations on road safety during transportation of large and heavy loads by road transport (Annex No.2 to the Decree of Cabinet of Ministers No. 342 of December 26, 2011): This law determines the requirements of ensuring and coordinating traffic safety during the transportation of large size and heavy loads on public roads on the territory of Uzbekistan. It also details the basic requirements for the technical condition equipment and furnishing of vehicles used for the transport of large and heavy loads as well as safety.
- Criteria and Procedure for Determining International Road Transportation of Loads (approved by the Decree of Ministry of Transport of the Republic of Uzbekistan and State Customs Committee of the Republic of Uzbekistan dated October 31, 2019, No. 6).
- Regulations on transport of loads by road in the Republic of Uzbekistan (Annex to Decree of Cabinet of Ministers No. 213 of 01.08.2014).

15.1.2 Lenders Standards

15.1.2.1 IFC

The performance standards within the IFC Sustainability Framework that may address traffic impact assessment are detailed as follows:

- IFC PS4 on Community Health, Safety, and Security broadly addresses traffic safety and community health risks from transportation activities. The standard requires avoidance or minimisation of risks and impacts to community health and safety from project related activities, with particular attention to vulnerable groups.

15.1.2.2 EBRD

According to EBRD Environmental and Social Policy (ESP) 2024, the applicable requirements are outlined below.

- ESR 4 on Health, Safety and Security broadly addresses occupational health and safety for workers including traffic safety, additionally it requires community health and safety considerations including traffic risks.

15.2 Observations and Baseline Conditions

15.2.1 Baseline Conditions

Fergana city has a dense urban transport network strained by high vehicle density and population growth, with public buses, minibuses (marshrutkas), and taxis providing primary

intra-city mobility. Road infrastructure supports heavy traffic flows, though safety issues persist due to mixed vehicle types and pedestrian volumes (Urokov, et al.,2025).

The Fergana Valley contains 995,821 vehicles, of which passenger cars represent 86.4 % and trucks 11.4 %. Variations in vehicle concentration per kilometre of road indicate uneven transport loading. In 2022-2023, Uzbekistan recorded about 10,000 traffic accidents annually, with 31-35 % occurring in the Fergana Valley. This confirms the region's classification as a high-risk ("red zone") area. Analysis over the last decade shows that pedestrian collisions (44.9 %), vehicle collisions (31.2 %), and bicycle collisions (11.5 %) dominate crash types. The predominance of pedestrian crashes reflects insufficient lighting, missing fences, and high mixed-traffic interaction, aligning with global studies (Tay, 2009).

Distribution of the traffic accidents is shown in the following figure.

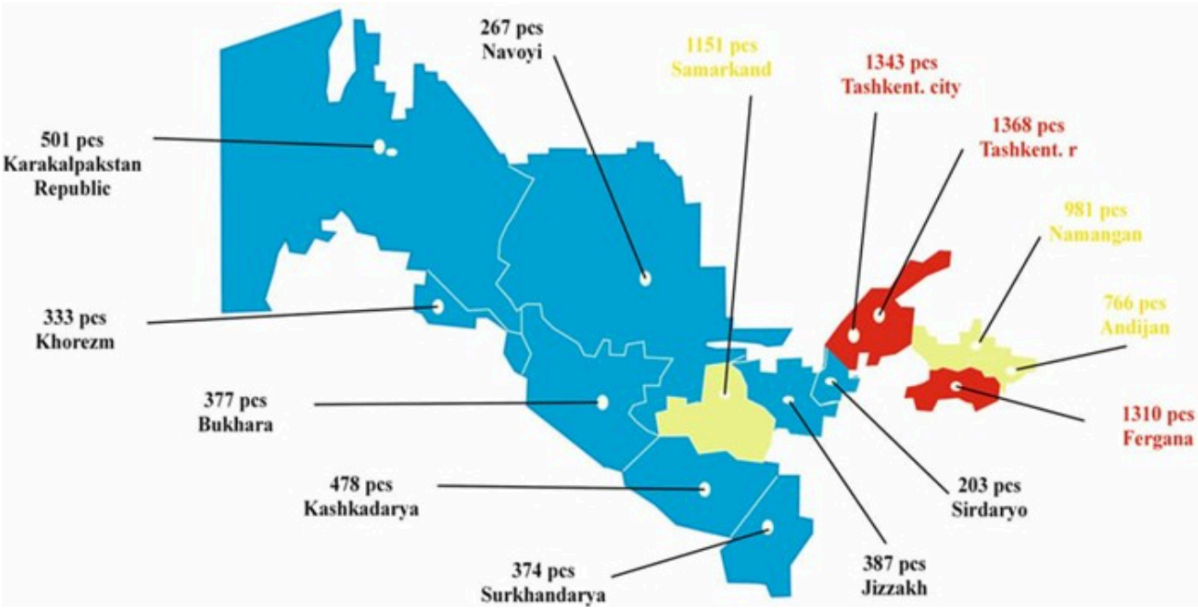


Table 15-1 Distribution of traffic accidents across Uzbekistan in 2023 (Urokov, et al.,2025)

Fergana's transport environment is characterized by a mixed bus and minibus system with moderate route supply, localised congestion, uneven coverage across residential mahallas, and growing pressure on key corridors, indicating a need for network optimisation and traffic management improvements.

15.3 Sensitive Receptors

Table 15-2 Traffic and Transportation Receptors

Receptor	Sensitivity	Justification
Local road users	**Medium**	The Project is located within the Fergana Eco City development area approximately 1 km from Fergana International Airport, where roads accommodate existing urban and airport-related traffic. Although no detailed traffic data or evidence of significant congestion was available at the time of assessment, local road users may be moderately sensitive to temporary increases in construction traffic and long-term increases in hospital-related vehicle movements, particularly during peak travel periods.

15.4 Potential Impacts, Mitigation and Management

15.4.1 Construction Impacts

During the construction phase, the Project will generate additional traffic associated with the transport of construction materials, equipment, machinery, and workforce personnel. Vehicle movements are expected to vary throughout the construction period depending on the construction programme, with higher traffic volumes anticipated during peak construction activities. Construction vehicles will include a variety of vehicle classifications, e.g., including heavy goods vehicles (HGVs), light-duty vehicles (LDVs), concrete trucks, pick-up trucks, delivery vehicles, excavators and other heavy/light equipment. The construction works will also require numerous vehicles to be mobilised to transport project components and equipment.

Increased construction traffic has the potential to temporarily affect the surrounding road network through increased traffic volumes, particularly along roads used to access the Project site. Heavy construction vehicles may also contribute to localized deterioration of road surfaces through accelerated wear and tear, resulting in potholes, cracking, or other pavement damage if roads are not designed for frequent heavy vehicle use. In addition, increased construction traffic may increase the risk of road traffic incidents involving Project vehicles, local road users, pedestrians, and airport-related traffic.

The Project is located within the Fergana Eco City development area, where supporting infrastructure is currently being developed, and approximately 1 km from Fergana International Airport. The detailed traffic data, road capacity information, and the Eco City transport masterplan were not available at the time of assessment. The key baseline conditions in the surrounding environment of the Project site and within the developing Eco-City area are anticipated to continue to change during the construction phase where road capacity, junction geometry, and background traffic are likely to increase during the 36-month construction period. The Project will be developed to have an on-site concrete batching, on-site workers accommodation, no piling, no linear accelerator installation, one basement level, and a maximum of 30 management cars. The construction traffic is anticipated as follows; HGVs 17,500 trips total; medium goods/logistics 9,500; specialized heavy equipment 350; and light vehicles/management cars 51,000, giving a total of 78,350 vehicle trips which is approximately 97 trips/day on average and 175 trips/day at peak.

The projected vehicle and traffic magnitudes and frequency for the duration of the construction phase are outlined below.

- Phase 1: Months 1–6: approximately 140–175 movements/day, driven by excavation and substructure works, including around 80–115 HGV dump-truck movements/day at peak.
- Phase 2: Months 7–18: approximately 90–120 movements/day, driven by structural works and bulk material supply.
- Phase 3: Months 19–30: approximately 85–105 movements/day, driven by MEP and fit-out deliveries.
- Phase 4: Months 31–36: approximately 75–90 movements/day, driven by landscaping, commissioning, and finishing logistics.

The Project is likely to create a moderate temporary traffic increase during construction which may contribute to temporary localized congestion and increased road safety risks, particularly during periods of peak construction activity.

In the absence of a traffic study for the wider Eco City development, the magnitude of impacts on traffic flow, road infrastructure, and road safety impacts during construction is conservatively assessed as moderate. The potential impacts during construction are

presented in following table including suggested mitigation measures and residual impacts after implementation of mitigation measures.

Table 15-3 Construction Phase – Traffic and Transport Impacts and Mitigation Measures

Potential Impacts	Magnitude of impact	Receptor	Sensitivity	Impact Significance	Residual impact
Increased vehicular flow and congestion	Moderate	Road users	Medium	Moderate	Minor
Road Safety Incidents	Moderate	Road Users	Medium	Moderate	Negligible
• Prepare and implement a Construction Traffic Management Plan by the EPC Contractor, covering designated haul routes, delivery schedules, vehicle speeds, traffic control measures, and emergency access arrangements. • Coordinate construction traffic with the relevant authorities, including the local traffic police and airport authorities (where applicable), and with other contractors/developments within the Fergana Eco City to minimise cumulative traffic impacts and avoid simultaneous peak construction traffic. • Construction access roads to be clearly marked, with routes, parking, directions, speed limits, unloading area (amongst others). • Minimise the number of construction road movements as much as practicable, i.e., maximize the capacity of vehicles - Buses should be used and carpooling should be encouraged. • Schedule deliveries of oversized loads and heavy goods vehicles outside peak traffic periods, where practicable. • Stagger deliveries to the site will ensure that congestion on local and site roads is minimised, whilst reducing waiting times for drivers and over demand on receiving staff at the site. • Maintain unrestricted access for emergency vehicles, airport users, neighbouring developments, and local communities at all times. • Provide sufficient on-site parking and vehicle turning areas to prevent Project vehicles from queuing or parking on public roads. • Drivers to be fully competent and authorised to drive heavy loads vehicles and to receive specific training. • All site vehicles shall have audibled and visual warnings when reversing. • Off-road driving outside of dedicated roads and active work sites shall be prohibited. • Vehicle speeds on all non-public site access and internal site roads will be restricted to 30km/h. • Driving awareness to be provided to workforce. • Ensure escorts, flag persons and other safety measures are employed where necessary (e.g., entering and exiting the site). • All traffic incidents and near misses will be recorded and investigated with any necessary corrective actions taken including reporting to local police. • Prompt repair and maintenance works will be ensured to rectify any damages caused by construction traffic, in coordination with the relevant local authorities. • A grievance mechanism will be established to allow local communities to make complaints relating to Project traffic nuisance or drivers.					

15.4.2 Operation Impacts

At the time of preparing this ESIA, the Project remains at an early stage of design and, therefore, detailed information relating to the operational traffic and transport arrangements,

including access road design, internal circulation, parking provision, vehicle trip generation, public transport integration, and anticipated traffic volumes, was not yet available. Therefore, the assessment of operational traffic and transport impacts presented in this section has been undertaken qualitatively based on the available Project information.

During the detailed design stage, the Project will appoint a suitably qualified and experienced traffic and transportation consultant to undertake a comprehensive Traffic and Transport Study. The study will evaluate the anticipated traffic generated by the hospital during operation, including patient, visitor, staff, emergency service, service and delivery vehicle movements; assess the capacity and performance of the surrounding road network and key intersections; review access arrangements and internal vehicle circulation; determine parking and drop-off requirements; assess pedestrian and public transport accessibility; evaluate cumulative impacts associated with the wider Fergana Eco City development; identify potential road safety risks; and recommend any required mitigation measures, infrastructure upgrades, and traffic management strategies.

15.4.2.1 Traffic and Transport Influx to Access Healthcare Services

The operation of the Project will generate daily traffic associated with patients, visitors, staff, emergency services, and deliveries. As the proposed hospital will consolidate five existing specialist healthcare institutions into a single medical complex, traffic movements are expected to become more concentrated at the Project site rather than dispersed across multiple facilities. Consequently, increased traffic volumes are anticipated on roads serving the hospital, particularly during outpatient clinic hours, staff shift changes and visiting periods.

Given the Project's role as a regional referral hospital, specialist services are expected to attract patients from across the Fergana Valley and other parts of Uzbekistan, potentially increasing longer-distance vehicle trips. As the Project forms part of the wider Fergana Eco City Masterplan, it is assumed that the planned road network and supporting transport infrastructure have been designed to accommodate the anticipated traffic generated by the proposed developments within the masterplan including the hospital. However, in the absence of a detailed Traffic study, the magnitude of traffic impacts is conservatively assessed as moderate.

15.4.2.2 Traffic due to Maintenance and Support Services

In addition to patient and visitor traffic, routine operational vehicle movements will include staff commuting, medical and pharmaceutical deliveries, food and linen supply, maintenance activities, waste collection, and other support services. These vehicle movements are expected to occur throughout the day and are anticipated to contribute only a small proportion of the overall operational traffic generated by the hospital. Accordingly, the magnitude of impacts associated with maintenance and support service traffic is assessed as minor.

15.4.2.3 Traffic Impacts due to Emergency Services

Ambulances and other emergency response vehicles require rapid and uninterrupted access to the hospital to ensure timely patient care. Although emergency vehicle movements are expected throughout the operational phase, their contribution to overall traffic volumes is anticipated to be relatively small. Consequently, impacts associated with emergency vehicle traffic are considered minor, provided dedicated access routes could be available and maintained.

Table 15-4 Operation Phase – Traffic and Transport Impacts and Mitigation Measures

Potential Impacts	Magnitude of impact	Receptor	Sensitivity	Impact Significance	Residual impact
Increased vehicular flow and congestion	Minor	Road Infrastructure	Medium	Moderate	Minor
• Appoint a suitably qualified traffic and transportation consultant during the detailed design stage to prepare a Traffic and Transport study. Incorporate the recommendations of the study into the final Project design, as appropriate. • Coordinate with the Fergana Eco City developer during the detailed design stage to ensure the hospital access arrangements are integrated with the wider Masterplan road network and planned transport infrastructure. • Develop and implement an Operational Traffic Management Plan (TMP) prior to commencement of hospital operations. The TMP shall include vehicle routing, internal traffic circulation, parking management, delivery scheduling, pedestrian safety measures, emergency access arrangements, incident management procedures, and monitoring of traffic-related complaints. • Provide adequate on-site parking, designated drop-off/pick-up areas, and clearly signed internal circulation routes to minimise conflicts between ambulances, visitors, staff and service vehicles. • Ensure emergency vehicle access and ambulances routes remain unobstructed at all times. • Coordinate deliveries, servicing activities, waste collection, laundry services, and other operational logistics. This would include designated delivery routes, loading and unloading areas, delivery schedules, and measures to minimise traffic congestion and conflicts with patient, visitor, and emergency vehicle movements. • Schedule routine deliveries, servicing activities, and waste collection outside of peak patient and visitor periods, where practicable, to minimise traffic congestion and maintain safe and efficient access to the hospital. • Develop and implement emergency traffic management procedures, including contingency measures to maintain uninterrupted emergency access during periods of traffic congestion or other disruptions.				

15.5 Monitoring

Table 15-5 Monitoring Measures for Traffic and Transportation

Monitoring	Parameter	Frequency & Durations	Monitoring Location	Responsibility
Construction				
Increased vehicular flow and traffic on local roads	Traffic congestion and vehicle queuing	On-going and following complaints	Site access roads and nearby intersections	EPC Contractor
Traffic Incidents	Road traffic incidents, near misses and non-compliances	Ongoing (record and investigate as incidents occur)	Project site, access roads and haul routes	EPC Contractor
Road conditions	Condition of roads used by construction traffic	Monthly inspections and following significant deliveries	Project access roads	EPC Contractor

Monitoring	Parameter	Frequency & Durations	Monitoring Location	Responsibility
Complaints	Community complaints relating to traffic, access and road safety	Ongoing through the grievance mechanism	Project and surrounding communities	EPC Contractor
Operation				
Increased vehicular flow and traffic on local roads	Traffic congestion, vehicle queuing and parking occupancy	Regularly and following complaints	Hospital entrances, access roads and parking areas	FM Co.
Traffic Incidents	Road traffic incidents involving hospital-related vehicles	Ongoing	Location of accident (record and investigate as incidents occur)	FM Co./ Public partner (hospital operator)
Complaints	Community and road user complaints relating to traffic, parking and access	Ongoing through the grievance mechanism	Project and surrounding communities	FM Co.

16 Archaeology and Cultural Heritage

16.1 Applicable Requirements and Standards

16.1.1 National Standards

Relevant legislation in Uzbekistan relating to archaeology and cultural heritage include:

- Law No. LRU-229 "On protection and use of the objects of archaeological heritage" (2009, as amended in 2019)
- Law No. 269-II "On the Protection and Use of Cultural Heritage Sites 2001, as amended in 2022).
- Presidential Decree No. R-5181 "On improving the protection and use of objects of tangible cultural and archaeological heritage" (16 January 2018).
- Resolution of the Cabinet of Ministers of the Republic of Uzbekistan ,No 846 "On approval of the national list of real state sites and objects of material cultural heritage" (2019, as amended in 2024). The above laws seek to protect and sites and objects of cultural heritage which are considered as part of the national heritage for all the people in Uzbekistan.

In addition, the Criminal Code of the Republic of Uzbekistan includes provisions that prohibit the intentional destruction or damage of objects of tangible cultural heritage under state protection, with further protections in place to protect cultural property in Protected Areas, protected historical and cultural territories, without first obtaining permission.

16.1.2 Lender Requirements

16.1.2.1 IFC

Performance Standard 8 – Cultural Heritage aims to protect the adverse impacts of project activities and support its preservation and to promote equitable sharing of benefits from the use of cultural heritage. Cultural heritage in this standard refers to:

- Tangible forms of cultural heritage, such as tangible moveable or immovable objects, property, sites, structures, or groups of structures, having archaeological (prehistoric), paleontological, historical, cultural, artistic, and religious values;
- Unique natural features or tangible objects that embody cultural values, such as sacred groves, rocks, lakes, and waterfalls; and
- Certain instances of intangible forms of culture that are proposed to be used for commercial purposes, such as cultural knowledge, innovations, and practices of communities embodying traditional lifestyles.

16.1.2.2 EBRD

EBRD Environmental and Social Requirement 8 (ESR8) recognises the vital importance of both tangible and intangible cultural heritage for present and future generations. ESR8 aims to protect cultural heritage by guiding clients to identify, avoid, and, where avoidance is not possible, mitigate or compensate for adverse impacts associated with their projects. Clients are expected to adopt a precautionary and inclusive approach to the management and sustainable use of cultural heritage, ensuring meaningful engagement with affected communities and stakeholders, and integrating cultural heritage considerations throughout the project lifecycle.

16.2 Sensitive Receptors

Table 16-1 Sensitive Receptors – Archaeological and Cultural Heritage

Receptor	Sensitivity	Justification
Tangible Cultural Heritage (Archaeological remains and standing buildings)	**Low**	Potential damage or destruction of any unknown buried artefacts in the footprint of excavation.

16.3 Baseline and Site Conditions

16.3.1 Baseline Conditions

The Fergana Region is recognised in literature as one of Central Asia's earliest and most important zones of urban development, with archaeological discoveries linked to the first urban culture of the valley and to long-term settlement continuity. UNESCO's Silk Roads Fergana-Syrdarya Corridor[14] documentation also places nearby valley sites within a broader transregional heritage landscape, which may warrant the need to treat the Project area as archaeologically sensitive.

Fergana is described as a city with a substantial heritage inventory, including historic architecture, memorial complexes, religious buildings, and civic monuments that reflect the city's late 19th and 20th century development inferring that cultural heritage in Fergana is both tangible and spatially distributed, not limited to a few flagship sites.

16.3.2 Site Conditions

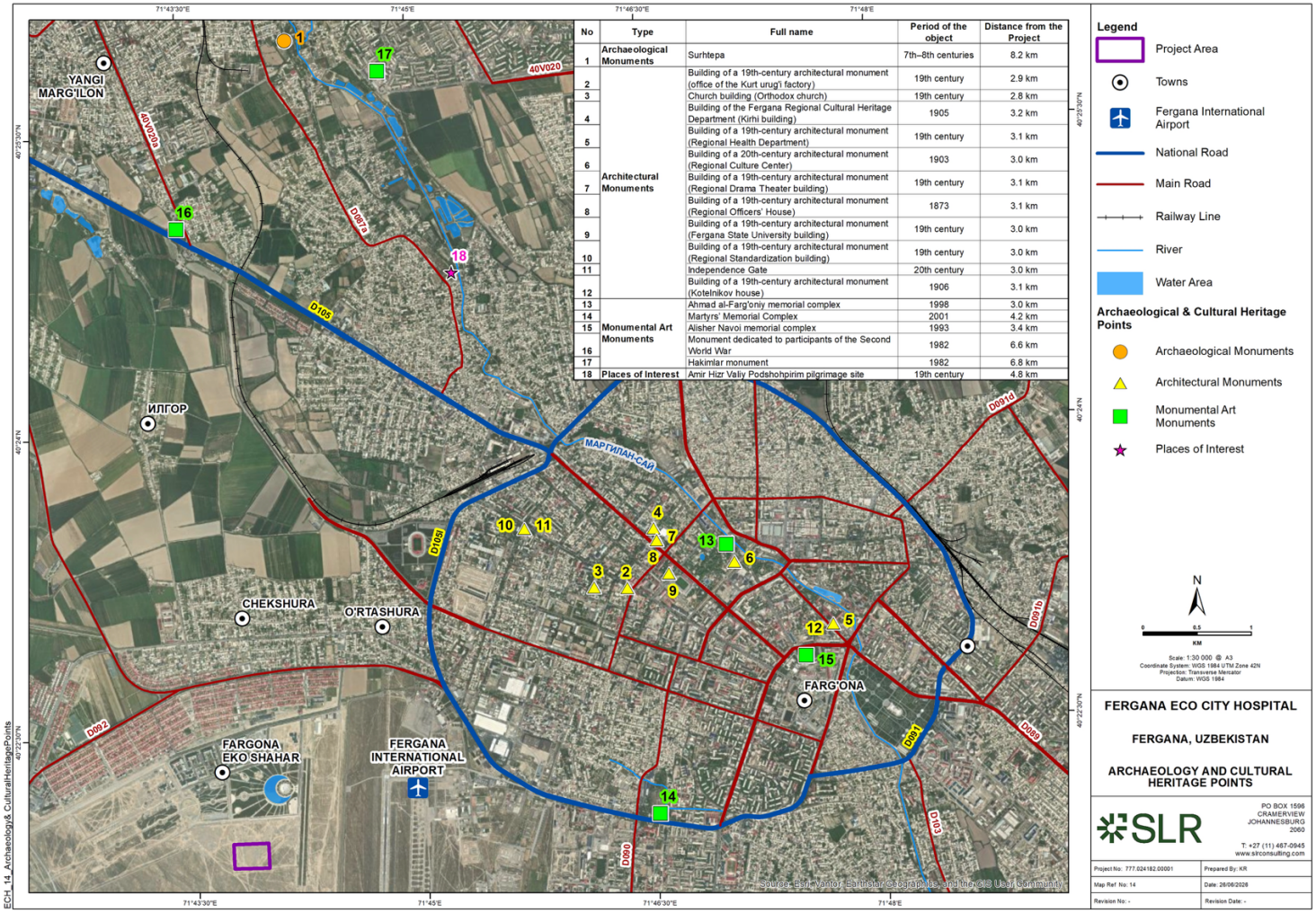
The proposed land area for development of the Project is located within the settlement of Okbilol. The land area was part of the military town No. 49 located in the settlement of Okbilol in the district under the command of the eastern military district of the Ministry of Defense of the Republic of Uzbekistan.

The Project site's topography has been altered by prior anthropogenic activities, therefore it is considered that any archaeological remains are likely to have already been disturbed by these operations. The site is of no know archaeological significance with construction in the local area not having unearthed any significant finds, the potential for the discovery of any artifacts is therefore considered low.

Nonetheless, an archaeological 'Chance Find Procedure' will be developed prior to the start of site earthworks. This will include protocols and procedures to stop work and methods to preserve potential finds, as well as reporting requirements and coordination with the authorities.

Figure below shows the location of Fergana City and the nearest cultural heritage sites.

[14] Source: https://whc.unesco.org/en/tentativelists/6568/



No	Type	Full name	Period of the object	Distance from the Project
1	Archaeological Monuments	Surhtepa	7th–8th centuries	8.2 km
2	Architectural Monuments	Building of a 19th-century architectural monument (office of the Kurt urug'i factory)	19th century	2.9 km
3		Church building (Orthodox church)	19th century	2.8 km
4		Building of the Fergana Regional Cultural Heritage Department (Kirhi building)	1905	3.2 km
5		Building of a 19th-century architectural monument (Regional Health Department)	19th century	3.1 km
6		Building of a 20th-century architectural monument (Regional Culture Center)	1903	3.0 km
7		Building of a 19th-century architectural monument (Regional Drama Theater building)	19th century	3.1 km
8		Building of a 19th-century architectural monument (Regional Officers' House)	1873	3.1 km
9		Building of a 19th-century architectural monument (Fergana State University building)	19th century	3.0 km
10		Building of a 19th-century architectural monument (Regional Standardization building)	19th century	3.0 km
11		Independence Gate	20th century	3.0 km
12		Building of a 19th-century architectural monument (Kotelnikov house)	1906	3.1 km
13	Monumental Art Monuments	Ahmad al-Farg'oniy memorial complex	1998	3.0 km
14		Martyrs' Memorial Complex	2001	4.2 km
15		Alisher Navoi memorial complex	1993	3.4 km
16		Monument dedicated to participants of the Second World War	1982	6.6 km
17		Hakimlar monument	1982	6.8 km
18	Places of Interest	Amir Hizr Valiy Podshohpirim pilgrimage site	19th century	4.8 km

Figure 16-1 The location of Fergana City and nearest Cultural Heritage Sites

(Source: https://whc.unesco.org/en/interactive-map/?search=&id_states=uz&components=1)

16.3.3 Survey Methodology and Findings

An archaeological walkover survey was conducted within and nearby the Project site on April 22 and 23, 2026. Additionally, a desktop review was conducted using verified online sources, Google Earth Pro, and consultations with the relevant government bodies and stakeholders to source information regarding nearby tangible and intangible archaeological and cultural heritage sites near the Project area, and within Fergana Province.

The Cultural Heritage Agency of The Republic of Uzbekistan Fergana Region Cultural Heritage Department shared the list and respective coordinates of cultural heritage sites located around the Project area as shown on the following table.

Table 16-2 Archaeological and Culturally Significant Locations in the area

Full name	Period of the object	Coordinates	Distance from the Project
Archaeological Monuments			
Surhtepa	7th–8th centuries	N40°25'57,7700" E71°44'12,9600"	8.2 km
Building of a 19th-century architectural monument (office of the Kurt urug'i factory)	19th century	40°23'10,75"N 71°46'20,86"E	2.9 km
Church building (Orthodox church)	19th century	40°23'11,26"N 71°46'07,78"E	2.8 km
Building of the Fergana Regional Cultural Heritage Department (Kirhi building)	1905	40°23'28,38"N 71°46'31,76"E	3.2 km
Building of a 19th-century architectural monument (Regional Health Department)	19th century	40°22'58,21"N 71°47'41,01"E	3.1 km
Building of a 20th-century architectural monument (Regional Culture Center)	1903	40°23'17,72"N 71°47'02,98"E	3.0 km
Building of a 19th-century architectural monument (Regional Drama Theater building)	19th century	40°23'24,96"N 71°46'32,86"E	3.1 km
Building of a 19th-century architectural monument (Regional Officers' House)	1873	40°23'24,86"N 71°46'32,86"E	3.1 km
Building of a 19th-century architectural monument	19th century	40°23'14,73"N 71°46'37,25"E	3.0 km

Full name	Period of the object	Coordinates	Distance from the Project
(Fergana State University building)			
Building of a 19th-century architectural monument (Regional Standardization building)	19th century	40°23'29,49"N 71°45'41,13"E	3.0 km
Independence Gate	20th century	40°23'29,49"N 71°45'41,13"E	3.0 km
Building of a 19th-century architectural monument (Kotelnikov house)	1906	40°22'58,21"N 71°47'41,01"E	3.1 km
Monumental Art Monuments			
Ahmad al-Farg'oniy memorial complex	1998	40°23'23"N 71°47'0"E	3.0 km
Martyrs' Memorial Complex	2001	40°22'3"N 71°46'31"E	4.2 km
Alisher Navoi memorial complex	1993	40°22'49"N 71°47'30"E	3.4 km
Monument dedicated to participants of the Second World War	1982	40°25'02,3644"N 71°43'28,3561"E	6.6 km
Hakimlar monument	1982	40°25'48"N 71°44'49"E	6.8 km
Places of Interest			
Amir Hizr Valiy Podshohpirim pilgrimage site	19th century	N40°24'46,9440" / E71°45'15,6694"	4.8 km

It is to be noted that no above-ground archaeological artefacts or cultural heritage significant sites were identified within the Project footprint or in close vicinity during the archaeological walkover survey. The Project development footprint has, for a long time been fenced off. Therefore, it is deduced that the likelihood of uncovering archaeological or culturally significant artefacts within the development footprint is unlikely although there is little evidence of any excavations being undertaken on site hence there could be artifacts located at depths that may be disturbed by the proposed construction with a significant excavation, as limited to the development of a building, to be undertaken to create the foundations for the proposed building. Although no visible monument exists, the subsurface may still contain significant remains that could be affected by earthworks therefore a Change Find Procedure should be developed and implemented onsite.

16.4 Potential Impacts, Mitigation and Management

16.4.1.1 Construction Phase Impacts

The Project site is located within an urban area of Fergana City and based on a desktop study, no archaeological remains are anticipated. Nevertheless, there remains a possibility that previously unknown buried artefacts could be encountered during excavation activities. Where required, a Chance Find Procedure will be developed and implemented. In the event of a find, works will be immediately halted, the relevant authorities will be notified, and construction activities will resume only after appropriate measures have been agreed and implemented.

Table 16-3 Impact Assessment Summary – Archaeology and Cultural Heritage during Construction

Potential Impacts	Magnitude of impact	Receptor	Sensitivity	Impact Significance	Residual impact
Damage to buried artefacts	Minor	Archaeological artefacts	Medium	Minor	Negligible
• Development of a chance find procedure to be used and followed by the construction workers and site engineers should an artefact be discovered during the excavation works. • Any worker or staff member (from EPC Contractor, subcontractor, security personnel, or other) who encounters any archaeological or cultural resources during the construction phase or suspected remains will immediately notify the EPC Contractor E&S Manager while taking immediate action to stop all construction activities within this area. • The EPC Contractor E&S Manager will notify the Company E&S Manager immediately. • The Company E&S Manager and the EPC Contractor E&S Manager will inspect the site and confirm whether the findings could potentially be an archaeological and cultural heritage site and/or a suspected site.					

16.4.1.2 Operation Phase Impacts

Impacts to archaeology or cultural heritage are not envisaged during the operational phase.

16.5 Monitoring

Following completion of surveys and pre-construction mitigation, a programme of ongoing monitoring during construction should be developed in line with the results of this work. This should include a Chance Finds Procedure.

Table 16-4 Monitoring Measures for Archaeological & Cultural Heritage

Monitoring	Parameter	Frequency & Durations	Monitoring Locations
Implementation of Chance-Find Procedure training	Percentage of construction workers who have received induction trainings in archaeological Chance Find Procedure	Monthly	HSE training report

17 Socio-economic

17.1 Applicable Requirements

17.1.1 National Requirements

The socio-economic assessment has been undertaken with consideration of the relevant legislative and policy framework of the Republic of Uzbekistan. Key legislation applicable to the assessment relates to employment and labour conditions, public participation, access to healthcare, protection of citizens' rights, and land administration. These instruments provide the framework for assessing the Project's potential social impacts and benefits and for ensuring that Project activities are undertaken in a manner that protects the well-being and rights of affected stakeholders. Table 17-1 summarises the applicable national legislation and or policies.

Table 17-1: Applicable National Legislation

Legislation/Policy	Relevance to the Project
Constitution of the Republic of Uzbekistan	Establishes the fundamental rights and freedoms of citizens, including rights relating to healthcare, employment, social protection, education, participation in public affairs, and protection of human dignity. These principles provide the overarching framework for assessing the social impacts and benefits associated with the Project.
Labour Code of the Republic of Uzbekistan (2023)	Regulates employment relationships, working conditions, remuneration, non-discrimination, occupational health and safety, minimum employment age requirements, and worker protections. The legislation is relevant to the recruitment and management of the construction and operational workforce associated with the Project.
Law of the Republic of Uzbekistan on Employment	Establishes measures to promote employment, vocational training, workforce participation, and support for vulnerable groups seeking employment. The law is relevant given the employment opportunities expected to be generated during both the construction and operation of the hospital.
Law on Appeals of Natural and Legal Entities (2017, as amended)	Provides individuals and organisations with the right to submit complaints, requests, and grievances to government institutions and responsible authorities. The legislation supports establishing stakeholder engagement and grievance management mechanisms throughout the Project lifecycle.
Land Code of the Republic of Uzbekistan (1998, as amended)	Governs land administration, land allocation, land use rights, and the responsibilities of state authorities in relation to land management. The Project is located on government-owned land that was previously used for military purposes and subsequently allocated for development within the Fergana Eco City. The Land Code, therefore, provides the legal framework governing land tenure and land allocation associated with the Project.
Uzbekistan Healthcare Reform and Healthcare 2030 Objectives	Supports the expansion of accessible, affordable, and high-quality healthcare services, strengthening healthcare infrastructure, reducing regional disparities in healthcare access, and improving public health outcomes. The proposed hospital directly contributes to these national objectives by providing specialised tertiary healthcare services within the Fergana Region.

Collectively, these legislations and policies provide the framework for promoting fair employment practices, protecting stakeholder rights, facilitating public participation, improving access to healthcare services, and ensuring that Project-related social impacts are appropriately managed.

17.1.2 Lender Requirements

17.1.2.1 IFC

The Project is being developed in accordance with the IFC Performance Standards on Environmental and Social Sustainability. The following Performance Standards are considered relevant to the socio-economic assessment:

- **IFC Performance Standard 1:** *Assessment and Management of Environmental and Social Risks and Impacts,* requires the identification, assessment, management and monitoring of environmental and social risks and impacts throughout the Project lifecycle. The standard also establishes requirements for stakeholder engagement and grievance management.
- **IFC Performance Standard 2:** *Labour and Working Conditions* establishes requirements relating to fair treatment, non-discrimination, equal opportunity, worker welfare, occupational health and safety, and the management of direct, contracted and supply chain workers.
- **IFC Performance Standard 4:** *Community Health, Safety and Security* addresses potential risks and impacts on surrounding communities arising from Project construction and operation, including traffic, emergency preparedness, community safety and security management.
- **IFC Performance Standard 5:** *Land Acquisition and Involuntary Resettlement* applies where projects result in physical or economic displacement. Based on current Project information, the hospital is being developed on government-owned land within the Fergana Eco City development area, and no physical or economic displacement has been identified. The standard has nevertheless been considered to confirm alignment with international good practice.

17.1.2.2 EBRD

The Project has also been assessed against the relevant Environmental and Social Policy and Performance Requirements (PRs) of the EBRD. The following requirements are considered relevant to the socio-economic assessment:

- **PR1:** *Assessment and Management of Environmental and Social Risks and Impacts* require the identification and management of environmental and social risks and impacts through an integrated assessment process and implementation of appropriate mitigation measures.
- **PR2:** *Labour and Working Conditions* establishes requirements for fair treatment, non-discrimination, workers' rights, occupational health and safety, and workforce management.
- **PR4**: *Health, Safety and Security* addresses risks to workers and affected communities arising from Project activities and requires the implementation of appropriate health, safety and security measures.
- **PR5:** *Land Acquisition, Restrictions on Land Use and Involuntary Resettlement*, establishes requirements for avoiding or minimising displacement and ensuring appropriate compensation and livelihood restoration where impacts occur. Based on

available Project information, no physical or economic displacement has been identified.

- **PR10:** *Information Disclosure and Stakeholder Engagement* require meaningful stakeholder engagement throughout the Project lifecycle, including the disclosure of relevant information and the establishment of accessible grievance mechanisms.

The socio-economic assessment has been undertaken in accordance with the above lender requirements, with particular emphasis on employment and livelihood opportunities, stakeholder engagement, community wellbeing, equitable access to healthcare services, and the identification of impacts on vulnerable and disadvantaged groups.

17.2 Methodology

17.2.1 Study Area

The socio-economic assessment was undertaken at three spatial scales to establish the baseline conditions and assess the potential social impacts of the Project.

- **Regional Study Area:** Uzbekistan and the Fergana Region were considered to provide the broader socio-economic and healthcare context within which the Project will operate. This level of assessment was used to understand regional demographic trends, economic conditions, healthcare service provision, and development priorities.
- **Secondary Study Area:** Fergana City, and the wider Fergana Eco City development area were assessed to establish the local socio-economic context. This included an assessment of local demographics, livelihoods, existing services and infrastructure, healthcare facilities, and planned developments that may influence or be influenced by the Project.
- **Primary Study Area / Area if Interest (AoI):** The primary study area comprised a 5 km AoI surrounding the proposed Fergana Eco City Regional Hospital.
    - The AoI was divided into a Wider Service Area (WSA) extending from 2.5 km to 5 km from the Project site and a Core Impact Area (CIA) extending up to 2.5 km from the Project site. The WSA includes the surrounding Mahallas of Yangiobod, Chek Sho'ra, O'rta Sho'ra and Shodiyona, as well as the settlement of Oqariqobod, which are expected to experience indirect socio-economic effects and are likely to access and benefit from the hospital during operation. The CIA includes the neighbouring Mahallas of Ilg'or, Chekshura and Urtashura, where direct construction-related impacts are most likely to occur due to their proximity to the Project site. Accordingly, primary data collection and stakeholder engagement focused on the CIA communities, while the wider WSA was considered through the baseline review and stakeholder identification process to understand the broader socio-economic context and potential indirect beneficiaries.

The mahallas within the 2.5km are shown on the following figure

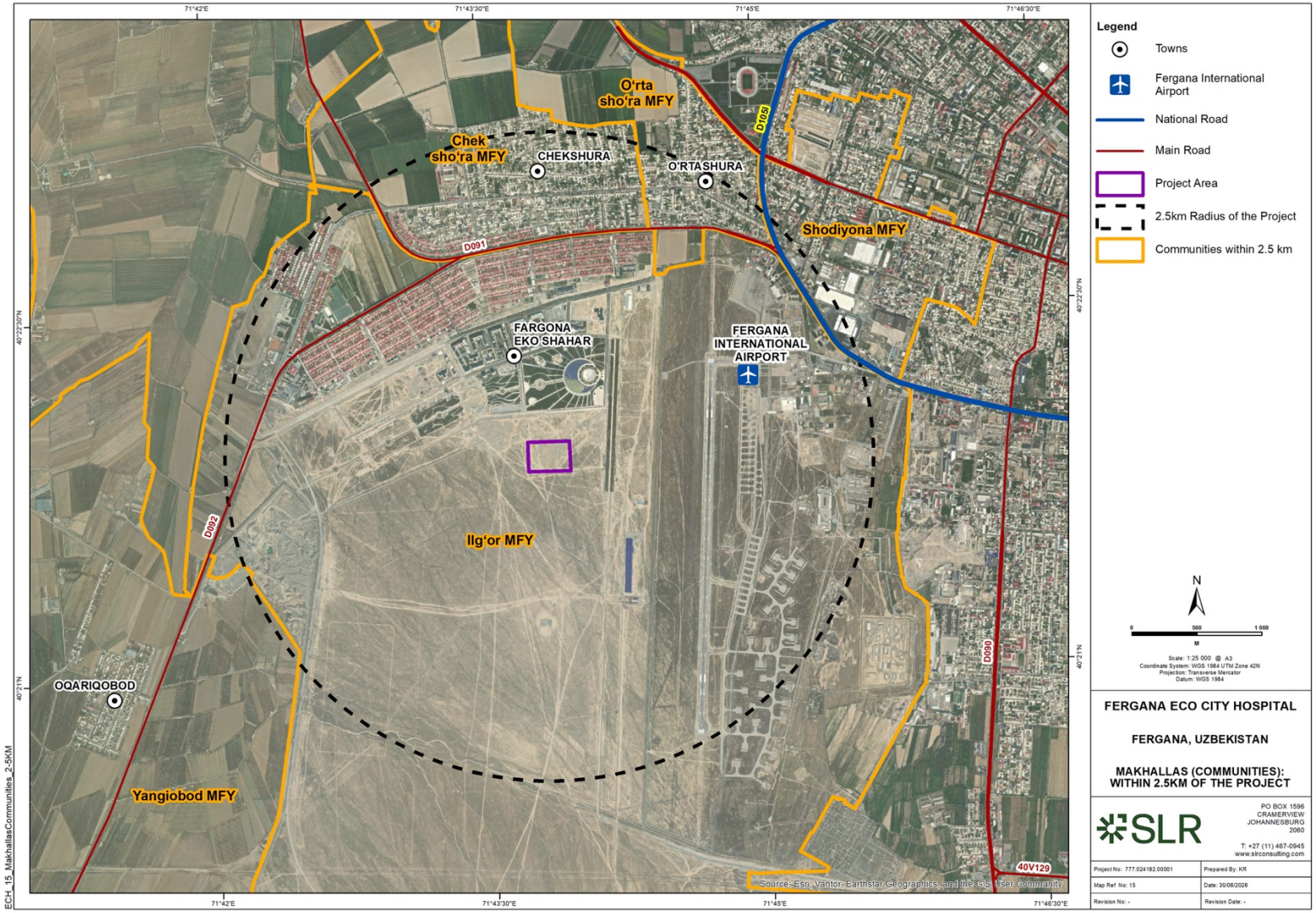


Figure 17-1 The Mahallas within 2.5 km Relative to the Project Site

The findings from these three study areas were integrated to develop the socio-economic baseline and assess the Project's potential social risks, impacts, and opportunities.

17.2.2 Assessment Approach

The socio-economic assessment was undertaken to establish baseline socio-economic conditions within the study area and to assess the potential positive and negative impacts of the Project's construction and operation. The assessment considered demographic characteristics, livelihoods and employment, healthcare access, social infrastructure, vulnerable groups, community wellbeing, and stakeholder perceptions to identify key social impacts and inform the development of appropriate mitigation and enhancement measures.

The assessment adopted a mixed-methods approach, combining desktop research with primary data collection to ensure that both quantitative and qualitative information informed the assessment. Secondary information provided the broader socio-economic context, while stakeholder consultation and field surveys were used to validate desktop findings, understand local conditions, and identify community priorities and concerns.

17.2.3 Data Collection

17.2.3.1 Secondary Data Collection

A comprehensive desktop review was undertaken to establish the socio-economic baseline and develop an understanding of the national, regional and local context of the Project. Secondary information was obtained from a range of national, regional, local and Project-specific sources and was used to characterise existing demographic and socio-economic conditions, settlement patterns, governance structures, economic activities, social infrastructure, healthcare services, land use, and development trends within the study area. The desktop review also informed the identification of key social sensitivities and potential receptors relevant to the assessment. The desktop review included the following information sources:

- National demographic, economic and social statistics published by the Statistics Agency under the President of the Republic of Uzbekistan.
- The Fergana City Mahalla Balance Sheet (status as of 25 December 2025), which provided disaggregated demographic and socio-economic information for all 73 Mahallas within Fergana City and served as the primary source of community-level baseline information.
- Relevant national legislation, policies and strategic development plans applicable to the healthcare sector, land use planning, environmental management and social development.
- Project documentation, including the Project Description, design information, site layout plans, and other technical studies prepared as part of the ESIA.
- Publicly available reports, publications and open-source information relating to the socio-economic characteristics of Fergana Region and Fergana City, including regional development reports, academic literature and reputable online resources used to supplement and verify official information where appropriate.

The information obtained through the desktop review informed the design of the field investigations and provided a basis for comparison with information from stakeholder consultations and household surveys.

17.2.3.2 Primary Data Collection

Primary data collection was undertaken during May 2026 to supplement the desktop review and obtain site-specific information on socio-economic conditions, healthcare access, livelihood activities, employment, community priorities, and stakeholder perceptions of the Project. Stakeholder consultation was undertaken with a broad range of stakeholders, including government representatives, local authorities, Mahalla leaders, healthcare representatives, community members, and vulnerable groups. Both quantitative and qualitative methods were used to capture diverse stakeholder perspectives.

Quantitative information was collected through household surveys, while qualitative information was obtained through public consultation meetings, key informant interviews (KIIs), and focus group discussions (FGDs). The FGDs were undertaken with men, women, youth, elderly persons, and vulnerable groups within the Ilgor, Chekshura, Nurafshon, and Urtashura Mahallas to better understand community priorities, existing challenges, healthcare needs, and potential Project-related risks and opportunities. The following table summarises the stakeholder consultation activities.

Table 17-2 Stakeholder Consultation Activities

Consultation Activities	Stakeholder Group	Number	Date
Public Consultation Meetings	Communities within the study area	Public meeting =1 Bilateral meetings = 2	13 May 2026
Household Surveys	Local households	Households = 50 Household Members = 198	18–21 May 2026
Focus Group Discussions (FGDs)	Men, women, youth, elderly and vulnerable groups	10 (4 with men, 4 with women and 2 with vulnerable groups)	20–26 May 2026

Information collected through these activities was analysed together with available secondary data and project information to identify socio-economic sensitivities, community priorities, healthcare needs, and potential Project-related impacts and benefits.

17.3 Baseline Conditions

The following section provides an overview of the socio-economic baseline of the study area. Section 1.3.1 provides the regional overview of Uzbekistan and the Fergana Region. The subsequent section provides a socio-economic overview of Fergana city, and the surveyed households.

17.3.1 Regional Overview

17.3.1.1 Population Demographics

Uzbekistan is a landlocked country in Central Asia covering approximately 448,970 km². The country has an estimated population of approximately 37.9 million people (2025), making it the most populous country in Central Asia. Approximately 51% of the population resides in urban areas and 49% in rural areas. The population is relatively young, with 31% under 15 years, 63% between 15 and 64 years, and 6% aged 65 years and older. The gender distribution is broadly balanced, comprising 50.4% males and 49.6% females. Uzbek is the official language, and most of the population is ethnic Uzbek, alongside minority groups including Tajiks, Kazakhs, Karakalpaks, Russians, Kyrgyz and Tatars (National Statistics Committee of the Republic of Uzbekistan, 2025) and (United Nations Population Fund, 2025) (Britannica, 2025)

The Project is in the Fergana Region, one of Uzbekistan's 12 administrative regions, in the eastern part of the country, within the fertile Fergana Valley. The Region covers approximately 6,760 km² and has an estimated population of 4.2 million, representing approximately 11% of the national population. In the Fergana region 55% of the population lives in urban areas and 45% in rural areas. The Fergana region is one of the most densely populated regions in Uzbekistan, with a population density of approximately 620 people/km² (National Statistics Committee of the Republic of Uzbekistan, 2025). The Region comprises a network of urban centres, including Fergana City, Kokand and Margilan, together with numerous rural settlements and Mahallas. Although detailed regional demographic characteristics are not routinely published, the population broadly reflects the national profile, with a relatively balanced gender distribution, a youthful age structure, and a predominantly ethnic Uzbek population. The table below summarises the national and regional characteristics.

Table 17-3: Regional Population Demographic Indicators

Indicator	Uzbekistan	Fergana Region
Administrative Divisions	12 regions	One of Uzbekistan's 12 administrative regions, comprising 15 districts and 4 district-level cities.
Land Area	~448,970 km²	~ 6,760 km²
Population (2025)	37,859,698	4,162,300, representing approximately 11% of the national population
Population density	~ 84 people/km²	~ 615 people/km², making it one of the most densely populated regions in Uzbekistan
Gender Profile	50.4% male; 49.6% female	-
Age Profile	0-14 (31%) 15- 64 (63%) 65+ (6%)	-
Language	Uzbek, the official language Russian is used in government, higher education and business	Uzbek, the official language Russian is used in government, higher education and business
Ethnicity	Predominantly Uzbek (approximately 84%), with Tajik, Kazakh, Karakalpak, Russian, Kyrgyz, Tatar and other minority groups.	Predominantly Uzbek

Sources: (National Statistics Committee of the Republic of Uzbekistan, 2025) (United Nations Population Fund, 2025) (Britannica, 2025)

17.3.1.2 Economic Profile

Uzbekistan has one of the most diversified economies in Central Asia, with services, industry and agriculture forming the backbone of the national economy. In 2024, the services sector contributed approximately 47.4% of Gross Domestic Product (GDP), followed by industry (28.3%), agriculture, forestry and fisheries (18.3%), and construction (6.0%). Since 2017, economic reforms have supported sustained economic growth, increased private sector participation, and attracted foreign investment, contributing to an average annual GDP growth rate of approximately 6% in recent years. These reforms have also accelerated the

transition from an agriculture-based economy towards one driven by industry and services. The services sector now employs approximately 50% of the national workforce, while manufacturing, construction and other industrial activities continue to expand, reflecting the country's ongoing economic diversification and increasing demand for skilled labour, infrastructure and public services (Statistics Agency, 2025) and (World Bank, 2025).

The Fergana Region has a diversified economy, with the services sector contributing 44.7% of Gross Regional Product (GRP) in 2024, followed by agriculture, forestry and fisheries (28.2%), industry (19.8%), and construction (7.3%). The Region recorded a GRP of UZS 91.3 trillion in 2024, representing annual growth of 6.8%. Economic activity is supported by textile and garment manufacturing, food processing, chemical production, agriculture, and wholesale and retail trade. Located within the fertile Fergana Valley, the Region is also an important producer of cotton, fruit and horticultural products. In 2024, approximately 433,700 employment opportunities were created, including 194,800 in agriculture, 186,700 in the services sector, 34,100 through investment projects, and 18,100 in construction, reflecting continued investment in economic development and infrastructure (The Government Portal of the Republic of the Uzbekistan, 2026) and (Invexi, 2025).

17.3.1.3 Healthcare Services and Health Profile

Healthcare services in Fergana Region are provided through a network of public and private healthcare facilities comprising hospitals, primary healthcare centres, family polyclinics and specialised medical institutions. Public healthcare facilities form the backbone of the regional healthcare system and include district, regional and specialised hospitals that provide affordable healthcare services to the population. As of 2022, the Region contained 46 hospitals and 165 primary healthcare centres, supplemented by a growing private healthcare sector with approximately 1,000 hospital beds (PED, 2025).

Healthcare Education and Workforce Capacity

Fergana Region benefits from an established healthcare education system that supports the development of medical and allied health professionals. The Fergana Medical Institute of Public Health serves as the Region's principal medical higher education institution, offering programmes in medicine, nursing, dentistry, public health and other health-related disciplines. Vocational colleges within the Region also provide training for nurses, midwives and allied health professionals, contributing to the regional healthcare workforce pipeline.

The regional healthcare workforce is well established, with health centres, family polyclinics and family doctor points employing the majority of available physicians. Fergana Region has 24.5 physicians and 56.4 secondary medical personnel per 10,000 population, with occupancy rates of 94.1% and 100% for physicians and secondary medical personnel, respectively (PED 2025). While these indicators demonstrate an established healthcare workforce, they also suggest that much of the existing workforce is already employed within the regional healthcare system. Publicly available information does not provide data on the number of suitably qualified healthcare professionals currently available for employment.

Health Profile and Service Demand

Despite this relatively strong workforce, the healthcare infrastructure remains constrained in comparison to demand. Hospital bed availability is estimated at 3.6 beds per 1,000 population, which is below the national average of 4.0 beds per 1,000 population and lower than several neighbouring Central Asian countries (PED, 2025).

The regional health profile indicates a significant burden of non-communicable diseases (NCDs), which represent the leading causes of illness and mortality among adults. Circulatory diseases, including ischaemic heart disease and cerebrovascular disease, together with diseases of the respiratory and blood-forming systems, account for a substantial proportion of morbidity within the Region. Among children, diseases of the

respiratory and blood-forming systems account for more than half of reported illnesses. Major underlying risk factors include tobacco and alcohol consumption, unhealthy diets, physical inactivity and poor air quality (PED, 2025).

Healthcare demand within the Region is high. Between 2020 and 2021, approximately 13.8 million patient consultations were recorded over a six-month period, with Fergana City accounting for the highest number of healthcare visits within the Region. The combination of a growing population, high patient utilisation rates, relatively constrained hospital bed capacity and a substantial burden of chronic disease highlight the need to strengthen regional healthcare infrastructure and expand access to specialised tertiary healthcare services (PED, 2025).

17.3.2 Population Demographics

Fergana City is the administrative centre of the Fergana Region and one of the principal urban centres within the Fergana Valley. The city's population was estimated at approximately 356,196 in 2025, an increase from 299,200 in 2022, representing a growth of approximately 8% over four years, as illustrated in Figure 17-2. Population growth reflects both natural population increase and continued urbanisation, including in-migration from surrounding districts within the Fergana Valley. The gender distribution is relatively balanced, comprising 50.9% males and 49.1% females (Fergana City Khokimiyat, 2025) and (Statistics Agency, 2025b)

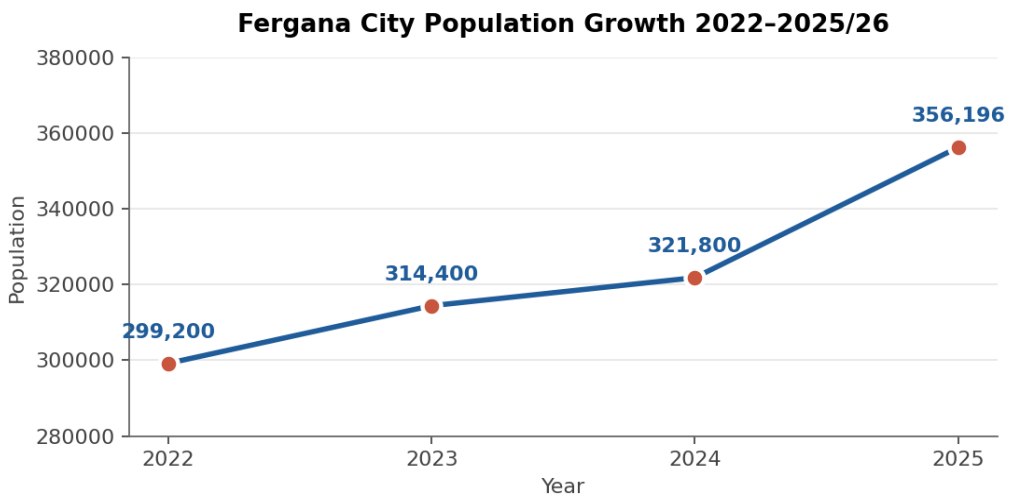


Figure 17-2 Fergana City Population Growth

Source: (Fergana City Khokimiyat, 2025) (Statistics Agency, 2025b)

The population is predominantly of working age, with 52.9% aged 31–59 years and 17.3% aged 14–30 years, indicating a relatively young and economically active population as outlined in the following figure (Fergana City Khokimiyat, 2025), (Statistics Agency, 2025b).

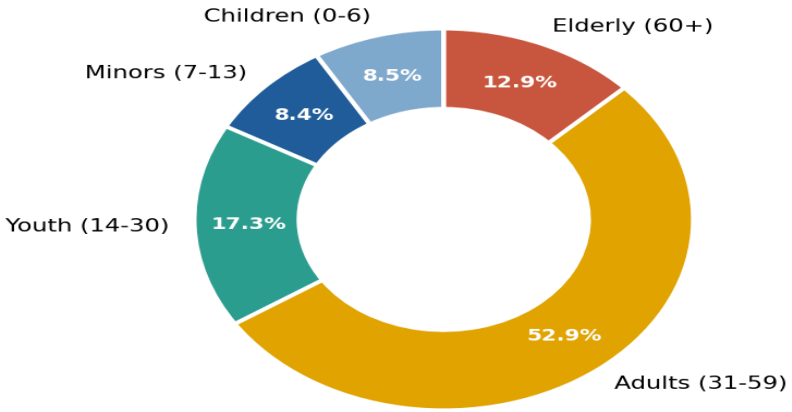


Figure 17-3 Fergana City Age Composition

Source: (Fergana City Khokimiyat, 2025) (Statistics Agency, 2025b)

In terms of ethnicity and language, the population of Fergana City is predominantly Uzbek (87.9%), with minority communities including Russians (5.3%), Tajiks (2.9%), Kyrgyz (1.4%), Tatars (1.1%), Koreans (0.4%), and smaller populations of Karakalpaks, Kazakhs, Uyghurs and Turkmen. Russian is widely used alongside Uzbek, particularly in business, education and public administration (Fergana City Khokimiyat, 2025) and (Statistics Agency, 2025b).

17.3.2.1 Demographics of Affected Mahallas

The demographic profile of the Project area is represented by the three Mahallas located adjacent to the proposed hospital site, namely Ilgor, Chekshura and Urtashura. Together, these Mahallas have a combined population of approximately 13,950 people and 3,148 households, representing approximately 3.9% of Fergana City's population and 3.1% of its households. Collectively, they cover approximately 806 ha, equivalent to 7.1% of the city's total land area.

Ilgor is the largest of the three Mahallas, with the largest land area (565 ha) and the highest number of households (1,418). Chekshura has a similar population size (5,431 residents) despite occupying a much smaller area, indicating a denser settlement. Urtashura is the smallest Mahalla in terms of both population (2,980 residents) and land area (99.3 ha) (Fergana City Khokimiyat, 2025).

The combined population of the three Mahallas comprises 53.4% males and 46.6% females. Available demographic information indicates a relatively young population, particularly in Ilgor, where minors (0–18 years) account for 42.9% of residents and youth (14–30 years) comprise a further 28.5%. In contrast, older persons (60 years and above) account for 5.6% of Ilgor's population, compared with 10.1% in Urtashura and 12.9% across Fergana City. Age-disaggregated data were not available for Chekshura. Table 17-4 summarises the population demographics of the affected mahallas (Fergana City Khokimiyat, 2025).

Table 17-4 Summary Demographics of the Affected Mahallas

Indicator	Ilgor	Chekshura[15]	Urtashura	Project Total
Land area (ha)	565.0	142.1	99.3	806.4
Total population	5,537	5,431	2,980	13,948
Male	50.2%	56.3%	54%	7,446
Female	49.8%	43.7%	46%	6,502
Pre-school: 0-6 years	14.5%	n/a	11.4%	1,142+
Minors: 0-18 years	42.9%	n/a	17.4%	2,898+
Youth: 14-30 years	28.5%	n/a	21.1%	2,211+
Elderly: 60+	5.6%	n/a	10.1%	612+
Pensioners	5.2%	12.7%	14.1%	1,402

Source: (Fergana City Khokimiyat, 2025)

In terms of ethnicity and language, the project area is predominantly Uzbek, with Uzbeks comprising approximately 97.1% of the population, compared to 87.9% across Fergana City. The Russian population is relatively small (0.2%, compared to 5.3% city-wide). Uzbek is the main language spoken in the affected Mahallas; Russian is also commonly used (Fergana City Khokimiyat, 2025).

17.3.2.2 Demographics of Surveyed Households

A total of 50 households, comprising 198 household members, participated in the household socio-economic survey. The survey indicates a relatively balanced gender distribution, with a slight predominance of females (54%) compared to males (48%). The majority (98%) of household heads identified as Uzbek, while 2% identified as Tajik, reflecting the predominant ethnic composition of the study area. The surveyed population is characterised by a relatively young demographic profile. Individuals aged 18–35 years represent the largest age group (35.9%), followed by those aged 36–59 years (22.7%). The median age of surveyed household members is 25 years, indicating a predominantly young and economically active population (Household Survey, 2026). Table 17-5 summarises the population demographics of the surveyed households

Table 17-5 Local Area Demographics

Demographic indicator	Number /Percentage (%)
Total surveyed households	50
Household members surveyed	198
Males	48%
Females	54%
0-5 years	13.1%
6-14 years	21.2%
15-17 years	3.5%

[15] Data anomaly: Chekshura's age-breakdown fields (0–6, 0–18, 14–30, 60+) are recorded as zero in the balance sheet, despite the mahalla having 692 pensioners — the highest absolute number among the three. This is almost certainly a data entry omission rather than a true zero. Field verification is recommended before relying on these figures.

Demographic indicator	Number /Percentage (%)
18-35 years	35.9%
36-59 years	22.7%
60+ years	3.5%

Source: (Household Survey, 2026)

17.3.3 Household Demographics

Fergana City comprises approximately 101,817 households, accommodating 115,458 families, indicating that some households include more than one family. Housing is predominantly urban in character, with 60.5% of dwellings located in multi-storey apartment buildings and the remaining 39.5% comprising detached single-family houses. Although apartment living is the most common form of housing, a substantial proportion of residents continue to occupy single-family homes, reflecting the city's mix of higher-density urban development and more traditional residential neighbourhoods (Fergana City Khokimiyat, 2025).

17.3.3.1 Households Demographics of Affected Mahallas

The affected Mahallas comprise 3,148 households and 3,848 families. Unlike Fergana City, where housing comprises a mix of apartment buildings and detached dwellings, residential areas within the affected Mahallas consist entirely of single-family houses, reflecting their lower-density suburban character. A breakdown of the household characteristics is provided in Table 17-6 (Fergana City Khokimiyat, 2025) (Household Survey, 2026).

Table 17-6 Household demographics of Affected Mahallas

Indicator	Ilgor	Chekshura	Urtashura	Total
Households	1,418	1,150	580	3,148
Families	1,918	1,150	780	3,848
Multi-storey buildings	0	0	0	0
Single-family houses	1,418	1,150	580	3,148

Source: (Fergana City Khokimiyat, 2025)

17.3.3.2 Household Demographics of Surveyed Households

A total of 50 households were surveyed, all of which resided in apartments, reflecting the high-density residential character of the study area. Household sizes ranged from two to five members, with four-member households being the most common (44%), followed by five-member households (28%). Only 4% of households comprised two or fewer members, indicating that medium-sized family households predominate within the study area. 70% of the households own their houses, while 24% rent (Household Survey, 2026).

17.3.4 Social Protection and Vulnerable Groups

Understanding the distribution and characteristics of vulnerable groups is important in establishing the socio-economic baseline and identifying population groups that may experience disproportionate project risks or may require targeted support to access project benefits. In Uzbekistan, social protection is delivered through a combination of government assistance programmes and administrative registries that identify individuals and households in need of social, financial and welfare support (Statistics Agency, 2025b).

Fergana City has a well-established social protection system that supports a range of vulnerable groups, including older persons, persons with disabilities, low-income households, vulnerable women, at-risk youth, children requiring alternative care and families experiencing social or economic hardship. Key government registries, including the Unified Social Protection Registry, the Poor Families Registry, the Women's Register and the Youth Register, are used to identify vulnerable households and facilitate the provision of targeted assistance, employment programmes and social services (Statistics Agency, 2025b).Table 17-7 summarises the key social protection and vulnerability indicators for Fergana City.

Table 17-7 Social Protection and Vulnerable Groups in Fergana City

Social vulnerability indicator	Count
Pensioners (of which 23,145 are women)	40,834
Persons with disabilities (Groups 1–3)	6,155
— Group 1 (most severe)	716
— Group 2	4,521
— Group 3	918
Elderly living alone & requiring care	296
Families that lost their breadwinner	1,803
Children under guardianship	222
Children in family-type homes	35
Children placed in family children's homes	18
Women on "Women's Register" (vulnerable)	7,315
Youth on "Youth Register" (at risk)	357
"Unical" families (in both registries)	1,582 (4,323 members)
Unified Social Protection Registry families	3,376 (9,130 members)
Poor Families Registry families	2,154 (5,623 members)
Total families in any social registry	5,530 (14,753 members)
WWII veterans (still alive)	62
WWII home-front workers & equivalent	39
Internationalist fighters & Chernobyl responders	243

Source: (Statistics Agency, 2025b)

Overall, 5,530 families, comprising approximately 14,753 individuals, are registered in one or more social assistance programmes, representing approximately 4.8% of all families in Fergana City. Of these, 1,582 families are registered on both the Unified Social Protection Registry and the Poor Families Registry, indicating households with multiple vulnerabilities that may require coordinated social support (Statistics Agency, 2025b). The presence of these vulnerable groups is an important consideration for the Project, particularly in relation to equitable access to healthcare services, stakeholder engagement and the implementation of inclusive employment and community development initiatives.

17.3.4.1 Social Protection and Vulnerable Groups of the Affected Mahallas

The project area contains relatively small but identifiable vulnerable population groups, including 91 persons with disabilities, 293 women registered on the Women's Register, and 83 families recorded in one or more social protection registries. While the overall prevalence

of vulnerability is broadly consistent with the citywide profile, there are notable differences among the three Mahallas. Urtashura records the highest proportion of persons with disabilities, with 12.8 persons per 1,000 residents, indicating a comparatively greater need for accessible infrastructure and healthcare services. Chekshura has the highest proportion of women registered on the Women's Register, with 109 women (approximately 4.6% of the female population), exceeding the city average of 4.2%, and also records the highest concentration of families that have lost their primary breadwinner, with 22 affected households (approximately 1.9% of all households compared with 1.6% city-wide). These indicators suggest that certain households within Chekshura may experience comparatively higher levels of social and economic vulnerability (Fergana City Khokimiyat, 2025). Table 17-8 summarises the vulnerable groups in the affected mahallas.

Table 17-8 Social Protection and Vulnerable Groups in the Affected Mahallas

Indicator	Ilgor	Chekshura	Urtashura	Total
Pensioners	290	692	420	1,402
Persons with disabilities (Gr 1–3)	19	34	38	91
— Group 1 (severe)	2	5	2	9
— Group 2	11	22	31	64
— Group 3	6	7	5	18
Elderly living alone, need care	0	3	0	3
Families lost breadwinner	6	22	6	34
Children under guardianship	3	4	2	9
Women on “Women’s Register”	97	109	87	293
Youth on “Youth Register”	0	1	1	2
Social Protection Registry families	28	0	29	57
Poor Families Registry	15	6	5	26
Total social registry families	43	6	34	83
Internationalist/Chernobyl veterans	3	2	5	10

Source: (Fergana City Khokimiyat, 2025)

Focus group discussions indicated that women are increasingly recognised as active contributors within both households and the wider community. Participants reported that women generally participate in household decision-making jointly with the head of the household and actively engage in Mahalla meetings and community activities. Women employed in state institutions were identified as participating less frequently in community meetings due to work commitments rather than social or cultural barriers. Participants also noted that female-headed households and women living alone generally receive support through government assistance programmes, including financial support, loans and grants, and were not perceived as facing significant social exclusion within the community.

17.3.4.2 Social Benefits Received by Surveyed Households

The household survey indicates that relatively few surveyed households were receiving government social assistance or reported characteristics associated with social vulnerability (Table 17-9). Of the 50 households surveyed, six households (12%) reported receiving at

least one form of government benefit. The most common vulnerability was the loss of a primary breadwinner, affecting four households (8%), while one household (2%) reported caring for a person with a disability, one household (2%) was headed by a single parent, and one household (2%) received a child allowance for children under two years of age (Household Survey, 2026).

Table 17-9 Social Benefits Received by Surveyed Households

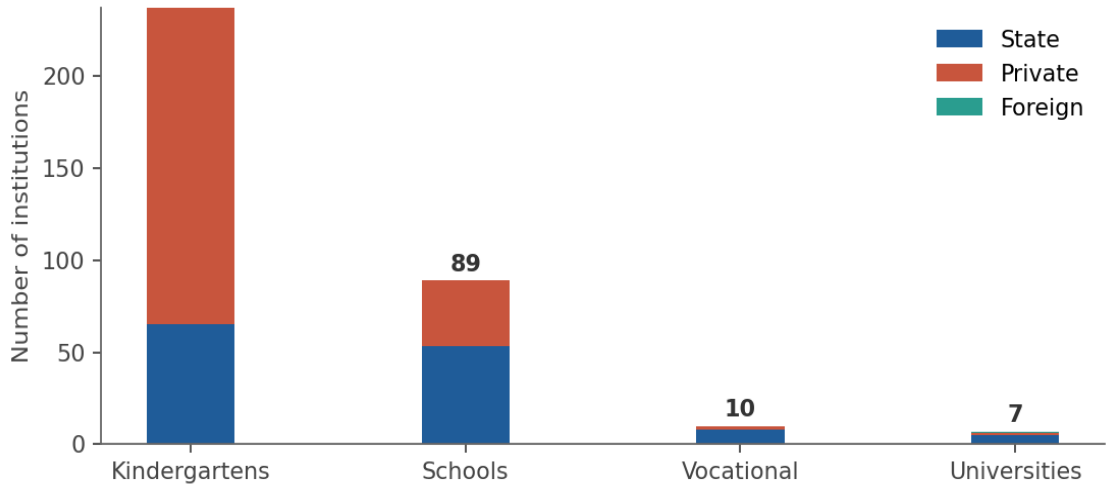
Benefit type	Households	%
Households that have lost their breadwinner	4	8%
Persons with disabilities (Groups 1–3)	1	2%
Single-parent households (single mothers / single fathers)	1	2%
Households receiving child allowance for children under 2 years old	1	2%
Households receiving ANY benefit	6	12%

Source: (Household Survey, 2026)

17.3.5 Education Profile

Fergana City has a well-established education system comprising kindergartens, primary and secondary schools, vocational schools, and higher education institutions. The city has 237 kindergartens, of which 72.6% are privately operated, reflecting the expansion of private early childhood education. General education is provided through 89 schools, serving approximately 36,645 learners, including 2,825 learners in graduating classes (Fergana City Khokimiyat, 2025) and (Statistics Agency, 2025b).

Technical and vocational education is provided through 10 institutions (eight state and two private), which enrol approximately 1,898 students and produce around 300 graduates annually. Higher education is provided by seven institutions (five state, one private and one foreign-affiliated), with approximately 6,947 students enrolled and 395 graduates produced each year (Fergana City Khokimiyat, 2025) and (Statistics Agency, 2025b). These



institutions contribute to the development of a skilled workforce to support the city's economic growth and expanding service sectors. Figure 17-4 shows the educational institutions in Fergana City.

Figure 17-4 Education Institutions in Fergana City

Source: (Fergana City Khokimiyat, 2025) (Statistics Agency, 2025b)

17.3.5.1 Education Profile of Affected Mahallas

The affected Mahallas are served by 10 kindergartens and three general schools, with approximately 1,531 school learners residing within the three Mahallas. In addition, 79 vocational students and at least 275 university students reside within the affected Mahallas (Fergana City Khokimiyat, 2025). Table 17-10 summarises the education profile of the affected Mahallas.

Table 17-10: Education Profile of Study Area

Indicator	Ilgor	Chekshura	Urtashura	Total
Kindergartens (total)	6	3	1	10
General schools (total)	2	0	1	3
School pupils (resident)	608	596	327	1,531
Graduating-class pupils	42	42	82	166
Vocational students (resident)	31	31	17	79
Vocational graduates	0	2	2	4
University students (resident)	n/a	170	105	275+
University graduates	0	3	3	6

Source: (Fergana City Khokimiyat, 2025)

17.3.5.2 Education Profile of Surveyed Households

Educational attainment was assessed for all 198 household members represented in the household survey. Overall, 41.9% of household members had attained higher education, followed by 31.8% with general secondary education and 7.6% with specialised secondary education. Approximately 18.7% reported no formal education; this category includes pre-school-aged children and household members who had not yet entered or completed formal schooling (Household Survey, 2026). A summary is provided in Figure 17-5.

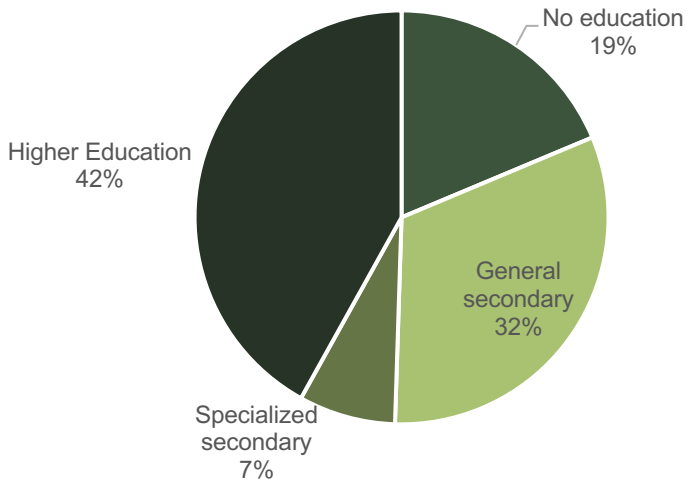


Figure 17-5 Education Profile of Surveyed Households

Source: (Household Survey, 2026)

17.3.6 Economic Activity

Fergana City's economy is characterised by a diverse mix of retail, agriculture and service-based enterprises. A total of 5,528 registered businesses operate within the city, with the largest proportion comprising retail shops (3,311), followed by dekhan (smallholder) farms (1,532) and catering establishments (432). Other business activities include pharmacies, personal services, educational facilities and agricultural enterprises, reflecting a well-established local economy that supports both urban and peri-urban livelihoods (Fergana City Khokimiyat, 2025) and (Statistics Agency, 2025b).

The Project area contains 153 registered businesses, representing approximately 2.8% of all businesses in Fergana City. Economic activity is dominated by retail trade (40 businesses) and dekhan smallholder farms (64 businesses), indicating a combination of local commerce and small-scale agricultural production. Stakeholder consultation indicate that women contribute to the local economy through a combination of formal employment and home-based or small-scale enterprises. Common income-generating activities include tailoring, sewing, baking, and employment within production and service industries.

Business activity varies across the three Mahallas. Ilgor contains the largest number of registered businesses and a notable concentration of dekhan farms, while Chekshura supports the highest concentration of retail shops and catering outlets, reflecting its role as a local commercial centre. Urtashura has a smaller but more diverse business profile, including retail, agricultural, healthcare, and personal services (Fergana City Khokimiyat, 2025) and (Statistics Agency, 2025b). Overall, the Project area supports a relatively small but diverse local economy that is likely to benefit from increased demand for goods and services during both the construction and operation of the proposed hospital, as outlined in Table 17-11.

Table 17-11: Business Profile of Fergana City and the Affected Mahallas

Indicator	Fergana City	Ilgor	Chekshura	Urtashura	Total
Total registered businesses	5,528	85	32	36	153
Retail shops	3,311	12	24	4	40
Catering outlets	432	2	8	0	10
Wedding halls	33	0	1	0	1
Dekhan smallholder farms	1,532	25	25	14	64
Farmer enterprises	92	0	0	0	0
Pharmacies	207	0	0	1	1
Barber shops	162	0	2	3	5
Beauty salons	130	0	0	0	0
Learning centres	70	2	0	1	3
Hammams / saunas	10	1	0	0	1
Markets	8	0	0	0	0

Source: (Fergana City Khokimiyat, 2025) (Statistics Agency, 2025b)

17.3.7 Employment and Labour Migration

Administrative records indicate that Fergana City has 1,825 registered unemployed persons, including 675 youth and 514 women, reflecting the availability of labour within the city. Labour migration is also an established feature of the local labour market, with 5,728 residents currently employed abroad, including 1,766 youth and 1,685 women. During the previous year, 1,469 migrant workers returned to the city, demonstrating continued labour mobility and providing a potential source of skilled and experienced workers for future employment opportunities (Fergana City Khokimiyat, 2025) and (Statistics Agency, 2025b).

Within the study area, 81 individuals are registered as unemployed, and 279 residents are employed abroad as labour migrants. Ilgor accounts for the largest share of labour migrants (207), reflecting its larger population, while also recording the highest number of returning migrants (70) during the previous year. Chekshura has the highest proportion of unemployed youth (19 of 26 registered unemployed), and Urtashura records the highest proportion of female return migrants (12 of 15 returnees) (Fergana City Khokimiyat, 2025) (Statistics Agency, 2025b). Overall, the data indicate that unemployment and labour migration are present across all three Mahallas, suggesting the availability of local labour that may benefit from employment opportunities generated by the Project. Table 17-12 summarises the employment and labour migration in Fergana City and the affected Mahallas, and Figure 17-6 illustrates the labour migrants abroad vs returned in the past 12 months in the affected mahallas.

Table 17-12 Employment and Labour Migration in Fergana City and the Affected Mahallas

Indicator	Fergana City	Ilgor	Chekshura	Urtashura	Total
Registered unemployed	1,825	35	26	20	81
— of which youth	675	19	19	14	52
— of which women	514	8	7	4	19
Receiving formal unemployment benefits	5	0	0	0	0
Labour migrants abroad	5,728	207	57	15	279
— of which youth	1,766	24	28	13	65
— of which women	1,685	60	12	16	88
Returned migrants (past 12 mo.)	1,469	70	4	15	89
— of which youth	344	2	2	3	7
— of which women	495	6	2	12	20

Source: (Fergana City Khokimiyat, 2025) (Statistics Agency, 2025b)

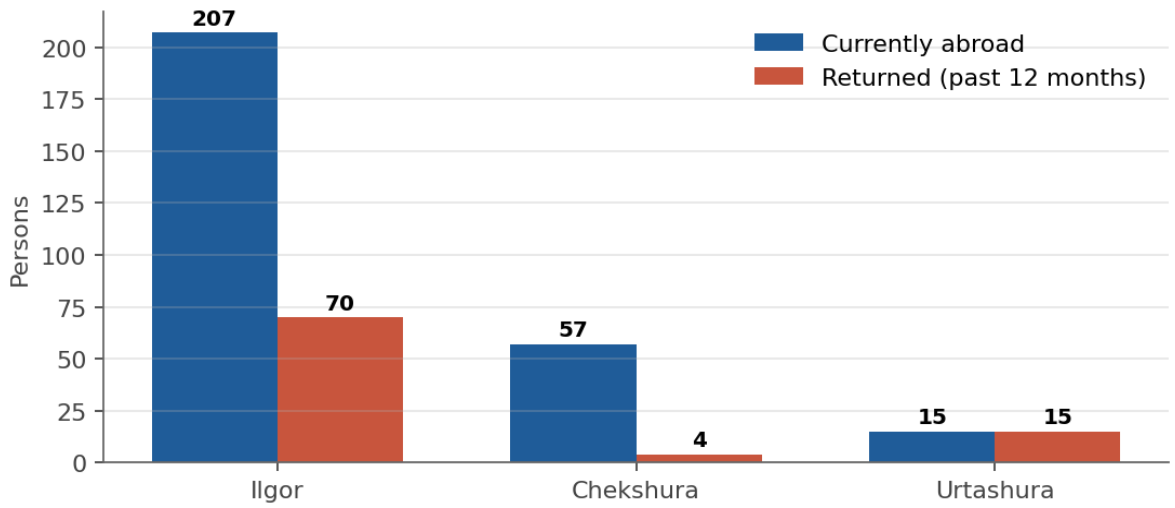


Figure 17-6 Labour migrants abroad vs returned in the past 12 months

Source: (Fergana City Khokimiyat, 2025)

17.3.7.1 Employment Status of the Surveyed Households

The household survey indicates that public sector employment is the predominant source of livelihood, accounting for 24.2% of household members. Self-employment represents 8.6%, while employment in private companies and business ownership each account for 5.6%. A further 5.1% of household members identified as housewives, representing adults who were not participating in formal employment or the active labour market due to household and caregiving responsibilities. Only 1.5% of household members reported being unemployed. Overall, the survey findings indicate that livelihoods within the study area are supported by a diverse mix of public sector employment, private sector employment, self-employment and small businesses, with relatively low levels of reported unemployment as outlined in Table 17-13 (Household Survey, 2026).

Table 17-13 Employment Status of the Working-Age Population in the Affected Mahallas

Employment	Count	%
Employed in a state budget-financed organisation	48	24.2%
Self-employed	17	8.6%
Businessman	11	5.6%
Employed in a Private Company	11	5.6%
Unemployed	3	1.5%
Housewife	10	5.1%
Total	100	50.5%

Source: (Household Survey, 2026)

17.3.8 Income and Expenditure

17.3.8.1 Average Monthly Household Income

Findings from the household survey indicate that, among the surveyed households, most reported moderate monthly incomes. The largest proportion of households (40%) reported a

total monthly household income of between eight million and 12 million soum, while a further 22% earned between five million and eight million soum. Higher-income households were less common, with 10% reporting monthly household incomes exceeding 20 million soum, while low-income households were in a minority with 2% reporting incomes below three million soum. Based on the reported income brackets, the estimated average monthly household income was approximately 10.9 million soum. Overall, the findings suggest that surveyed households comprise a mix of low-, middle- and higher-income groups, with most households concentrated within the middle-income brackets (Household Survey, 2026).

Table 17-14 Surveyed Household Average Monthly Income

Average total monthly household income	Count	%
Less than 3 000 000 soum	1	2%
3 000 000 – 5 000 000 soum	6	12%
5 000 000 – 8 000 000 soum	11	22%
8 000 000 – 12 000 000 soum	20	40%
12 000 000 – 20 000 000 soum	7	14%
20 000 000 – 30 000 000 soum	4	8%
More than 30 000 000 soum	1	2%
Total	50	100%

Source: (Household Survey, 2026)

17.3.8.2 Average Monthly Household Expenditure

The household expenditure profile indicates that food and groceries constitute the largest component of household spending, accounting for 43.5% of average monthly expenditure. Education represents the second-largest expenditure category (16.8%), followed by housing and public utilities (13.7%) and transport (10.1%), reflecting the importance of essential living costs within household budgets (Household Survey, 2026).

Healthcare and medicines account for 6.6% of average household expenditure, while communication services represent a relatively small proportion (3.6%). Expenditure on taxes, insurance, credit repayments and other discretionary items was comparatively limited. Based on the survey findings, the average monthly household expenditure was approximately 8.3 million soum, compared with an estimated average monthly household income of 10.9 million soum, suggesting that most surveyed households have some capacity to meet routine living expenses while maintaining a modest level of disposable income or savings (Household Survey, 2026).Table 17-15 summarises the average household expenditure.

Table 17-15 Surveyed Household Average Expenditure

Category	Avg. (soum)	Median	Min	Max	HHs > 0	% of total spend
Food and groceries (incl. eating out)	3 630 000	3 000 000	2 000 000	10 000 000	50	43.5%
Housing and public utilities	1 142 000	1 000 000	0	10 000 000	48	13.7%
Transport costs (all members)	838 000	600 000	0	8 000 000	41	10.1%

Category	Avg. (soum)	Median	Min	Max	HHs > 0	% of total spend
Communication (phone, TV, internet)	304 000	200 000	50 000	2 000 000	50	3.6%
Education	1 404 000	900 000	0	8 000 000	37	16.8%
Healthcare and medicines	549 000	300 000	0	5 000 000	41	6.6%
Taxes, payments, insurance, credit	276 000	0	0	3 000 000	8	3.3%
Other costs	194 000	0	0	5 000 000	5	2.3%
Total household spend (avg. per HH)	8 337 000	7 700 000	2 600 000	17 700 000	50	100%

Source: (Household Survey, 2026)

17.3.9 Healthcare Services

Fergana City's healthcare network is made up of 146 medical institutions, including 11 primary healthcare facilities (comprising family polyclinics and rural physician points), 18 hospitals, and 117 private medical clinics. Private healthcare providers account for approximately 80% of all healthcare facilities, reflecting the continued growth of the private healthcare sector alongside the public health system. The city is also served by 207 pharmacies, equivalent to approximately one pharmacy per 1,721 residents, indicating relatively good access to pharmaceutical services (Fergana City Khokimiyat, 2025) and (Statistics Agency, 2025b).

Healthcare provision within the study area is comparatively limited, with only three medical institutions serving the surrounding Mahallas, comprising one primary healthcare facility and two private clinics. No hospitals are located within the Project area, requiring residents to access secondary and tertiary healthcare services elsewhere in Fergana City. Healthcare facilities are also unevenly distributed between the Mahallas. Chekshura has no medical facilities, while Ilgor contains a single private clinic and Urtashura accommodates one primary healthcare facility and one private clinic as outlined in Table 17-16 (Fergana City Khokimiyat, 2025) (Statistics Agency, 2025b).

Table 17-16 Healthcare Services

Indicator	Fergana City	Ilgor	Chekshura	Urtashura	Project Total
Medical institutions (any type)	146	1	0	2	3
— primary care (OP/QVP)	11	0	0	1	1
— hospitals	18	0	0	0	0
— private clinics	117	1	0	1	2
Pharmacies	207	0	0	1	1

Source: (Fergana City Khokimiyat, 2025) (Statistics Agency, 2025b)

17.3.9.1 Perception of Healthcare Among Surveyed Households

The household survey indicates generally positive perceptions of healthcare services within the Project AoI. Local clinics were viewed more favourably than hospitals, with a greater proportion of respondents rating clinic services as good (64%) compared with hospital services (52%). Notably, 32% of respondents rated both clinic and hospital services as

excellent, indicating an overall positive perception of healthcare quality (Household Survey, 2026).

The survey indicates that primary healthcare services are generally accessible, with most respondents accessing local clinics on foot. Hospital services are located further from the project area, with respondents travelling an average of 3.1 km compared to 1.6 km for clinics (Household Survey, 2026). As a result, reliance on private vehicles and public transport increases when accessing hospital services, as outlined in Table 17-17.

Table 17-17 Household Perceptions of Healthcare Quality, Accessibility and Transport

Rating of Facility					
Facility	Excellent	Good	Fair	Poor	Very poor
Clinic	32%	64%	4%	0%	0%
Hospital	32%	52%	14%	2%	0%
Distance and Mode of Transport					
Facility	Avg distance (km)	Min	Max	Top mode	% using top mode
Clinic	1,64	1	22	On foot	82%
Hospital	3,11	1	8	On foot	60%
Mode of transport to each facility					
Facility	On foot	Own vehicle	Public transport	Taxi	Not relevant/don't use
Clinic	82%	6%	2%	0%	10%
Hospital	60%	20%	6%	6%	8%

Source: (Household Survey, 2026)

Despite generally positive perceptions of healthcare quality and accessibility, respondents identified a number of challenges to accessing healthcare, indicating that barriers remain for some households, particularly when accessing higher-order healthcare services (Figure 17-7). The most frequently cited challenge was the quality of care (64%), followed by the cost of healthcare (60%). Waiting times (26%) and the limited availability of healthcare facilities (24%) were also identified as constraints, whereas relatively few respondents (6%) considered travel distance to be a significant barrier (Household Survey, 2026). These findings suggest that, while primary healthcare services are generally accessible, improving the quality, affordability and availability of specialised healthcare services remains an important consideration for the surrounding communities. This is consistent with the Government of Uzbekistan's rationale for the proposed Fergana Eco City Regional Hospital, which is intended to provide residents of the Region and neighbouring areas with access to modern, high-technology tertiary healthcare services, including cardiac surgery, neurosurgery and organ transplantation. It is possible that this may result in the consolidation of specialised healthcare services within a single facility and equipping the hospital with advanced diagnostic and treatment technologies. The Project is expected to improve the quality and efficiency of healthcare delivery and reduce the need for patients to travel outside the Region or country to access specialised treatment (Ministry of Health 2026).

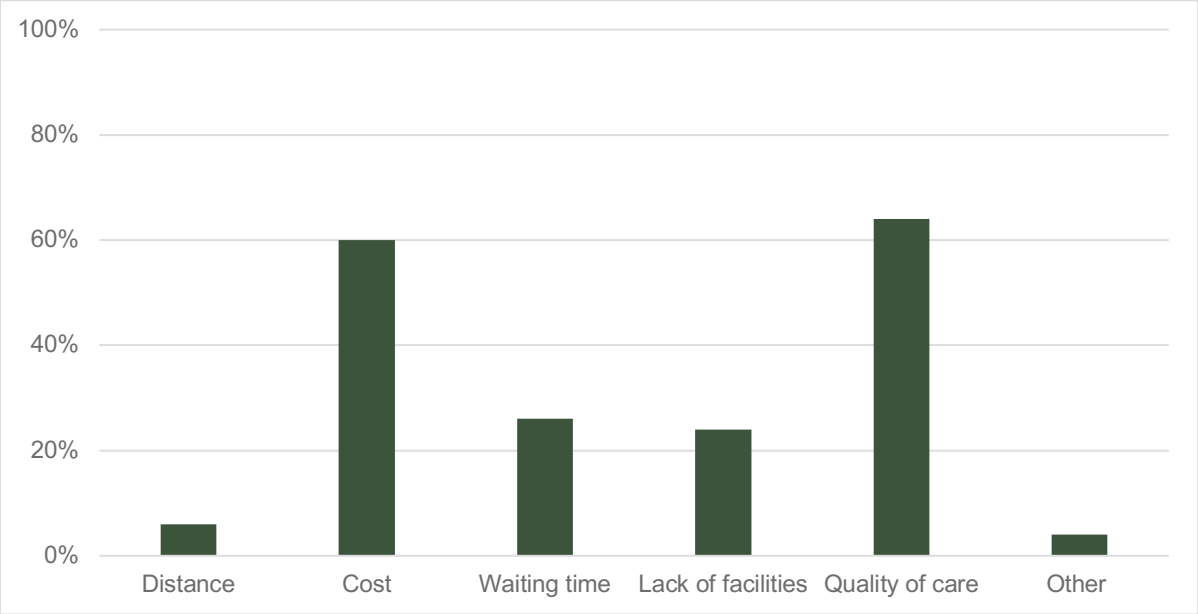


Figure 17-7 Challenges to Accessing Healthcare

Source: (Household Survey, 2026)

17.3.10 Accommodation, Living Conditions and Household Amenities

17.3.10.1 Access to services

Administrative data indicate that access to basic municipal services within the Project area is generally high (see Table 17-18). Approximately 96.9% of households across Fergana City have access to both piped water and natural gas. Within the Project Area, 100% of recorded households in Ilgor and Chekshura are connected to both services, indicating well-established municipal utility infrastructure. Comparable data were not available for Urtashura; however, the available information suggests that the Project Area is generally well served by essential municipal utilities (Fergana City Khokimiyat, 2025) and (Statistics Agency, 2025b).

Table 17-18 Access to services

Indicator	Fergana City	Ilgor	Chekshura	Urtashura[16]	Total
HHs with piped water	98,679	1,418	1,150	n/a	2,568
HHs with natural gas	98,679	1,418	1,150	n/a	2,568

Source: (Fergana City Khokimiyat, 2025) *and* (Statistics Agency, 2025b)

17.3.10.2Access to services of surveyed households

Water

The household survey indicates that all surveyed households have access to a central piped water supply for domestic purposes, including washing and cleaning. However, drinking water preferences differ, with 56% of households reporting that they purchase bottled water for drinking and food preparation, while 42% rely on the central piped water supply. A further

[16] Data Anomaly. The balance sheet records ZERO households in Urtashura mahalla connected to either the centralised piped water network or the natural gas network.

2% reported using delivered water (Household Survey, 2026). These findings suggest that, although access to potable water infrastructure is widespread, a significant proportion of households prefer alternative drinking water sources, likely reflecting perceptions of water quality, taste or reliability rather than access constraints. The survey did not investigate the reasons for this preference in greater detail; however, broader studies in the Fergana Region have reported that household preferences for bottled water are commonly associated with the aesthetic characteristics of the municipal water supply, including turbidity, salinity, and taste, rather than access constraints (World Bank Group 2015). While these findings suggest that perceptions of drinking water quality may influence household preferences, they do not, in themselves, indicate widespread concerns regarding the safety of the municipal water supply. Table 17-19 summarises access to water sources.

Table 17-19 Access to water sources

Drinking water and water for food preparation	Percentage %
Bottled water from shops (or a vending machine)	56%
Central water pipe in the house	42%
Delivered and purchased water	2%
Water for domestic needs (washing, cleaning)	**Percentage %**
Central water pipe in the house	100%

Source: (Household Survey, 2026)

Energy

The household survey shows that central heating is the predominant source of winter heating, with 92% of surveyed households reporting its use. More than half of households (52%) also use air conditioning or electric heaters, indicating that these are commonly used as supplementary heating sources. A smaller proportion of households (10%) reported using modern dual-circuit gas heating stoves (Household Survey, 2026). A summary of heating sources identified during the household survey is provided in Table 17-20.

Table 17-20 Heating sources during winter (multiple selection)

Heating sources	Percentage %
Central heating	92%
Gas modern dual-circuit heating stove	10%
Air conditioning/electric heater	52%

Source: (Household Survey, 2026)

17.3.10.3Household assets

The household asset profile indicates generally moderate to good living standards among surveyed households, with widespread ownership of household appliances. Washing machines were the most commonly owned asset (80% of households), followed by air conditioners and electric water heaters (Ariston) (both 74%) and motor vehicles (64%). More than half of surveyed households (54%) also owned a computer or laptop (Household Survey, 2026).

Asset ownership generally increased with household income. Ownership of higher-value assets, including computers, motor vehicles and solar panels, was more prevalent among higher-income households, while lower-income households reported fewer household assets, as illustrated in Table 17-21 (Household Survey, 2026).

Table 17-21 Asset Ownership by Income Group

Asset	<3M (n=1)	3–5M (n=6)	5–8M (n=11)	8–12M (n=20)	12–20M (n=7)	20–30M (n=4)	>30M (n=1)	All HHs
Air Conditioner	100%	33%	55%	80%	100%	100%	100%	74%
Computer/Laptop	0%	0%	27%	65%	86%	100%	100%	54%
Car	0%	33%	27%	80%	86%	100%	100%	64%
Motorcycle/moped	0%	0%	0%	10%	0%	0%	0%	4%
Washing machine	0%	33%	73%	90%	100%	100%	100%	80%
Generator	0%	0%	0%	0%	0%	0%	0%	0%
Solar Panel	0%	0%	0%	5%	0%	25%	100%	6%
Solar water heater	0%	0%	0%	0%	0%	0%	0%	0%
Electric boiler (Ariston)	0%	50%	82%	80%	86%	50%	100%	74%

Source: (Household Survey, 2026)

17.4 Summary of Stakeholder Engagement Findings

The FGDs undertaken across Ilgor, Chekshura, Nurafshon and Urtashura Mahallas provided valuable insights into both existing socio-economic conditions within the Project Area of Influence and stakeholder perceptions of the proposed Project. While discussions reflected the unique characteristics of each community, participants expressed broadly consistent views regarding local development priorities, existing challenges and the anticipated benefits and risks associated with the proposed hospital.

Participants described their communities as well-established and socially cohesive, with the Mahalla committees serving as the primary governance and communication structures. Basic infrastructure and municipal services were generally considered adequate; however, access to specialised healthcare services and local employment opportunities were consistently identified as key challenges. Many participants noted that residents currently travel outside the area to access specialist medical care, while employment opportunities, particularly for young people, remain limited.

Stakeholders were generally supportive of the Project and recognised its potential to strengthen healthcare services while contributing to local economic development through employment and business opportunities. The discussions also highlighted several issues requiring careful management during construction, including increased traffic and road safety risks, dust generation, construction noise, temporary disruption to local infrastructure, and the management of contractor behaviour. Participants further emphasised the importance of transparent recruitment processes that prioritise local employment, opportunities for local procurement, ongoing engagement through the Mahalla committees, and an accessible grievance mechanism throughout the Project lifecycle.

The stakeholder engagement findings have informed the socio-economic baseline, the identification of potential social impacts, and the development of mitigation and enhancement measures presented in this assessment. A detailed thematic summary of stakeholder comments is provided in Table 17-22 below.

Table 17-22 Summary of stakeholder engagement findings

Theme	Baseline Findings (Current Situation)	Project-related Comments, Expectations and Recommendations
Community profile and social cohesion	• Participants described the Mahallas as well-established communities with strong social cohesion. • Residents generally know one another and participate in community activities organised through the Mahalla committees. • Community disputes are generally resolved through local leadership structures. • Residents reported feeling safe within their neighbourhoods.	• Participants requested that community cohesion be maintained during construction. • Contractors should respect local customs and community values. • Continued engagement through Mahalla committees was considered important throughout Project implementation.
Community governance	• Mahalla Committees were identified as the primary community governance structure • Residents indicated that the Mahalla is the first point of contact for resolving local issues and communicating with the government.	• Participants requested that all Project information continue to be communicated through Mahalla representatives. • Community meetings should continue throughout construction. • A grievance mechanism should be established that is accessible through local leadership.
Housing and infrastructure	• Participants generally considered housing conditions to be good. • Most households have access to electricity, water, gas and sanitation. Roads and public services have improved in recent years, although some roads require maintenance. • Communities are experiencing ongoing residential development.	• Participants requested that construction activities not damage local roads or utilities. • Any damage to infrastructure should be repaired promptly. • Contractors should minimise disruption to community services.
Healthcare services	• Existing healthcare facilities were viewed as insufficient to meet current demand. • Participants reported shortages of specialist doctors and modern medical equipment. • Some residents travel outside the area for specialised treatment.	• Participants strongly support the construction of the new regional hospital. • The Project is expected to improve access to specialist healthcare and reduce travel time. • Communities hope local residents will receive improved medical services at the hospital.
Education and youth	• Communities reported access to schools and educational facilities. • Young people increasingly pursue higher education, but employment opportunities remain limited.	• Participants requested internships, apprenticeships and training opportunities for local youth. • Recruitment programmes should provide opportunities for recent graduates.

Theme	Baseline Findings (Current Situation)	Project-related Comments, Expectations and Recommendations
Employment and livelihoods	• Some participants indicated unemployment and underemployment remain challenges, particularly for young people. • Small businesses contribute to household incomes.	• Local employment was the most frequently raised expectation. • Participants requested that local residents receive priority during recruitment. • Recruitment should be transparent and publicly advertised. • Local businesses should be given opportunities to supply goods and services. • Participants requested equal employment opportunities for women where appropriate.
Women and vulnerable groups	• Women participate actively in community life and increasingly in employment. • Elderly people and vulnerable households receive support through Mahalla structures. • Some vulnerable households continue to require social assistance.	• Employment and training opportunities should be accessible to women and vulnerable groups. • Construction activities should not limit access to services for elderly people or persons with disabilities. • Community assistance programmes should continue where needed.
Traffic and transport	• Current traffic volumes are generally manageable. • Local roads are used by residents, school children and public transport. • Pedestrian movement is common within the Mahallas.	• Increased construction traffic was one of the most common concerns. • Participants requested traffic management plans, speed restrictions and designated haul routes. • Additional signage and pedestrian safety measures should be implemented. • Heavy vehicle movements should be managed to minimise disruption.
Air quality	• Existing air quality was generally considered acceptable. • Dust occasionally occurs during dry periods and from existing road traffic.	• Construction dust was identified as a key concern. • Participants requested regular watering of roads, covering of trucks and dust suppression measures.
Noise and vibration	• Existing noise levels were generally described as low. • Noise is mainly associated with normal urban activities.	• Temporary construction noise was expected. • Participants requested that noisy activities be limited to daytime hours. Advance notice should be provided for particularly noisy construction activities.
Waste management and environmental cleanliness	• Municipal waste collection services generally operate effectively.	• Construction waste should be managed appropriately. • Waste should not be dumped within residential areas.

Theme	Baseline Findings (Current Situation)	Project-related Comments, Expectations and Recommendations
	• Communities value clean neighbourhoods.	• Contractors should maintain clean construction sites.
Water resources and drainage	• Water supply was generally considered reliable. • Existing drainage systems function adequately, although localised flooding can occur after heavy rainfall.	• Construction should avoid damaging drainage infrastructure. • Sediment and runoff should be managed to prevent flooding and pollution.
Safety and security	• Participants generally reported feeling safe within their communities. • Crime was not identified as a major concern.	• Communities requested appropriate fencing, security and safety management around construction sites. • Contractors should ensure the safe behaviour of workers. • Emergency response procedures should be communicated to nearby communities.
Labour influx	• Communities already interact with people from outside the Mahalla through employment and commerce. • No significant existing conflicts with outsiders were reported.	• Participants generally accepted the need for non-local workers where specialist skills are required. Contractors should prioritise local labour before recruiting externally. • Workers should respect local customs and behaviour standards. • Appropriate accommodation and worker management measures should be implemented.
Community engagement and information disclosure	• Residents indicated that they receive information through Mahalla committees and local authorities. • Most participants were aware of the proposed Project prior to the meetings.	• Participants requested regular updates throughout construction and operation. • Information should be shared in a timely and transparent manner. • A responsive grievance mechanism should remain available throughout the Project lifecycle.

Source: (Household Survey, 2026)

17.5 Potential Impacts, Mitigation, Management and Residual Impacts

17.5.1 Social Sensitive Receptors

Social receptors are the individuals, groups and community assets that may be affected by the Project. Based on the socio-economic baseline and stakeholder consultations, the key social receptors considered in the assessment are presented in Table 17-23.

Table 17-23 Social Sensitive Receptors

Receptor	Sensitivity	Rationale
Residents of Ilgor, Chekshura and Urtashura Mahallas, including surrounding communities	**High**	The nearest residential communities to the Project site. These communities are most likely to experience changes in amenity, access, traffic and community health and safety during construction.
Children, older persons, people with disabilities and other vulnerable groups	**High**	These groups may be more susceptible to construction-related disturbance and less able to adapt to temporary changes in access, increased traffic and other construction activities.
Road users and pedestrians	**Medium**	Construction traffic and the movement of heavy vehicles may temporarily affect road safety, traffic flow and pedestrian access in the vicinity of the Project.
Educational facilities and learners	**Medium**	Schools located within the Project area may be sensitive to changes in traffic conditions, pedestrian safety, noise and dust during construction.
Local businesses and service providers	**Medium**	Construction activities may temporarily affect business accessibility, customer movement and service delivery, while also creating opportunities through local procurement and increased demand for goods and services.
Fergana International Airport	**High**	Because of the Project's proximity to the airport, construction activities involving cranes, tall equipment, lighting, dust generation and the operation of heavy machinery have the potential to affect aviation safety and airport operations if not appropriately managed.
Construction workers	**High**	Construction workers will be directly exposed to occupational health and safety risks associated with construction activities, plant and equipment, working at heights, excavation and other site hazards, requiring comprehensive health, safety and welfare management measures.

17.5.2 Construction Phase

The following section outlines the anticipated social impacts during construction. The impacts related to construction are assessed in Table 17-24.

17.5.2.1 Capital Investment Contributing to the National, Regional and Local Economy

The construction of the proposed Fergana Eco City Regional Hospital will involve investment in civil works, engineering services, construction materials, plant and equipment, utilities, transport and professional services. This expenditure will generate direct economic activity through the procurement of goods and services and the appointment of contractors, subcontractors, consultants and suppliers throughout the construction period.

At the national level, the Project will contribute to investment in healthcare infrastructure while creating demand for locally supplied construction materials, manufactured goods, engineering services and professional expertise. Procurement from businesses within Uzbekistan will support domestic industries and contribute to economic activity during the construction phase.

At the regional level, the Project has the potential to strengthen the Fergana Region's supply chain by creating opportunities for regional contractors, manufacturers and service

providers. The socio-economic baseline indicates that the regional economy is supported by manufacturing, construction, agriculture, trade and services, providing an established supplier base capable of supporting elements of the Project. Procurement from regional businesses, where they meet the required technical, commercial and quality standards, will increase the retention of Project expenditure within the regional economy and support small and medium-sized enterprises (SMEs).

At the local level, the Project will create opportunities for businesses in Fergana City and the surrounding Mahallas by procuring goods and support services. The baseline identified 5,528 registered businesses in Fergana City, including retail, catering, transport and other service providers, while 153 registered businesses are located within the neighbouring Mahallas. These businesses represent an established local supplier base that may benefit from the procurement of accommodation, transport, equipment hire, catering, fuel and other support services during construction.

Management measures relating to procurement planning and contractor management will be implemented to maximise opportunities for national, regional and local suppliers where technically, commercially and economically feasible. Procurement opportunities will be communicated transparently, consistent with the principles of IFC Performance Standard 1 and EBRD Performance Requirement 10, to promote equitable access for local businesses. With the implementation of the proposed management measures, the impact is expected to be of moderate positive significance, with benefits realised through increased business activity and expenditure within the national, regional and local economy.

17.5.2.2 Increased Employment Opportunities

Construction of the proposed Fergana Eco City Regional Hospital will create temporary employment over the anticipated three-year construction period, with the workforce expected to peak at approximately 1,865 workers. Direct employment opportunities will be created for skilled, semi-skilled and unskilled workers across a range of occupations, including civil works, engineering, construction supervision, administration and site support services. These employment opportunities will provide temporary income for workers and contribute to household livelihoods during the construction phase.

In addition to direct employment, the Project is expected to generate indirect employment through contractors, subcontractors, and suppliers that provide transport, equipment hire, catering, security, accommodation, and other support services. Increased household expenditure by directly and indirectly employed workers is also expected to generate induced economic benefits for local businesses and service providers.

The socio-economic baseline indicates that Fergana City has 1,825 registered unemployed persons, including 675 youth and 514 women, while labour migration remains an important livelihood strategy, with approximately 5,728 residents working abroad. Stakeholder engagement also identified local employment as one of the primary expectations associated with the Project. The Project therefore has the potential to provide temporary employment and income-generating opportunities for local residents, although opportunities will be limited by the phased construction programme, the availability of suitably qualified candidates and the specialised skills required for certain positions.

Management measures relating to labour management, transparent recruitment, local recruitment, workforce planning and equal employment opportunities will be implemented throughout the construction period. Recruitment and employment practices will be undertaken in accordance with the principles of IFC Performance Standard 2 and EBRD Performance Requirement 2. Stakeholder engagement and the Project grievance mechanism will be used to communicate employment opportunities and recruitment requirements, and to respond to community concerns.

Overall, the impact is expected to be of moderate positive significance, with temporary benefits realised through direct and indirect employment, increased household income and expenditure within the local economy during the construction period. The implementation of the proposed enhancement measures is expected to maximise local employment benefits during construction.

17.5.2.3 Impacts Associated with Workforce Influx

The construction workforce will comprise both locally recruited personnel and a limited number of specialist workers recruited from outside the Project area. The workforce is expected to peak at approximately 1,865 workers during periods of intensive construction. Temporary worker accommodation will be established within the Project site where required, while some specialist personnel may be accommodated within Fergana City. Worker accommodation will generally be provided within the Project site (outside the working area, but within the Project's landholding) for non-local personnel requiring temporary accommodation. Locally recruited workers residing in Fergana City and the surrounding communities will commute daily from their homes and will not be accommodated on-site. A limited number of specialist personnel may also be accommodated in existing commercial accommodation within Fergana City where appropriate. In addition, the Project may attract opportunistic job seekers seeking employment with the Project or its contractors.

The temporary influx of workers and job seekers, particularly during periods of peak workforce mobilisation, may place additional demand on local accommodation, transport, retail services and other community infrastructure. Increased interaction between workers and neighbouring communities may also place pressure on local services and contribute to changes in community dynamics. Although the Project forms part of the wider Fergana Eco City development, concurrent construction activities may further increase demand on local infrastructure and services through cumulative workforce movements.

The socio-economic baseline indicates that the Project is located adjacent to established residential Mahallas comprising approximately 3,148 households and 3,848 families, with residential areas characterised predominantly by single-family housing. While on-site worker accommodation will reduce reliance on local housing, the proximity of surrounding communities increases the potential for interaction between workers, opportunistic job seekers and local residents. However, household survey findings indicate that concerns relating to workforce influx are currently limited, with 96% of respondents reporting that they were not concerned about the potential influx of construction workers. Although current community perceptions are positive, these may change during periods of peak workforce mobilisation if workforce movements and community interactions are not effectively managed.

Management measures relating to workforce planning, worker accommodation, labour management, workforce mobilisation and demobilisation, and contractor management will be implemented throughout the construction period in accordance with the principles of IFC Performance Standard 2, IFC Performance Standard 4, EBRD Performance Requirements 2 and 4, and the IFC/EBRD Workers' Accommodation: Processes and Standards. Stakeholder engagement will be undertaken to communicate recruitment processes, workforce-related activities and temporary construction arrangements to neighbouring communities. An accessible community grievance mechanism will be maintained throughout the construction period to enable workforce-related concerns to be raised and addressed in a timely manner.

Given that most workers are expected to be recruited locally and worker accommodation will be provided on-site where required, the potential impacts associated with workforce influx are expected to be of a low negative significance following the implementation of the proposed mitigation measures.

17.5.2.4 Increased Community Expectations and Grievances

The commencement of construction and recruitment activities is likely to increase community expectations regarding employment, procurement and other Project-related opportunities. As workforce mobilisation progresses, the arrival of specialist workers from outside the Project area and opportunistic job seekers may further heighten community interest in the Project and increase scrutiny of recruitment and procurement practices.

Where local communities perceive that employment or business opportunities are being allocated unfairly, or where Project benefits differ from expectations, dissatisfaction and community grievances may arise. Perceptions that non-local workers are being prioritised over suitably qualified local residents may undermine community trust, contribute to tension between workers and neighbouring communities, and affect the Project's social licence to operate.

Management measures relating to stakeholder engagement, information disclosure, transparent recruitment and procurement processes, and contractor management will be implemented in accordance with the principles of IFC Performance Standard 1 and EBRD Performance Requirement 10. Regular communication will be undertaken throughout the construction period to provide accurate information on recruitment requirements, procurement opportunities and Project activities. An accessible Project grievance mechanism will be maintained to ensure community concerns are addressed in a timely, transparent and culturally appropriate manner. With the implementation of the proposed management measures, the significance of the impact is expected to be of a low negative significance.

17.5.2.5 Increase in Anti-Social Behaviour

The temporary presence of construction workers, together with opportunistic job seekers attracted to the Project, may increase interactions with neighbouring communities during the three-year construction period. If not appropriately managed, these interactions have the potential to contribute to anti-social behaviour, including public nuisance, alcohol and substance abuse, harassment, vandalism and conflicts with the local residents. Such behaviour could affect community safety, social cohesion and the relationship between the Project and neighbouring communities.

Although most of the workforce is expected to be recruited locally, a limited number of specialist personnel may be sourced from outside the area and accommodated on-site or in Fergana City. The presence of workers with disposable income may increase demand for local goods and services and could contribute to transactional sex, gender-based violence (GBV), public disturbances and other forms of anti-social behaviour. Such behaviours are not limited to non-local workers, with increased disposable income among locally employed workers potentially contributing to alcohol or substance abuse and associated family or community conflict. Women, children and other vulnerable groups may be disproportionately affected by these risks.

To minimise these risks, the Project will implement and enforce a Worker Code of Conduct applicable to all employees and contractors. All workers will receive induction and refresher training covering expected standards of behaviour, respect for local customs, prevention of GBV/sexual exploitation, abuse (SEA) and sexual harassment (SH), alcohol and substance abuse, and appropriate interaction with local communities. Temporary worker accommodation will be managed through controlled access, appropriate supervision and visitor management procedures. A disciplinary process will be implemented for breaches of the Code of Conduct, while worker and community grievance mechanisms will enable concerns to be reported and addressed promptly. Ongoing stakeholder engagement will be undertaken with neighbouring communities throughout the construction period. With the

implementation of these measures, the potential for anti-social behaviour and associated community safety risks is expected to be of a low negative significance.

17.5.2.6 Increase risk of Transmissible Diseases

The increased interaction between construction workers, opportunistic job seekers and neighbouring communities, together with the potential for anti-social behaviour and transactional sex, may increase the risk of transmission of sexually transmitted infections (STIs), including HIV, during the construction period. Similar risks have been identified on large construction projects where temporary workforces interact with surrounding communities, particularly where mobility and disposable income increase opportunities for high-risk sexual behaviour (Weine & Kashuba, 2012) and (Mutie, et al., 2024)

Women and girls, particularly those from economically vulnerable households, may face an increased risk of engaging in transactional relationships, increasing their vulnerability to sexually transmitted infections, unintended pregnancies and associated social and economic impacts. The movement of truck drivers, suppliers, and other transient workers through the Project area may further contribute to these risks due to their frequent mobility and interactions with multiple communities.

To minimise these risks, the Project will implement HIV/AIDS and STI awareness and prevention programmes for all workers, including education on safe sexual practices, GBV and SEA/SH prevention, and access to appropriate health information and services. Awareness initiatives should be undertaken in collaboration with local health authorities and community organisations where appropriate. The Project will also enforce a Worker Code of Conduct, maintain worker and community grievance mechanisms, and implement measures to prevent and respond to incidents of GBV and SEA/SH throughout the construction period. With the implementation of these measures, the impact of increased risk of transmissible disease is expected to be of a low negative significance.

17.5.2.7 Community Health and Safety

Construction activities will involve heavy machinery, cranes, lifting operations, temporary work areas, excavations and the movement of construction materials, increasing the potential for interaction between construction activities and neighbouring communities. Given the Project's location within the developing Fergana Eco City, adjacent to residential areas, community facilities, and Fergana International Airport, members of the public may be exposed to construction-related hazards if these activities are not effectively planned and managed.

Potential risks include unauthorised access to the construction site, exposure to open excavations, falling objects, construction plant and equipment, and other site hazards that may result in injury to members of the public. Vulnerable groups, including children, older persons and people with disabilities, may be more susceptible to these risks due to reduced mobility or a limited ability to recognise and avoid construction hazards. These risks are expected to be greatest during periods of peak construction activity when multiple work fronts are operating simultaneously.

Management measures relating to site security, access control, construction planning, hazard identification, emergency preparedness and response, signage, fencing and public safety will be implemented throughout the construction period in accordance with the principles of IFC Performance Standard 4, EBRD Performance Requirement 4, and the IFC General Environmental, Health and Safety Guidelines. Stakeholder engagement will be undertaken to communicate planned construction activities, temporary restrictions and safety requirements to neighbouring communities, while an accessible Project grievance mechanism will be maintained to ensure community health and safety concerns are

addressed promptly. With the implementation of the proposed management measures, the health and safety impact is expected to be low negative.

17.5.2.8 Increased Nuisance Impacts

Construction activities, including site clearance, earthworks, excavation, piling, material handling, concrete works and the operation of construction plant and equipment, will generate temporary noise, vibration, dust and artificial lighting throughout the construction period. Increased vehicle movements associated with the transport of materials and equipment may also contribute to dust generation and elevated noise levels.

These activities may temporarily affect the amenity of neighbouring residential areas, businesses and community facilities through increased noise, reduced air quality, vibration and visual disturbance. Given the Project's location within a mixed-use area comprising residential neighbourhoods, community facilities and ongoing Eco City development, cumulative construction activities may increase the frequency and duration of nuisance experienced by nearby receptors. While these impacts will be temporary and largely confined to the construction period, they may affect daily activities, outdoor amenity and the general quality of the surrounding environment, particularly for receptors located closest to the Project site.

Management measures relating to dust suppression, noise and vibration management, construction scheduling, plant and equipment maintenance, housekeeping and environmental monitoring will be implemented throughout the construction period in accordance with the principles of the IFC General Environmental, Health and Safety Guidelines and EBRD Performance Requirement 4. Stakeholder engagement will be undertaken to communicate planned high-impact construction activities to neighbouring communities and businesses, while an accessible Project grievance mechanism will be maintained to ensure nuisance-related concerns are addressed in a timely manner. With suitable mitigation the increased nuisance impacts are expected to be of moderate negative significance.

17.5.2.9 Temporary Disruption to Community Access and Business Activities

Construction of the Project will increase the movement of heavy goods vehicles, construction equipment and light vehicles along the surrounding road network and internal access roads. Vehicle movements will vary throughout the construction period depending on the phasing of works, delivery schedules and workforce mobilisation

The Project is located within a mixed-use area comprising residential neighbourhoods, industrial developments and community facilities and forms part of the wider Fergana Eco City development. As development within the Eco City progresses, cumulative construction activities may place additional pressure on the local road network.

Increased traffic volumes, together with the transportation of oversized equipment and materials, may temporarily disrupt access to neighbouring residential areas, businesses and community facilities. Temporary lane closures, traffic diversions, reduced travel speeds, and congestion may inconvenience road users, affect business accessibility, and disrupt pedestrian and vehicular movement. These impacts are expected to be most noticeable during periods of intensive construction and the delivery of large equipment.

Management measures relating to traffic management, road maintenance, access management, vehicle scheduling, signage and the maintenance of safe pedestrian and vehicle access will be implemented throughout the construction period in accordance with the IFC General Environmental, Health and Safety Guidelines and EBRD Performance Requirement 4. Stakeholder engagement will be undertaken to communicate planned construction activities, traffic disruptions and temporary access restrictions to affected communities and businesses. An accessible Project grievance mechanism will be

maintained to enable concerns relating to access and construction activities to be raised and addressed in a timely manner, consistent with the principles of IFC Performance Standard 1 and EBRD Performance Requirement 10. With the implementation of the proposed management measures, the impact is expected to be of moderate negative significance.

17.5.2.10 Temporary Disruption to Airport Operations and Aviation Safety

The Project is located adjacent to Fergana International Airport, requiring construction activities to be carefully planned and coordinated to avoid interference with ongoing airport operations. Construction activities, including the use of cranes, lifting equipment, tall construction plant and temporary lighting, have the potential to affect aviation safety if not appropriately managed. Earthworks and excavation may also generate dust, which, particularly during dry and windy conditions, could reduce visibility in the immediate vicinity of the airport.

If not effectively managed, these activities could result in temporary operational restrictions, changes to construction scheduling or other measures necessary to maintain aviation safety. Given the strategic importance of Fergana International Airport as a regional transport hub, maintaining safe and uninterrupted airport operations throughout the construction period is essential.

Management measures relating to construction planning, crane and height management, aviation safety procedures, construction lighting, dust suppression and ongoing coordination with the airport operator and relevant aviation authorities will be implemented throughout the construction period in accordance with the principles of IFC Performance Standard 4, EBRD Performance Requirement 4, the IFC General Environmental, Health and Safety Guidelines, and applicable national aviation requirements. Regular engagement with the airport operator and relevant authorities will be maintained to coordinate construction activities, communicate planned works and promptly address any operational concerns. With the implementation of the proposed management measures, the temporary disruption to airport operations and aviation safety is expected to be of low negative significance.

17.5.2.11 Occupational health and safety risks to workers

IFC Performance Standard 2 recognises that construction activities can expose workers to a range of occupational health and safety risks and requires Projects to provide safe and healthy working conditions throughout the project lifecycle. The construction of the Project is a large and complex undertaking involving multiple contractors, heavy construction plant, lifting operations, excavation, work at height and the simultaneous execution of several construction activities. Without effective health and safety management, these activities could result in occupational injuries, illnesses, and fatalities, affecting worker well-being, Project productivity, and construction performance.

The principal occupational health and safety risks associated with the construction phase include:

- Physical hazards: Exposure to heavy machinery, cranes, lifting operations, moving vehicles, falling objects, excavations, work at height, slips, trips and falls, which may result in serious injury or fatality.
- Dust and chemical exposure: Exposure to construction dust, fuels, lubricants, paints, solvents, welding fumes and other hazardous substances that may result in respiratory, dermatological or other occupational health effects if not appropriately controlled.
- Electrical and fire hazards: Exposure to temporary electrical installations, energised equipment, hot works and combustible materials, increasing the risk of electric shock, burns and fire-related incidents.

- Noise and vibration: Prolonged exposure to elevated noise and vibration generated by construction equipment and machinery, which may result in hearing impairment, fatigue or other occupational health effects.
- Ergonomic hazards: Manual handling, repetitive activities, awkward working postures and the movement of heavy materials may contribute to musculoskeletal injuries and cumulative physical strain.
- Psychosocial risks: Fatigue, stress, extended working hours, shift work, and interactions within a diverse workforce may affect worker well-being, concentration, and overall safety performance.

Management measures relating to occupational health and safety management, hazard identification and risk assessment, contractor management, permit-to-work systems, induction and competency training, supervision, emergency preparedness and response, incident reporting and investigation, and the provision and use of appropriate personal protective equipment (PPE) will be implemented throughout the construction period in accordance with the principles of IFC Performance Standard 2, EBRD Performance Requirement 2, and the IFC General Environmental, Health and Safety Guidelines. Contractors will be required to implement site-specific health and safety procedures, undertake routine inspections and monitoring, and promote a proactive safety culture throughout the workforce. With the implementation of the proposed management measures, the occupational health and safety risks to workers are expected to be of a moderate negative significance.

Table 17-24 Summary of Construction Impacts, Mitigation and Management Measures

Potential Impacts	Magnitude of impact	Receptor	Sensitivity	Impact Significance	Residual impact
Capital investment contributing to the national, regional and local economy	Moderate	National economy, regional economy, local businesses, contractors and suppliers	High	Moderate Positive	Moderate Positive
Increased employment opportunities	Moderate	Local workforce, job seekers, contractors	High	Moderate Positive	Moderate Positive
Workforce Influx	Moderate	Neighbouring communities, workers, local service providers, Fergana City municipality (Hokimiyat)	Medium	Moderate	Negligible
Increased community expectation and grievance	Moderate	Neighbouring communities, job seekers, and local businesses	Medium	Moderate	Negligible
Increase in antisocial behaviour	Moderate	Neighbouring communities, vulnerable groups, workers	Medium	Moderate	Negligible

Potential Impacts	Magnitude of impact	Receptor	Sensitivity	Impact Significance	Residual impact
Increased risk of transmissible diseases	Minor	Workers, neighbouring communities, vulnerable groups	Medium	Minor	Negligible
Community health and safety	Moderate	Neighbouring communities, pedestrians, road users, airport users	Medium	Moderate	Negligible
Increased nuisance impacts	Major	Neighbouring communities, businesses, community facilities	High	Major	Moderate
Temporary disruption to community access and business activities	Moderate	Neighbouring communities, businesses, road users	Medium	Moderate	Negligible
Temporary disruption to airport operations and aviation safety	Moderate	Airport operator, airport users, aviation authorities	Medium	Moderate	Negligible
Occupational health and safety risks to workers	Minor	Workers, contractors, subcontractors	Low	Minor	Negligible

<u>Mitigations to manage capital investment contributing to the national, regional and local economy</u>

- Procure goods and services from national, regional and local suppliers where feasible.
- Advertise procurement opportunities through transparent procurement processes.
- Encourage participation of local businesses and SMEs.
- Monitor local procurement performance throughout construction.

<u>Mitigations to manage increased employment opportunities</u>

- Establish and implement transparent and fair recruitment procedures.
- Prioritise local employment where suitably qualified candidates are available.
- Communicate employment opportunities, recruitment criteria and recruitment timeframes.
- Monitor workforce composition and local employment.

<u>Mitigation to manage workforce influx</u>

- Establish and implement a Labour and Workforce Management Plan.
- Provide and manage temporary on-site worker accommodation.
- Implement phased workforce mobilisation and demobilisation.
- Engage with neighbouring communities on workforce-related activities.
- Develop and implement worker and community grievance mechanisms.

<u>Mitigations increased community expectation and grievance</u>

- Develop and implement a Stakeholder Engagement Plan (SEP).

Potential Impacts	Magnitude of impact	Receptor	Sensitivity	Impact Significance	Residual impact
• Communicate recruitment processes, procurement opportunities and Project implementation schedules prior to construction activities. • Manage community expectations through timely disclosure of Project information. <u>Mitigations to manage increase in antisocial behaviour</u> • Establish, implement and enforce a Worker Code of Conduct. • Provide worker induction and awareness training on appropriate behaviour, GBV/SEA/SH prevention and respect for neighbouring communities. • Manage worker accommodation and site security. • Establish and maintain worker and community grievance mechanisms. • Investigate and address reported incidents promptly. <u>Mitigations to manage increased risk of transmissible diseases</u> • Establish and implement workforce and community health awareness programmes. • Implement HIV/STI awareness and prevention initiatives. • Integrate health awareness into worker induction and training. • Provide access to condoms and sexual health information for workers. • Coordinate with local health authorities on disease prevention initiatives. <u>Mitigations to manage increased nuisance from construction activities</u> • Establish and implement a Construction Environmental Management Plan. • Implement dust, noise and vibration control measures. • Schedule high-impact construction activities to minimise disturbance where practicable. • Monitor environmental performance and respond to community complaints. <u>Mitigations to manage temporary disruption to community access and business activities</u> • Establish and implement a Traffic Management Plan. • Maintain safe pedestrian and vehicle access throughout construction. • Notify affected communities and businesses of planned road closures, traffic diversions and access restrictions prior to implementation. • Maintain and reinstate any Project-related damage to public roads in consultation with the relevant road authority. <u>Mitigations to manage temporary disruption to airport operations and aviation safety</u> • Establish and implement an Airport Interface Management Plan. • Coordinate construction activities with the airport operator and relevant aviation authorities. • Comply with approved aviation height restrictions and safeguarding requirements. • Control construction lighting and dust generation to minimise impacts on airport operations. <u>Mitigations to manage occupational health and safety risks to workers</u> • Establish and implement an Occupational Health and Safety Management Plan. • Undertake task-specific risk assessments prior to commencing work. • Provide appropriate training, supervision and personal protective equipment (PPE). • Conduct routine workplace inspections and incident investigations. • Establish and implement emergency preparedness and response procedures					

17.5.3 Operation Phase

The following section outlines the anticipated social impacts during the operation phase. The impacts related to the operational phase are assessed in Table 17-25.

17.5.3.1 Improved Access to Healthcare Services

Consolidation of healthcare facilities

The Project is being developed with potential context of potential consolidation of existing healthcare institutions within the Fergana Region. At the time of preparation of this ESIA, the proposed consolidation arrangements, including the institutions that may ultimately be affected, the timing of any changes, and the implications for existing staff and patients, have not been formally confirmed by the MoH. The MoH is expected to undertake further assessment and confirm the future configuration of healthcare services, potentially by mid-2027. Accordingly, the potential impacts described below are considered at a high level and should not be interpreted as confirmation that closures, workforce reductions or other service changes will occur.

If healthcare service consolidation is subsequently confirmed, the social implications are expected to relate to: (i) clinical workers; (ii) non-clinical workers; and (iii) continued access to healthcare services, particularly for patients and vulnerable groups.

Clinical workers: Consolidation of healthcare services may result in changes to the organisation, location and staffing requirements of clinical services. Depending on the final service configuration, some clinical personnel may be transferred or redeployed to the new hospital or other healthcare facilities, while others may be subject to changes in their roles, working arrangements or employment locations. Consolidation may also create opportunities for clinical staff through access to improved facilities, specialist services, professional development and training. Conversely, uncertainty regarding future staffing arrangements may create concerns among affected workers relating to job security, changes in duties, commuting requirements, working conditions and career progression. The scale and significance of these potential impacts cannot be determined until the MoH has completed its assessment and confirmed the future healthcare service configuration.

Non-clinical workers: The potential consolidation may have more significant implications for certain categories of non-clinical personnel where functions are duplicated across existing facilities and can be centralised or streamlined. Depending on the final organisational structure, this could result in opportunities for transfer, redeployment and retraining, but may also result in redundancy or retrenchment for personnel whose positions are no longer required. Potential impacts may include loss of employment and income, changes in working location, increased commuting distances, changes in employment terms and conditions, and the need to acquire new skills. These impacts may be particularly significant for workers who have limited alternative employment opportunities or whose household incomes are highly dependent on their employment. Any confirmed workforce restructuring associated with consolidation should therefore be subject to further assessment and managed in accordance with applicable national requirements and relevant international labour standards, including requirements relating to information and consultation, non-discrimination, fair treatment, notice, severance and access to appropriate support measures.

Access to healthcare services: Consolidation could have both positive and negative implications for patients and communities. In the longer term, centralisation of specialised services within a modern tertiary healthcare facility may improve the quality, range and capacity of healthcare services, strengthen referral pathways and provide access to services that are currently distributed across several facilities. This would be consistent with the Project's objective of strengthening regional healthcare capacity. The Project is expected to

provide an 800-bed tertiary healthcare facility and could therefore substantially increase the availability of specialised healthcare services in the Region.

However, the transition to a consolidated healthcare model could also create temporary or localised barriers to healthcare access, particularly if existing facilities are closed, services are relocated or patients are required to travel further to access certain services. Potential concerns may include increased travel distances and transport costs, disruption to established referral arrangements, longer waiting times during the transition period, and difficulties for patients who are accustomed to receiving services at existing facilities. These risks may be particularly relevant for vulnerable groups, including older persons, persons with disabilities, low-income households, people with limited mobility, patients requiring frequent or specialised treatment, and communities with more limited access to public transport.

The potential impacts on access to healthcare should therefore be assessed by the MoH as part of its consolidation assessment, with particular attention to whether essential services remain geographically and financially accessible to affected populations. The assessment should consider service capacity, patient numbers, referral pathways, transport accessibility, continuity of care and the needs of vulnerable groups before any significant changes to existing healthcare provision are implemented.

At this stage, the potential implications of consolidation remain uncertain and are not considered sufficiently defined to support a definitive impact significance rating. Once the MoH has completed its assessment and confirmed the proposed healthcare service configuration, the Project Company and relevant authorities should undertake a more detailed assessment of the implications for affected workers and communities. Where workforce restructuring or retrenchment is confirmed, appropriate measures should be developed to avoid or minimise adverse impacts, including consideration of redeployment, skills development, retraining and other appropriate support measures. Where changes to existing healthcare facilities or services are proposed, measures should also be established to maintain continuity of essential healthcare services and equitable access for patients and vulnerable groups during the transition.

The potential consolidation should therefore be treated as a developing social issue requiring monitoring and further assessment, rather than as a confirmed Project impact at the current stage.

The need for the proposed development

The operation of the proposed Fergana Eco City Regional Hospital will provide modern tertiary healthcare services to residents of Fergana City, the wider Fergana Region and surrounding areas. As an 800-bed tertiary healthcare facility, the Project will expand the availability of specialised diagnostic, treatment and emergency medical services, strengthen regional healthcare capacity and improve access to advanced medical care.

The socio-economic baseline indicates that healthcare demand in the Fergana Region is high, driven by a growing population, a significant burden of NCDs, high patient utilisation rates, and comparatively limited hospital bed capacity. Although the Region is served by an established network of public and private healthcare facilities, there is a need to strengthen healthcare infrastructure and expand access to specialised tertiary healthcare services. Healthcare provision within the study area is also limited, with only three medical facilities and one pharmacy serving the surrounding Mahallas. Chekshura Mahalla has no medical or pharmaceutical facilities, requiring residents to travel elsewhere to access routine healthcare services.

By increasing the availability of specialised tertiary healthcare services, the Project has the potential to improve access to healthcare, reduce travel distances and waiting times for patients requiring specialist treatment, strengthen referral pathways and contribute to

improved health outcomes and quality of life. The hospital will also enhance the resilience of the regional healthcare system by increasing healthcare capacity and supporting the delivery of both routine and emergency medical services.

The hospital will operate in accordance with applicable national healthcare legislation and internationally recognised healthcare standards. Ongoing monitoring of service delivery, patient safety, and quality of care, together with patient feedback mechanisms, will support the continuous improvement of healthcare services throughout the Project's operational life. Given that the primary purpose of the Project is to improve access to specialised healthcare services and strengthen regional healthcare capacity, the operational impact is considered to be Major Positive.

17.5.3.2 Equitable Access to Healthcare Services

The operation of the proposed Fergana Eco City Regional Hospital has the potential to substantially improve access to specialised tertiary healthcare services for residents of Fergana City, the wider Fergana Region and surrounding areas. However, the extent to which these benefits are realised will depend on equitable access to the services provided by the hospital.

The socio-economic baseline identified increasing healthcare demand associated with a growing population, a high burden of non-communicable diseases and comparatively limited regional hospital bed capacity. While the Project will significantly strengthen regional healthcare infrastructure, demand for specialised healthcare services is also expected to increase over time. Ensuring that services remain accessible to all segments of the population will be important to maximising the long-term social benefits of the Project.

Potential barriers to equitable access may include referral requirements, affordability of certain healthcare services, transport availability for rural communities, physical accessibility for persons with disabilities, language or communication barriers, and the hospital's capacity to accommodate increasing patient demand. If these barriers are not appropriately managed, some individuals or vulnerable groups may experience unequal access to the specialised healthcare services provided by the Project.

The hospital operator will implement patient admission and referral procedures consistent with national healthcare requirements, ensure that hospital facilities are accessible to persons with disabilities, provide clear patient information, establish patient feedback and stakeholder engagement mechanisms, and maintain an accessible grievance mechanism to receive and address concerns relating to healthcare access and service delivery. Continuous monitoring of patient demand, service utilisation and patient satisfaction will support the ongoing improvement of healthcare service delivery. Given the significant improvement in regional healthcare capacity that the Project will provide, together with the commitment to equitable and inclusive healthcare delivery, the operational impact is considered to be Major Positive.

17.5.3.3 Long-term Employment and Economic Benefits

The operation of the proposed Fergana Eco City Regional Hospital will create permanent employment opportunities and generate sustained economic activity through the ongoing delivery of healthcare services. The hospital will require a diverse workforce comprising medical practitioners, nursing staff, allied health professionals, administrative personnel, facility management staff, security personnel, cleaners, maintenance personnel and other support staff. Fergana Region benefits from an established healthcare education system, led by the Fergana Medical Institute of Public Health and supported by vocational institutions that train nurses, midwives and allied health professionals. The existing healthcare workforce comprises approximately 24.5 physicians and 56.4 secondary medical personnel per 10,000 population, indicating a well-developed regional healthcare sector. While the

Region has an established healthcare workforce and education system, publicly available information does not indicate the number of suitably qualified clinical and non-clinical personnel currently available for recruitment. Consequently, the extent to which the hospital's operational workforce requirements can be met through local recruitment alone remains uncertain. Where specialist skills are unavailable locally, recruitment from other regions may be required. Nevertheless, the Project presents an opportunity to strengthen regional healthcare capacity through graduate recruitment, professional development, on-the-job training and skills transfer, thereby contributing to the long-term sustainability of the regional healthcare sector.

In addition to direct employment, the operation of the hospital will generate continuous demand for goods and services, including pharmaceuticals, medical consumables, catering, cleaning, maintenance, security, waste management, utilities and other operational support services. The socio-economic baseline indicates that Fergana City has an established labour force and business sector capable of supporting the operational requirements of the hospital. The city accommodates more than 5,500 registered businesses across a range of sectors, while the surrounding Mahallas support smaller local enterprises that provide retail, catering, and other services. These businesses may benefit from the increased demand generated by hospital employees, patients and visitors, as well as procurement opportunities associated with the ongoing operation of the facility. For example stakeholder engagement indicate that many women possess tailoring, sewing and garment-making skills, presenting opportunities for local enterprises and women-led businesses to participate in the Project's supply chain through the provision of staff uniforms, hospital linen and other non-clinical textile products, subject to meeting the required quality, technical and procurement standards.

The creation of permanent employment opportunities, together with continued expenditure on goods and services, has the potential to strengthen household incomes, support local businesses and contribute to long-term economic development within Fergana City and the wider Region. The Project may also contribute to developing healthcare skills and professional capacity, thereby supporting the long-term sustainability of the regional healthcare sector.

The hospital operator will implement transparent recruitment and procurement processes, prioritise local employment and procurement where suitably qualified personnel and suppliers are available, and provide ongoing training and professional development opportunities for employees. Given the long-term nature of these employment and economic benefits, the operational impact is considered to be of a moderate positive significance.

17.5.3.4 Community health and safety

IFC Performance Standard 4 recognises that projects should avoid or minimise risks to the health, safety and security of affected communities arising from project activities. The operation of the proposed Fergana Eco City Regional Hospital will result in the daily movement of patients, visitors, employees, contractors, and service providers, as well as the operation of healthcare facilities and associated support services. Appropriate operational controls will therefore be required to protect hospital users and neighbouring communities.

The principal community health and safety risks associated with hospital operations include:

- Public access and security: The hospital will receive a high volume of patients, visitors and service providers, requiring effective management of public access, security and visitor movements to maintain a safe environment.
- Patient and visitor safety: The daily operation of the hospital will require the safe management of pedestrian movements, vehicle circulation and public areas to minimise safety risks for patients, visitors and neighbouring communities.

- Emergency preparedness and response: The hospital will be required to maintain effective emergency preparedness and response procedures to manage incidents such as fires, medical emergencies, security incidents and other events that may affect patients, visitors, employees and neighbouring communities.
- Healthcare waste management: Hospital operations will generate healthcare waste, including infectious, pathological, pharmaceutical and sharps waste. If not appropriately segregated, handled, stored, transported, and disposed of, these waste streams could pose health and safety risks to workers, waste handlers, neighbouring communities, and the environment.

Management measures relating to community health and safety, healthcare waste management, security management, emergency preparedness and response, visitor management and operational procedures will be implemented throughout the operational phase in accordance with the principles of IFC Performance Standard 4, EBRD Performance Requirement 4, and the IFC General Environmental, Health and Safety Guidelines. The hospital operator will establish and maintain stakeholder engagement and an accessible community grievance mechanism to ensure community concerns are addressed promptly. Overall, with mitigation, the impact is considered to be of a negligible significance.

Table 17-25 Summary of Operation Impacts, Mitigation and Management Measures

Potential Impacts	Identification of Impact	Magnitude	Receptor	Sensitivity	Impact Significance	Residual Impacts
Improved access to healthcare services	Direct positive	Major	Patients, neighbouring communities, Fergana City, and the Fergana Region population	Medium	Major Positive	Major Positive
Equitable access to healthcare services	Direct positive	Major	Patients, vulnerable groups	High	Major Positive	Major Positive
Long-term employment and economic benefits	Direct positive	Moderate	Local workforce, local businesses, suppliers, service providers	Medium	Moderate Positive	Moderate Positive
Community health and safety	Direct negative	Minor	Patients, visitors, employees, neighbouring communities	Low	Negligible	Negligible
<u>Management measures for improved access to healthcare services</u> • Operate the hospital in accordance with applicable national healthcare legislation and recognised healthcare standards. • Provide specialised tertiary healthcare services to meet regional healthcare needs. • Monitor service delivery, patient safety and quality of care to support continual improvement. • Establish and maintain patient feedback mechanisms.						

Potential Impacts	Identification of Impact	Magnitude	Receptor	Sensitivity	Impact Significance	Residual Impacts
<u>Mitigation measures for equitable access to healthcare services</u> • Establish transparent patient admission and referral procedures. • Ensure healthcare services and facilities are accessible to persons with disabilities and other vulnerable groups. • Provide clear and accessible information on available healthcare services, eligibility and referral requirements. • Promote equitable access to healthcare services, including affordability where applicable under the national healthcare system. • Establish and maintain patient feedback and community grievance mechanisms to identify and address barriers to healthcare access. <u>Management measures for long-term employment and economic benefits</u> • Undertake workforce planning and skills assessment prior to operation to assess the availability of suitably qualified clinical and non-clinical personnel within Fergana Region and identify any critical skills gaps. • Collaborate with regional healthcare education institutions, including the Fergana Medical Institute of Public Health and vocational training institutions, to promote graduate recruitment, internships and work-integrated learning opportunities. • Implement transparent and non-discriminatory recruitment procedures. • Prioritise local employment and procurement where suitably qualified personnel and suppliers are available to maximise socio-economic benefit for surrounding communities. • Promote opportunities for women-owned enterprises and local women's producer groups through the procurement of goods and services. This should include consideration of local textile and garment manufacturers and women engaged in tailoring and clothmaking to supply hospital uniforms, linen and other non-clinical textile products, where they meet the required quality, technical and procurement standards. • Promote workforce development through ongoing training and professional development. • Monitor local employment and procurement performance throughout the operation. <u>Mitigation for community health and safety</u> • Establish and implement a Community Health and Safety Management Plan. • Implement access control, visitor management and site security procedures. • Implement healthcare waste management procedures to protect workers, neighbouring communities and the environment. • Maintain emergency preparedness and response procedures. • Establish and maintain stakeholder engagement and an accessible community grievance mechanism.						

17.6 Monitoring

Social performance monitoring will be undertaken throughout the construction and operational phases to verify the effectiveness of the proposed mitigation and enhancement measures, identify unforeseen impacts and support adaptive management where required. Monitoring will be integrated into the Project's Environmental and Social Management System (ESMS) and undertaken in accordance with applicable national legislation, IFC Performance Standards, and EBRD Performance Requirements. The key social monitoring requirements are summarised in Table 17-26.

Table 17-26 Monitoring Indicators

Monitoring	Parameter	Frequency & Durations	Monitoring Location	Responsibility
Construction				
Local employment and procurement	• Number and % of local workers employed • Number and % of local businesses contracted • Value of procurement awarded to local suppliers	Monthly throughout construction	Employment and procurement records	EPC Contractor
Workforce influx	• Total workforce numbers (local vs non-local) • Occupancy of worker accommodation • Number of workforce-related community complaints	Monthly throughout construction	Construction site and surrounding communities	EPC Contractor
Community grievances	• Number of grievances received • % of grievances resolved within the prescribed timeframe • Average grievance resolution time	Monthly throughout construction	Community grievance register	EPC Contractor
Community health and safety	• Number of community health and safety incidents • Number of security incidents • Number of community health and safety complaints • Number of emergency incidents affecting the public	Monthly throughout construction	Project site and surrounding communities	EPC Contractor
Traffic, road safety and access	• Number of traffic incidents and near misses • Number of traffic-related community complaints • Driver compliance with approved speed limits • Compliance with the Traffic Management Plan • Number of traffic related complaints	Ongoing throughout construction	Project access routes	EPC Contractor
Nuisance impacts	• Number of noise, dust and vibration complaints • Dust suppression records • Compliance with approved working hours	Monthly throughout construction	Surrounding communities and Fergana Airport	EPC Contractor

Monitoring	Parameter	Frequency & Durations	Monitoring Location	Responsibility
Airport operations and aviation safety	• Number of aviation-related incidents or complaints • Compliance with aviation permit conditions • Crane and lighting compliance records	Ongoing throughout construction	Project site and airport interface	EPC Contractor
Occupational health and safety	• Total Recordable Injury Frequency Rate (TRIFR) • Number of near misses • Number of fatalities • PPE compliance • Safety training undertaken	Monthly throughout construction	Construction site	EPC Contractor
Operation				
Healthcare service delivery	• Patient satisfaction levels • Number of patient complaints • Average patient waiting times • Hospital bed occupancy rates	Quarterly throughout the operation	Hospital	Hospital Operator
Equitable access to healthcare	• Number of accessibility complaints • Number of grievances relating to healthcare access • Patient satisfaction by service type • Number of vulnerable patients assisted	Quarterly throughout the operation	Hospital	Hospital Operator
Local employment and procurement	• Number and % of local employees • Number and % of local suppliers • Value of procurement awarded locally	Annually	Hospital	Hospital Operator
Community health and safety	• Number of community complaints • Number of security incidents • Number of emergency response incidents • Number of healthcare waste incidents affecting the community	Quarterly throughout the operation	Hospital	Hospital Operator

18 Community Health and Safety

18.1 Applicable Standards and Regulatory Requirements

18.1.1 National Regulations

18.1.1.1 Constitution of the Republic of Uzbekistan (1992, as amended in 2023)

The constitution of the Republic of Uzbekistan lays out an array of constitutional rights, entitlements and duties pertaining to public health and safety, and access to judicial remedies for criminal offences. Key articles in this connection include the following:

- Article 25 states “The right to life is an inalienable right of every human being and shall be protected by law”.
- Article 26 states “Human honour and dignity are inviolable. Nothing may be a basis for their derogation. No one shall be subjected to torture, violence or other cruel, inhumane, or degrading treatment or punishment.
- Article 27 states “Arrest, commitment, and confinement are allowed only by a court decision. Without a court decision, a person may not be detained for more than forty-eight hours”.
- Article 40 states “Everyone shall have the right to a favourable environment, reliable information about its condition.
- Article 48 states “Everyone shall have the right to health and qualified medical care”.
- Article 55 states “Everyone shall be entitled to legally defend his/her rights and freedoms and shall have the right to appeal any unlawful decisions, acts and omissions of State bodies and other organizations, their officials”.

18.1.1.2 Legal and Regulatory Framework on Gender-Based Violence in Uzbekistan

The legal framework of Uzbekistan provides a progressively strengthening system for the prevention of gender-based violence (GBV), protection of women and children, and enforcement of criminal and administrative liability for domestic violence and related offences. This framework combines constitutional guarantees, criminal and administrative sanctions, and dedicated legislation on protection from harassment and violence.

Law on Protection of Women from Harassment and Violence (2019)

The Law of the Republic of Uzbekistan “On Protection of Women from Harassment and Violence” (2019) establishes the core legal basis for safeguarding women against all forms of harassment, oppression, and violence. The Law defines institutional responsibilities for preventing GBV and sets out mechanisms for the protection and support of survivors.

Although violence against women is addressed in the Criminal Code, earlier legal practice lacked detailed procedural guidance for the registration, investigation, and prosecution of GBV cases. This law addresses that gap by introducing clear procedures for law enforcement agencies and related state bodies to manage GBV cases effectively.

Key provisions include:

- Establishment of protection mechanisms, including protection orders;
- Mandatory provision of comprehensive support services to survivors, including medical, psychological, legal, social, and economic assistance;

- Preventive measures aimed at reducing risks of recurrence of violence;
- Strengthening of inter-agency coordination for GBV response.

Subsequent amendments to related legislation, including through Law No. ZRU-829 (2023), further strengthened institutional mechanisms for the protection of the rights, freedoms, and legitimate interests of women and children, and improved enforcement measures under the GBV framework.

Criminalization of Domestic Violence – Criminal Code (Article 126-1)

The Criminal Code of Uzbekistan includes Article 126-1, which criminalises domestic (family) violence. This provision defines domestic violence as acts such as intimidation, humiliation, isolation from relatives, obstruction of access to education, healthcare, employment, or property rights, and intentional damage to personal belongings within domestic or cohabiting relationships.

Where such acts cause harm or meet the threshold of criminal liability, perpetrators are subject to criminal sanctions, including fines and imprisonment depending on the severity of the offence and aggravating circumstances. This article represents a key advancement in explicitly recognising domestic violence as a criminal offence under national law.

Administrative Liability – Code of Administrative Responsibility (Article 59-2)

Article 59-2 of the Code of Administrative Responsibility establishes administrative liability for domestic (family) violence in cases where conduct does not meet the threshold of criminal prosecution.

This provision covers acts of psychological, economic, or physical violence within family or cohabiting relationships and imposes administrative penalties such as fines or administrative detention. It serves as an important preventive legal instrument, allowing early-stage intervention in cases of domestic abuse.

Together, Articles 126-1 of the Criminal Code and 59-2 of the Administrative Code form a dual-layer enforcement mechanism ensuring both preventive and punitive responses to domestic violence.

Law No. ZRU-829 (2023) – Strengthening Protection of Women and Children

Law No. ZRU-829 (2023) introduced amendments to multiple legislative acts aimed at strengthening the protection of women's and children's rights. The law enhances the legal framework by:

- Improving the effectiveness of sanctions for crimes affecting women and children;
- Strengthening protection mechanisms and state guarantees;
- Expanding institutional responsibilities for prevention of violence and neglect;
- Enhancing the effectiveness and duration of protective orders.

This law reinforces the integration of GBV prevention measures across criminal, administrative, and social protection systems.

Resolution PP-3827 (2018) – Prevention and Social Rehabilitation System

Resolution No. PP-3827 (2018) establishes institutional measures to improve the prevention of domestic violence and strengthen the system of social rehabilitation and adaptation of survivors.

Key measures include:

- Development of rehabilitation and prevention systems for victims of domestic violence;

- Establishment of Centres for Rehabilitation and Adaptation under the Women's Committee;
- Strengthening psychosocial and legal support mechanisms;
- Establishment of a national emergency hotline (1146) providing psychological, legal, and crisis support services.

18.1.1.3 Other relevant legislation

The list of laws and decrees with broad provisions for the protection of public health, safety and security, and other human rights in the context of public wellbeing, includes:

- Decree No. 964 of 5 December 2017 on measures for improvement of the activity of self-government bodies aimed at ensuring employment, firstly for the youth and women
- The National Human Rights Strategy was approved by Presidential Decree on 22 June 2020. No. PD-6012
- Law on guaranteeing equal rights and opportunities for women and men (2019)
- The Law on mediation (2018)
- Law on public control (2018)
- Law on administrative procedures (2018)

18.1.2 Human Rights

Uzbekistan, as a member of the United Nations, is a signatory to key international human rights instruments, including the Universal Declaration of Human Rights (UDHR) and the Convention on the Elimination of All Forms of Discrimination against Women (CEDAW)[17], among other core UN treaties. These international commitments establish the foundation for the protection and promotion of fundamental human rights, equality, non-discrimination, and freedom from abuse and exploitation[18].

These obligations are progressively reflected in Uzbekistan's national legislative and institutional frameworks, which aim to safeguard civil, political, economic, social, and cultural rights. The Government of Uzbekistan has undertaken a series of reforms in recent years to strengthen the rule of law, improve access to justice, and enhance institutional mechanisms for the protection of vulnerable and at-risk groups, including women, children, and other marginalized populations.

In particular, significant progress has been made in strengthening the national framework for addressing gender-based violence (GBV), harassment, and exploitation. This includes the introduction and operationalization of targeted legal provisions and institutional mechanisms designed to prevent violence, ensure timely response, and provide comprehensive support services to survivors. These measures reflect an increased emphasis on victim protection, rehabilitation, and multi-sectoral coordination between law enforcement, health, and social protection services[19].

Collectively, these developments demonstrate Uzbekistan's ongoing commitment to aligning national systems with international human rights standards and improving institutional capacity to prevent and respond to human rights risks, including those related to GBV within broader social development contexts.

[17] https://treaties.un.org/pages/ViewDetails.aspx?src=TREATY&mtdsg_no=IV-8&chapter=4

[18] https://www.ohchr.org/en/universal-declaration-of-human-rights

[19] https://lex.uz/docs/4494712

18.1.3 Lenders Requirements

18.1.3.1 IFC Performance Standards and Good Practice Requirements

This section outlines the applicable international environmental and social standards relevant to Community Health, Safety and Security for the Project. IFC Performance Standard 4 (PS4) on Community Health, Safety and Security forms the primary requirement, supported by related World Bank and IFC guidance notes addressing Gender-Based Violence and Harassment (GBVH), Sexual Exploitation and Abuse/Sexual Harassment (SEA/SH), and security management. These frameworks collectively establish expectations for identifying, assessing, and managing risks to project-affected communities.

IFC Performance Standard 4: Community Health, Safety and Security[20]

IFC Performance Standard 4 establishes requirements to safeguard local communities from risks and impacts arising from project activities, including both routine operations and non-routine events. This includes risks associated with communicable disease transmission, site access, movement of materials, security arrangements, and operational hazards.

The key objectives of PS4 are:

- To anticipate and avoid adverse impacts on the health and safety of Affected Communities during the project life cycle.
- To ensure that the safeguarding of personnel and property is undertaken in accordance with relevant human rights principles and in a manner that avoids or minimises risks to Affected Communities.

PS4 also requires consideration of associated good practice guidance, including approaches to managing security risks and community health impacts.

World Bank Good Practice Note on SEA/SH in Investment Project Financing

The World Bank Good Practice Note (GPN) on Addressing Sexual Exploitation and Abuse and Sexual Harassment (SEA/SH) provides guidance for identifying, mitigating, and responding to SEA/SH risks in projects involving civil works.

The GPN is structured around three key implementation stages:

- **Risk Identification and Assessment**
  - Undertake social risk assessments, including community-level vulnerability analysis.
  - Assess the availability of safe and ethical survivor support services.
  - Evaluate institutional capacity to respond to SEA/SH risks.
  - Rate overall project SEA/SH risk using World Bank tools, including the SEA/SH Risk Assessment Tool.
  - Periodically update risk assessments during project implementation.
- **Mitigation, Reporting, and Monitoring Measures**
  - Define and implement SEA/SH mitigation measures proportionate to identified risks.
  - Strengthen prevention measures through contractor and workforce management.
  - Monitor effectiveness of mitigation measures and adjust as needed.

[20] https://www.ifc.org/en/insights-reports/2012/ifc-performance-standard-4

- Response to SEA/SH Cases
  - Ensure access to essential services for survivors.
  - Report cases through the Grievance Mechanism (GM) while maintaining confidentiality and anonymity.
  - Record, track, and close cases appropriately.

IFC, EBRD and CDC Group[21] Guidance on Gender Based Violence and Harassment (GBVH)

This guidance highlights that addressing GBVH is critical for protecting communities and workers and contributes to improved project outcomes, including strengthened social acceptance and workforce participation.

Effective GBVH prevention and response can:

- Improve physical and emotional wellbeing of workers and communities.
- Reduce reputational, financial, and legal risks.
- Strengthen social license to operate through sustained community engagement.
- Enable broader and more inclusive workforce participation, including women from nearby communities.

IFC Guidance on GBVH in the Construction Sector

This guidance sets out key principles for the assessment, prevention, monitoring, and response to GBVH risks in construction-related activities.

Core Principles

- **Survivor-centred:** All actions must prioritise the rights, safety, and preferences of survivors.
- **Safe:** Protect survivors, witnesses, and reporters from retaliation and harm.
- **Context-specific:** Measures must reflect local legal, cultural, and social conditions.
- **Collaborative:** Engage internal and external stakeholders in prevention and response efforts.
- **Inclusive:** Address heightened risks faced by vulnerable and marginalised groups.
- **Integrated:** Embed GBVH prevention and response within existing ESMS, HR, and OHS systems.
- **Non-discriminatory:** Ensure fair and equal treatment of all survivors.
- **Well-informed:** Use relevant expertise in designing grievance and response mechanisms.

IFC Good Practice Handbook: Use of Security Forces

This Project will be implemented in accordance with IFC Performance Standard 4 and the IFC Good Practice Handbook on Use of Security Forces: Assessing and Managing Risks and Impacts. These requirements ensure that any engagement of security personnel is consistent with human rights principles, public safety, and community protection.

Key Requirements

[21] CDC Investment Group has formally renamed as “British International Investment (BII)” on 4th of April 2022. BII’s mission is to support the building of businesses throughout Africa and South Asia, to create jobs, and to make a difference to people's lives in some of the world' poorest places.

- **Risk Assessment and Proportionality**
  - Conduct structured security risk assessments.
  - Ensure security measures are proportionate to project risks and context.
- **Security Management Framework**
  - Develop a Security Management Plan defining roles, responsibilities, and conduct expectations for all security personnel.
- **Human Rights Due Diligence**
  - Provide training on human rights, use of force, and de-escalation techniques.
- **Community Interface and Grievance Mechanism**
  - Establish protocols for community interaction and ensure accessible grievance channels for security-related complaints.
- **Incident Reporting and Accountability**
  - Implement procedures for reporting, investigating, and addressing security incidents and misconduct.
- **Coordination with Public Security Forces**
  - Where applicable, define roles through formal agreements consistent with national law and international human rights standards.
- **Monitoring and Continuous Improvement**
  - Regularly review security performance and incorporate lessons learned and stakeholder feedback.

18.1.3.2 DFC

The United States Development Finance Corporation (DFC) requires that all supported projects systematically identify, assess, manage, and monitor risks and impacts to community health, safety, and security over the full project lifecycle, including design, construction, operation, and decommissioning phases. These requirements are defined in the DFC Environmental and Social Policy and Procedures (ESPP, 2024) and are fully aligned with internationally recognised good practice standards, including the IFC Performance Standards (2012), particularly Performance Standard 1 (Assessment and Management of Environmental and Social Risks and Impacts) and Performance Standard 4 (Community Health, Safety and Security).

In accordance with the DFC ESPP, projects must adopt a risk-based and adaptive management approach, ensuring that community health and safety risks are identified early, evaluated in terms of severity and likelihood, and managed through the application of a structured mitigation hierarchy (avoid, minimise, mitigate, and where appropriate, compensate). The DFC further requires that environmental and social risk management systems are proportionate to the nature and scale of the project and are integrated into a formal Environmental and Social Management System (ESMS) that includes organisational capacity, procedures, monitoring mechanisms, and continuous improvement processes.

A key requirement under the DFC framework is the consideration of direct, indirect, induced, and cumulative impacts on surrounding communities, including impacts arising from associated facilities, contractor activities, and third-party infrastructure developments. Community health and safety risks must be assessed not only under normal operating conditions, but also under non-routine and emergency scenarios, including construction accidents, natural hazards, utility failures, and mass casualty events.

For the Fergana Eco City Regional Hospital Project, the application of DFC requirements is particularly critical due to the Project's location and development context. The Project is situated within a rapidly evolving masterplan development area and is therefore exposed to a combination of construction-phase dynamics, transitional infrastructure conditions, and increasing population density, all of which elevate baseline community health and safety sensitivity.

18.1.3.3 EBRD

Environmental and Social Requirements 4 establishes the importance of avoiding or mitigating adverse health and safety impacts and issues associated with project activities on workers, project affected communities and consumers. The objectives of EBRD ESR4 are:

- To protect and promote the safety and health of workers by ensuring safe and healthy working conditions and implementing a health and safety management system, appropriate to the relevant issues and risks associated with the Project.
- To anticipate, assess and prevent or minimise adverse impacts on the health and safety of project affected communities and consumers during the project lifecycle from both routine and non-routine circumstances.
- ESR 4 also required clients to identify and assess project related risks and adverse impacts to the health and safety of the potentially affected communities and develop protection, prevention and mitigation measures proportionate to the impacts and risks and appropriate to the stage size and nature of the project. In addition, the client is required to cooperate with the relevant authorities and other stakeholders, as appropriate, on mitigation measures and plans. These measures are required to be consistent with the mitigation hierarchy approach and voluntary principles on security & human rights.

18.2 Baseline Conditions

This section establishes the baseline community health and safety conditions within the Project's Area of Influence (AoI), in accordance with IFC Performance Standard 4 (Community Health, Safety and Security) and relevant EBRD/DFC requirements. It focuses on existing environmental, infrastructural, and social conditions that may influence community exposure to health and safety risks in the absence of Project-specific mitigation measures. The baseline reflects a transitional development environment associated with the ongoing implementation of the Fergana Eco City masterplan.

The Project is located within the Fergana Eco City masterplan area, approximately 6 km from Fergana City centre and about 1 km west of Fergana International Airport. The surrounding area is undergoing active transformation from a previously undeveloped and partially former military-use zone into a mixed-use urban development comprising residential, commercial, institutional, and infrastructure components. As such, the baseline community health and safety context reflects a transitional environment with evolving exposure pathways and risk profiles.

18.2.1 Community Health Baseline

The Fergana Eco City Regional Hospital Project is located within the Fergana Region, one of the most densely populated regions of Uzbekistan, with an estimated population of approximately 3.8 million people distributed across 15 districts and four cities[22]. The region forms part of the Fergana Valley, which is recognised as a major economic, agricultural, and population centre of the country. As a result of population growth, urbanisation, and

[22] https://gov.uz/ru/iiv/pages/o-zbekiston-respublikasi-prezidentining-farmonlari

increasing demand for healthcare services, the healthcare system in the region faces growing pressure to provide accessible, high-quality, and specialised medical care.

At the national level, Uzbekistan has undertaken comprehensive healthcare reforms aimed at strengthening public health outcomes, improving healthcare accessibility, and modernising healthcare infrastructure. These reforms are guided by a range of legislative and policy instruments intended to improve service delivery, enhance preventive healthcare, and strengthen primary and specialised healthcare services.

The primary legislative framework governing the healthcare sector is established under the Law of the Republic of Uzbekistan on Health Care (No. 26), which defines the structure and functioning of the national healthcare system, the responsibilities of public authorities, and the rights of citizens to healthcare services. Recent amendments have sought to strengthen preventive healthcare, expand primary healthcare functions, and improve coordination between different levels of medical service provision.

In support of ongoing reforms, Presidential Decree No. UP-88 of 19 May 2025, entitled “On Measures for the Consistent Continuation of Healthcare Reform Through the Improvement of the System and Principles of Medical Service Delivery to the Population”, introduced measures aimed at strengthening family medicine, expanding access to primary healthcare, improving service quality, and modernising healthcare governance. These reforms seek to improve healthcare accessibility across urban and rural communities while reducing inequalities in service provision[23].

The collection and management of health statistics are governed by the Law on State Statistics, relevant Cabinet of Ministers resolutions, and Ministry of Health regulations. These instruments provide the basis for monitoring population health indicators, disease prevalence, mortality rates, healthcare infrastructure capacity, and service utilisation. The State Committee on Statistics and specialised health institutions are responsible for collecting and analysing health data to support evidence-based planning and policy development.

Uzbekistan’s healthcare system remains predominantly publicly funded, with basic healthcare services generally provided free of charge through state institutions. Recent reforms have focused on the gradual introduction of a State Health Insurance Fund (SHIF) and the expansion of guaranteed healthcare services, including reimbursement mechanisms for prescribed medicines and improved financing arrangements for healthcare providers.

18.2.2 Regional Healthcare Context - Fergana Region

The Fergana Region is served by a network of primary healthcare facilities, family polyclinics, district medical centres, specialised dispensaries, maternity facilities, and secondary-level hospitals. While these facilities provide a broad range of healthcare services, access to advanced tertiary healthcare services remains limited. Residents requiring specialised interventions, complex surgical procedures, advanced diagnostics, intensive care, oncology treatment, or highly specialised medical services may need to travel to larger regional or national referral centres, including facilities in Tashkent.

The absence of a dedicated public tertiary-care hospital within the Fergana Region represents a significant gap in healthcare provision given the size of the regional population. This limitation can contribute to:

- Longer travel times for specialised treatment;
- Delays in accessing advanced diagnostic and emergency services;
- Increased burden on referral hospitals outside the region;

[23] https://ealegislation.com/document.fwx?rgn=166855

- Reduced accessibility for vulnerable populations, including elderly persons, persons with disabilities, and low-income households.

The proposed Fergana Eco City Regional Hospital is intended to address this gap by providing an 800-bed tertiary healthcare facility capable of delivering specialised medical services to residents of the Fergana Region and surrounding areas.

18.2.3 Community Health Conditions

The health profile of the Fergana Region generally reflects broader national trends observed across Uzbekistan. Non-communicable diseases (NCDs) represent a significant public health concern and are among the leading causes of morbidity and mortality[24]. These include:

- Cardiovascular diseases;
- Hypertension;
- Diabetes mellitus;
- Chronic respiratory diseases;
- Cancer and other chronic illnesses.

Communicable diseases continue to be managed through national vaccination programmes, disease surveillance systems, and public health interventions. However, periodic outbreaks of seasonal respiratory illnesses remain common, particularly during colder months.

Environmental determinants of health in the region include:

- Air quality impacts associated with urbanisation, traffic emissions, and construction activities;
- Occupational health risks associated with industrial and construction sectors;
- Road traffic accidents and associated injuries;
- Access to safe drinking water and sanitation infrastructure, particularly in rapidly developing areas.

Within the Eco City development area, baseline community health conditions are influenced by ongoing construction activities associated with the wider masterplan development. These activities have the potential to contribute to temporary increases in dust, noise, traffic movements, and safety risks, which may affect nearby residents and workers if not adequately managed.

18.2.4 Worker transport

The Project will be developed to have an on-site workers accommodation, and a maximum of 30 management cars. Impacts due to workers transport is considered minor.

However, local workers that may not be housed in the onsite accommodations are expected to commute daily from surrounding communities. The impact is considered minor. Final transportation arrangements will be confirmed by the EPC Contractor and incorporated into the Construction Traffic Management Plan to minimise interactions with community traffic and reduce road safety risks.

18.2.5 Traffic Impact assessment

Prior to commencement of major construction activities, the Project will undertake a detailed Traffic Impact Assessment (TIA) to establish existing traffic conditions, forecast construction

[24] https://data.who.int/countries/860

and operational traffic volumes, evaluate cumulative traffic impacts associated with the Eco City development and identify any infrastructure upgrades required, if applicable.

18.2.6 Emergency Healthcare and Public Health Preparedness

Emergency healthcare services within the region are provided through a combination of ambulance services, district hospitals, and specialized healthcare facilities. However, the absence of a major tertiary referral facility within the region can limit the availability of advanced emergency and critical care services during major incidents or public health emergencies.

The proposed hospital is therefore expected to significantly strengthen regional healthcare resilience by:

- Expanding access to specialist and emergency healthcare services;
- Increasing intensive care and inpatient treatment capacity;
- Supporting emergency preparedness and disaster response capabilities;
- Enhancing regional healthcare system capacity for future population growth.

Overall, the community health baseline indicates a region with an established but evolving healthcare system that is undergoing significant reform and modernisation. While primary and secondary healthcare services are widely available, constraints remain in access to advanced tertiary care services[25]. The proposed Project is expected to become a key component of the regional healthcare network and contribute positively to long-term public health outcomes within the Fergana Region.

18.2.7 Community Safety and Traffic Conditions

While the hospital site itself is located on previously undeveloped land, the surrounding area is increasingly characterised by active construction activities, newly developed road networks, and expanding residential communities.

At baseline, community safety conditions within the Project AoI are generally considered stable, with no evidence of significant crime or security concerns identified during stakeholder engagement activities. The Project area benefits from established law enforcement services provided by local authorities, and consultations with local stakeholders indicated that residents generally perceive their communities to be safe. As the Eco City development continues to expand, however, communities are increasingly exposed to construction activities, heavy vehicle movements, and infrastructure works that were previously absent from the area.

Traffic volumes in the immediate vicinity of the Project remain moderate but are expected to increase over time as additional Eco City developments become operational. Existing road infrastructure within the Eco City has been developed to accommodate future urban growth, including internal road networks and connections to regional transport routes. Nevertheless, portions of the surrounding infrastructure remain under development, resulting in a transitional traffic environment characterised by construction vehicles, service traffic, private vehicles, and pedestrians sharing access routes.

The Project's location near Fergana International Airport and within a major urban development corridor means that road safety represents one of the most relevant baseline community health and safety considerations. Existing risks include:

[25] https://www.who.int/europe/publications/i/item/9789289059220

- Interactions between construction vehicles and public road users;
- Pedestrian movement within developing infrastructure corridors;
- Increased traffic associated with multiple concurrent construction projects within Eco City;
- Limited public familiarity with large-scale construction logistics and heavy goods vehicle movements;
- Potential congestion at key access points during peak construction periods.

Although no major road safety concerns were identified during consultations, stakeholders recognised that the continued development of Eco City would result in increased traffic volumes and highlighted the importance of maintaining safe road conditions, appropriate traffic controls, and pedestrian access arrangements.

In addition to traffic-related risks, community members identified broader safety priorities commonly associated with rapidly urbanising areas, including adequate street lighting, maintenance of public infrastructure, safe pedestrian routes, and effective emergency response services. These issues are particularly relevant given the ongoing transition of the area from a former military training zone to a mixed-use urban environment.

The presence of multiple contractors and construction workforces operating within the Eco City development also introduces new community safety considerations. While no significant concerns regarding crime or anti-social behaviour were raised during stakeholder engagement, communities have limited previous experience with large temporary workforces and associated construction activities. The need for strong contractor management, effective site security, and clear communication regarding construction activities to minimise nuisance and maintain positive community relations was however identified.

Overall, baseline community safety conditions are considered favourable, with relatively low levels of crime and strong confidence in local security services. However, the ongoing urbanisation of the Eco City area, combined with large-scale construction activities and increasing traffic volumes, creates a context in which proactive management of community health and safety risks will be important throughout the construction and operational phases of the Project.

At the time of witing the report, comprehensive traffic assessment for the surrounding road network were not available because the Eco City road network remains under phased development and many future developments are not yet operational. Observations undertaken during site visits indicate that current traffic is dominated by construction vehicles, private vehicles associated with Eco City development, airport traffic and local community movements. Traffic volumes are expected to increase progressively as the Eco City development is occupied and associated infrastructure becomes operational. Accordingly, a detailed Traffic Impact Assessment (TIA) will be undertaken prior to commencement of major construction activities to establish quantitative baseline traffic conditions, forecast future traffic demand, assess cumulative impacts associated with the wider Eco City development, and identify any additional road improvements or traffic management measures required.

18.2.8 Gender-based Violence, Harassment & Exploitation

The assessment of Gender-Based Violence, Harassment and Exploitation (GBVHE) forms an important component of the Community Health and Safety baseline, particularly given the scale of the proposed Project and the anticipated construction workforce. While the Project does not inherently create GBVHE risks, the introduction of a large predominantly male workforce, increased mobility, and greater interaction between workers and local

communities may create pathways through which existing vulnerabilities could be exacerbated if not appropriately managed.

The Project is implemented within the legal and regulatory framework of the Republic of Uzbekistan, which has undergone significant reforms in recent years to strengthen the protection of women, children, and other vulnerable groups from violence, harassment, and abuse. This legal framework establishes criminal and administrative liabilities for domestic violence and harassment, introduces protective measures for victims, and provides mechanisms for state intervention, including protection orders and support services.

The relevant legislative instruments governing these issues are presented in detail in the Legal Framework section of this chapter, Section 18.1.1.2, and include provisions related to the protection of women and children, criminalisation of domestic violence, administrative penalties for harassment, and institutional responsibilities for prevention and response.

These legal provisions provide a strong national framework for the prevention and prosecution of gender-based violence and harassment and establish baseline protections that apply throughout Project AoI.

Although district-level statistics specific to the Fergana Eco City area are limited, national data indicate that gender-based violence remains a significant social issue within Uzbekistan. Government statistics show that tens of thousands of women seek protection orders or report violence and harassment annually, with most incidents occurring within family or domestic settings. Psychological violence, physical violence, coercive control, and harassment remain among the most reported forms of abuse.

As with many contexts globally, it is recognised that official statistics are likely to underrepresent the true prevalence of GBV due to barriers associated with reporting, social stigma, family pressures, and concerns regarding confidentiality. Consequently, the absence of reported incidents during stakeholder engagement should not be interpreted as an absence of risk.

Consultations undertaken with community representatives and vulnerable groups within the Project AoI did not identify any direct concerns regarding project-related GBVHE risks at baseline. Participants generally described strong social cohesion, established community networks, and active neighbourhood structures that contribute to social stability and informal support mechanisms. Makhalla committees were frequently identified as trusted institutions for addressing family disputes, social issues, and community concerns.

However, consultations also highlighted that support mechanisms for survivors of GBVHE remain largely informal. While residents expressed confidence in local community structures, no dedicated specialist referral services, crisis centres, survivor support programmes, or GBV-specific grievance mechanisms were identified during stakeholder engagement. This suggests that although community support networks exist, awareness and accessibility of specialised services may be limited.

From a Project perspective, the principal GBVHE risk pathways are associated with construction-phase activities, particularly:

- Influx of workers from outside the local area;
- Increased interaction between workers and community members;
- Potential harassment in public spaces, transport routes, or commercial areas;
- Risks of sexual harassment within the workforce;
- Risks associated with unequal power dynamics between workers, contractors, and vulnerable community members;

- Potential impacts on women, girls, persons with disabilities, and other vulnerable groups.

During operations, GBVHE risks are expected to be substantially lower than during construction due to the nature of the hospital environment, the permanent workforce structure, and the presence of formal management systems. Nevertheless, healthcare facilities can present specific safeguarding considerations, particularly in relation to patients, visitors, women, children, and vulnerable individuals accessing healthcare services.

Given the scale of the Project and international lender requirements, the baseline assessment supports the adoption of a precautionary approach to GBVHE management. In accordance with IFC, EBRD, and DFC expectations, the Project should implement measures including worker Codes of Conduct, workforce training, awareness programmes, confidential grievance mechanisms, survivor-centred response procedures, and referral pathways to appropriate external support services.

Overall, while stakeholder engagement did not identify significant existing GBVHE concerns within the Project AoI, national trends, limitations in specialised support services, and the anticipated construction workforce indicate that GBVHE remains a relevant risk consideration requiring proactive management throughout the Project lifecycle. The baseline sensitivity is therefore considered moderate, with the potential for adverse impacts to arise if appropriate preventive and response measures are not effectively implemented.

18.3 Area of Influence and Receptors

18.3.1 Area of Influence

The Community Health, Safety and Security (CHSS) AoI encompasses the geographic area within which communities, workers, road users, and vulnerable populations may experience direct, indirect, or cumulative health, safety, and security impacts associated with the construction and operation of the Fergana Eco City Hospital.

For the purposes of the assessment, the AoI is defined as a 5 km radius surrounding the Project site and incorporates both the immediate communities adjacent to the Eco City development and the wider urban population that may interact with the Project through employment, healthcare access, transportation networks, and service provision.

The CHSS AoI includes:

- The Eco City residential developments located approximately 562 m from the Project site, including existing and planned residential communities within the Eco City masterplan.
- Nearby residential communities and settlements located within approximately 1 km of the Project footprint, including communities associated with Ilgor MFY, Chekshura MFY, and Ortashura MFY.
- Planned and operational facilities within the Eco City development, including the amphitheatre, National Testing Centre, educational facilities, commercial areas, recreational parks, artificial lake, and mixed-use developments that may interact with Project activities.
- Local road users and transport corridors connecting the Project site with Fergana City, Fergana International Airport, and surrounding districts that may experience increased traffic movements during construction and operation.
- Users of Fergana International Airport located approximately 3 km from the Project site, where temporary construction activities, traffic movements, or emergency

response coordination may have indirect implications for community safety and security.

- The wider population of Fergana City and surrounding districts that will access the hospital during operations and may benefit from improved healthcare services while also interacting with Project-related traffic and infrastructure.
- Vulnerable groups within the AoI, including women, children, elderly persons, persons with disabilities, low-income households, and individuals with limited access to healthcare services.

18.3.2 Receptors

The table below presents the key environmental and social (E&S) receptors relevant to CHSS) within the Project's Area of Influence. It identifies the different population groups, infrastructure users, and service providers that may be affected by or benefit from Project-related activities during both construction and operation phases.

Table 18-1 E&S impact receptors – Community Health, Safety, and Security

RECEPTOR	SENSITIVITY	JUSTIFICATION
Residents of Eco City residential developments	**High**	Located closest to the Project site (approximately 562 m) and likely to experience direct exposure to construction-related traffic, noise, dust, visual disturbance, workforce interactions, and potential community safety risks. During operations, these residents will experience increased traffic movements and emergency vehicle access associated with hospital activities.
Residents of nearby communities, including Ilgor MFY, Chekshura MFY and Ortashura MF	**High**	Communities within the Core Impact Area may experience direct and indirect impacts from construction activities, workforce influx, transport movements, utility disruptions, and community safety risks. They are also expected to be primary beneficiaries of improved healthcare services during operation.
Vulnerable groups (women, children, elderly persons, persons with disabilities, low-income households and individuals with chronic illnesses)	**High**	May be disproportionately affected by construction-related safety risks, traffic hazards, communicable diseases, workforce-community interactions, and barriers to accessing grievance mechanisms. These groups may also be particularly reliant on improved healthcare services provided by the Project.
Patients, visitors and future hospital users	**High**	During operations, large numbers of patients, visitors and caregivers will access the facility daily. Their health, safety, emergency preparedness, infection prevention, and security requirements are critical considerations throughout the operational phase.

RECEPTOR	SENSITIVITY	JUSTIFICATION
Local road users, pedestrians and public transport users	**High**	Increased movement of construction vehicles, material deliveries, workers, emergency vehicles and service providers may elevate road safety risks, particularly at intersections and access roads serving nearby communities and Eco City developments.
Educational, commercial and recreational facilities within Eco City	**Medium**	Schools, colleges, commercial establishments, recreational facilities, the amphitheatre and public gathering areas may experience temporary disruption, increased traffic, and community safety concerns associated with construction and operational activities.
Workers and contractors from surrounding communities	**Medium**	Local workers may be exposed to occupational health and safety risks, communicable disease transmission, and workforce accommodation-related risks. However, they are expected to benefit from employment opportunities generated by the Project.
Fergana International Airport users and associated transport infrastructure	**Medium**	Located approximately 1 km from the Project site. Potential indirect impacts include increased traffic volumes, emergency response coordination requirements, and temporary disturbances associated with large-scale construction activities.
Emergency response services, healthcare institutions and public service providers	**Medium**	The Project may create additional demand for emergency preparedness coordination during construction while strengthening regional healthcare capacity during operation.
Wider population of Fergana City and surrounding districts	**Medium**	While located beyond the immediate impact area, the broader population may experience indirect benefits through improved access to tertiary healthcare services, specialist treatment, employment opportunities, and regional healthcare resilience.

18.4 Potential Impacts, Mitigation, Management & Residual Impacts

18.4.1 Construction Phase

18.4.1.1 Worker Influx and Community Health Impacts

The construction phase of the Fergana Eco City Hospital is expected to extend over approximately three years and require a peak workforce of approximately 1,865 workers. While most workers are expected to be recruited locally from the Fergana Region, a proportion of specialist personnel and contractors may be sourced from other regions of Uzbekistan or internationally. Temporary worker accommodation facilities may be

established within the Project footprint, including dormitories, canteens, recreational facilities, and associated support infrastructure.

The influx of construction workers may result in potential community health and social impacts within nearby settlements, including Nurafshon MFY, Chekshura MFY, Ortashura MFY, and surrounding Eco City developments. These may include increased demand on local healthcare services, pressure on public infrastructure, and changes in community dynamics arising from interaction between workers and local residents. Such interactions may lead to social tensions due to differences in cultural norms, language, or perceptions of employment opportunities.

The presence and movement of the workforce may also increase risks related to communicable diseases, including seasonal respiratory infections and other transmissible illnesses. Vulnerable groups such as women, children, elderly persons, and other at-risk populations may experience heightened perceptions of insecurity and social disturbance due to increased population mobility.

These impacts will be managed through a Worker Influx Management Plan included within the Construction Environmental and Social Management Plan (CESMP). Worker accommodation will be developed in accordance with the IFC/EBRD Workers' Accommodation: Processes and Standards Guidance Note. Adequate health, sanitation, waste management, recreation, and security facilities will be provided within worker camps to minimise pressure on community services.

All workers will be required to comply with a Code of Conduct addressing anti-social behaviour, discrimination, harassment, substance abuse, and Gender-Based Violence and Harassment (GBVH). Training and induction programmes will include awareness of local customs, community relations, and grievance mechanisms.

18.4.1.2 Public and Community Safety

Construction activities will involve site preparation, excavation, structural works, and the movement of personnel, machinery, and materials over a period of approximately three years. These activities may create risks to public safety, particularly due to increased traffic movements, operation of heavy equipment, excavation works, and temporary construction zones.

Potential impacts include increased risk of road traffic accidents, pedestrian safety risks, and temporary disruption to access routes in and around the Eco City development area. Vulnerable groups, including children, elderly persons, and persons with disabilities, may be disproportionately affected.

Construction activities may also generate dust, noise, vibration, and visual disturbance, which could affect nearby residents. In addition, unauthorised access to construction sites may expose community members to physical hazards such as moving machinery, excavations, and electrical works.

A Construction Traffic Management Plan (TMP) and a Community Health and Safety Management Plan will be implemented to manage these risks. These will include designated haul routes, speed controls, traffic marshals, driver training, signage, and scheduling of deliveries to avoid peak traffic periods. Coordination will be maintained with Eco City developers, local authorities, and relevant agencies to manage cumulative impacts.

Construction areas will be secured through fencing, controlled access points, lighting, signage, and security patrols. Community awareness activities will be undertaken to inform residents of construction activities and safety precautions. Dust suppression, noise control, and housekeeping measures will also be implemented.

Residual impacts are expected to be low to moderate, temporary, and reversible.

18.4.1.3 Community Security

Construction activities may result in changes to local security conditions due to the introduction of a temporary workforce, increased vehicle movements, and storage of materials and equipment. Although baseline conditions indicate generally low crime levels and strong community cohesion, temporary changes in population dynamics may result in security concerns among local communities.

Potential risks include petty theft, trespassing, disorderly behaviour, theft of construction materials, and community perceptions of reduced safety. Increased demand on local security services may also occur during the construction period.

These risks will be managed through a Security Management Plan consistent with IFC Performance Standard 4 and associated Good Practice Guidance on the Use of Security Forces. Security personnel will be unarmed and trained in human rights, conflict management, and appropriate conduct.

Site security will include perimeter fencing, controlled access systems, visitor management procedures, lighting, CCTV (where appropriate), and security patrols. A Code of Conduct will govern all security personnel behaviour.

A Community Grievance Mechanism will provide channels for reporting security-related concerns. Regular engagement with local authorities and community representatives will support coordination and information sharing.

Residual impacts are expected to be low, localised, and temporary.

18.4.1.4 Gender-Based Violence, Harassment, and Sexual Exploitation & Abuse (GBVH/SEA)

Although the majority of the construction workforce is expected to be recruited locally, the construction phase will involve a substantial number of workers and contractors operating within and around nearby communities and emerging residential areas of the Eco City development. The presence of a predominantly male workforce, coupled with increased mobility and economic activity, may create pathways for Gender-Based Violence and Harassment (GBVH), Sexual Exploitation and Abuse (SEA), and Sexual Harassment (SH).

Potential risks may include verbal harassment, inappropriate behaviour in public spaces, exploitation of vulnerable individuals, workplace harassment, and increased perceptions of insecurity among women and girls. Vulnerable groups, including female-headed households, women with disabilities, migrant populations, adolescents, and economically disadvantaged individuals, may face heightened risks. Although no significant GBVH concerns have been identified during baseline engagement, international lender requirements recognise the need for proactive management of GBVH risks associated with large construction projects.

To address these risks, the Project will implement a GBVH/SEA Action Plan aligned with IFC, EBRD, and DFC good practice guidance. All workers and subcontractors will be required to sign and comply with a Code of Conduct explicitly prohibiting GBVH, SEA, SH, discrimination, and exploitation. Mandatory induction and refresher training will be provided to all personnel, including management and security staff.

A survivor-centred grievance mechanism will be established with confidential reporting channels, trained focal points, protection of confidentiality, informed consent procedures, and referral pathways to appropriate medical, psychosocial, legal, and protection services. Awareness programmes will be delivered to workers and local communities regarding acceptable behaviour, reporting options, available support services, and legal protections.

Worker accommodation facilities and construction compounds will incorporate appropriate lighting, security measures, and supervision arrangements to reduce GBVH risks. Community engagement activities will include targeted consultations with women, youth,

vulnerable groups, and community leaders to identify concerns and adapt mitigation measures where necessary.

Management measures will include appointment of a GBVH Focal Point, monitoring of grievances and incidents, contractor audits, regular training programmes, and periodic review of GBVH risks throughout construction. Coordination with local authorities, healthcare providers, and community organisations will support effective response mechanisms.

Following implementation of these measures, residual GBVH/SEA impacts are expected to be low. While some residual risk remains due to the presence of a large construction workforce, proactive prevention measures, effective reporting systems, and strong contractor oversight are expected to substantially reduce the likelihood and severity of incidents.

18.4.1.5 Risks to Vulnerable Groups

The Project Area of Influence includes residential communities, future Eco City residents, elderly persons, women, youth, persons with disabilities, low-income households, and other potentially vulnerable groups. These groups may experience Project-related impacts more acutely due to reduced mobility, limited access to information, economic constraints, social exclusion, or increased sensitivity to environmental and safety disturbances.

Potential impacts during construction include increased exposure to traffic hazards, dust, noise, restricted access, safety risks associated with construction activities, and barriers to participation in consultation processes. Women and girls may experience heightened concerns regarding personal security and harassment, while elderly persons and persons with disabilities may face greater difficulties navigating temporary changes in access routes or transportation arrangements. Children may be particularly vulnerable to construction hazards, including moving vehicles, heavy equipment, and unauthorised access to work areas.

To mitigate these impacts, the Project will implement inclusive stakeholder engagement measures consistent with IFC PS1, PS4, and EBRD ESR10 requirements. Information will be disclosed through accessible and culturally appropriate formats, including targeted consultations, small group meetings, and one-on-one engagement where necessary. Particular efforts will be made to engage women, elderly persons, persons with disabilities, and other vulnerable groups during consultation activities.

Traffic management measures, secure fencing, warning signage, and community awareness campaigns will be implemented to reduce physical safety risks. The Project grievance mechanism will be accessible, confidential, free of charge, and designed to accommodate vulnerable groups through multiple reporting channels. Contractors will receive training on non-discrimination, cultural sensitivity, inclusion, and respectful engagement with local communities.

Management measures will include monitoring participation of vulnerable groups in stakeholder engagement activities, tracking grievances raised by vulnerable individuals, periodic consultation with community representatives, and review of mitigation effectiveness throughout construction.

With implementation of these measures, residual impacts on vulnerable groups are anticipated to be low, temporary, and localised. Continuous engagement and adaptive management will ensure that emerging concerns are identified and addressed promptly, enabling vulnerable groups to benefit from Project opportunities while minimising potential adverse impacts.

18.4.1.6 Traffic and Road Safety Risks

During the construction phase, Project activities will generate increased vehicle movements associated with delivery of construction materials, equipment, workforce transportation, and

waste removal. Given the Project's location within the developing Eco City masterplan and proximity to Fergana International Airport, construction traffic will interface with existing public roads and other concurrent development activities in the area.

Potential impacts include increased risk of traffic accidents involving construction vehicles, private vehicles, pedestrians, and cyclists. The use of heavy-duty trucks on local roads not originally designed for high traffic volumes may result in congestion, road deterioration, and increased likelihood of collisions. Vulnerable road users, including children, elderly persons, and persons with disabilities, may be disproportionately affected due to limited pedestrian infrastructure, informal crossing points, and insufficient lighting or signage in surrounding areas.

To mitigate these impacts, a Construction Traffic Management Plan (CTMP) will be implemented. Measures will include designation of haul routes, scheduling of deliveries outside peak hours, enforcement of speed limits, use of trained traffic marshals at key intersections, installation of warning signage and lighting, and maintenance of construction vehicles to ensure roadworthiness. Coordination with Eco City developers and local authorities will be undertaken to manage cumulative traffic impacts.

With implementation of these measures, residual impacts on traffic and road safety are expected to be low to moderate and temporary in nature.

18.4.1.7 Dust, Air Quality and Community Health Impacts

Construction activities such as earthworks, excavation, material handling, stockpiling, and vehicle movements may generate fugitive dust emissions, which could affect nearby receptors within the Eco City development and surrounding communities. Exposure to particulate matter may lead to short-term respiratory irritation, particularly among sensitive groups including children, elderly persons, and individuals with pre-existing respiratory conditions.

In addition, emissions from construction machinery and diesel-powered vehicles may contribute to localized deterioration in ambient air quality. Although impacts are expected to be temporary and site-specific, cumulative effects may occur due to concurrent construction activities within the wider Eco City masterplan.

Mitigation measures will include implementation of a Dust and Emissions Management Plan, regular water spraying of exposed surfaces, covering of haul trucks, speed control on unpaved roads, maintenance of construction equipment, and prohibition of unnecessary idling of vehicles. Air quality monitoring will be conducted at sensitive receptor locations where required. Residual impacts following mitigation are expected to be low and temporary.

18.4.1.8 Noise and Vibration Impacts on Community Wellbeing

Construction activities including excavation, piling (if required), concrete works, operation of heavy machinery, and increased vehicle movements will generate elevated noise levels and, in some cases, vibration impacts. Nearby residential areas, Eco City developments, and institutional receptors may experience temporary disturbance.

Potential effects include annoyance, sleep disturbance, reduced quality of life, and increased stress levels among affected communities. Sensitive receptors located within close proximity to construction activities may experience higher levels of disturbance during peak construction phases.

Noise mitigation measures will include restriction of construction activities to daytime hours where feasible, use of low-noise equipment, installation of temporary noise barriers near sensitive receptors, regular maintenance of machinery, and establishment of buffer zones between construction activities and residential areas. Where vibration-sensitive activities are required, pre-construction condition surveys and vibration monitoring will be undertaken.

Residual impacts are expected to be negligible and temporary in nature.

18.4.1.9 Communicable Disease Transmission and Public Health Risks

The construction phase will involve a large workforce accommodated in shared or semi-communal living arrangements, which may increase the potential for transmission of communicable diseases among workers. Key risks include respiratory infections, seasonal influenza, and other common infectious or hygiene-related illnesses.

Transmission pathways may arise from close and prolonged contact between workers in accommodation facilities, shared dining and sanitation areas, and other communal settings associated with construction camp life. The magnitude of risk may vary depending on workforce density, hygiene conditions, seasonal factors, and baseline health status of workers.

Sexually transmitted infections (STIs) may also represent a potential public health consideration in the context of a large, mobile workforce living in shared accommodation and interacting within broader social environments. This risk is primarily associated with changes in social interaction patterns rather than the occupational setting itself. STI risks will be managed through preventive occupational health measures, including targeted health awareness and education programmes, promotion of safe health-seeking behaviours, access to confidential medical consultation services, and availability of appropriate referral pathways to local healthcare providers.

To manage communicable disease risks more broadly, a Worker Health Management Plan will be implemented as part of the Construction Environmental and Social Management Plan (CESMP). This will include pre-employment and periodic health screening, provision of on-site first aid facilities or access to external medical services, and implementation of hygiene promotion and disease prevention measures.

Additional preventive measures will include ensuring adequate standards of water supply, sanitation, waste management, and worker accommodation in line with internationally recognised good practice, including IFC/EBRD Workers' Accommodation: Processes and Standards Guidance Note. Where relevant, vaccination programmes may be implemented based on prevailing public health risks and national health authority guidance.

Health awareness and disease prevention messaging will be delivered regularly to the workforce, including information on hygiene practices, communicable disease prevention, and responsible health-seeking behaviour. These measures will also contribute indirectly to reducing broader community exposure pathways. With the implementation of these mitigation measures, the residual risk of communicable disease transmission, including STIs, is expected to be low.

18.4.1.10 Emergency Preparedness and Community Response Risks

Construction activities may introduce an increased risk of emergency events, including fires, fuel or chemical spills, electrical incidents, structural failures, and extreme weather-related incidents. Given the proximity of surrounding Eco City developments and access roads, such events may pose potential risks to community safety if not effectively prevented and managed.

Increased construction traffic may also temporarily affect emergency response effectiveness by causing congestion or obstruction of access routes. In addition, coordination gaps between the EPC Contractor, local emergency services, and Eco City developers may reduce the overall effectiveness of emergency preparedness and response arrangements.

To manage these risks, the Project will implement an Emergency Preparedness and Response Plan (EPRP) aligned with IFC Performance Standard 4 requirements. The EPRP will include coordination protocols with local emergency services, regular emergency drills,

maintenance of clear access routes for emergency vehicles, installation of on-site fire safety systems, provision of spill response equipment, and training of construction personnel in emergency procedures. Communication protocols will also be established to ensure timely notification of nearby communities in the event of major incidents. With effective implementation of these measures, the residual risk to surrounding communities is expected to be low.

18.4.1.11 Community Exposure to Hazardous Materials

Construction activities will involve the use, storage, and transport of hazardous materials including fuels, oils, lubricants, paints, solvents, welding gases, and other chemicals. Improper handling or accidental release of such materials may pose risks to soil, air, and water quality, as well as indirect exposure risks to nearby communities. Potential impacts include contamination from spills, fire hazards, inhalation of fumes, and accidental contact with hazardous substances. Risks may be heightened during transportation, storage, or disposal of construction-related materials.

Mitigation measures will include implementation of a Hazardous Materials Management Plan, secure storage of chemicals in designated bunded areas, clear labelling and inventory control, spill prevention and response procedures, trained personnel handling hazardous substances, and safe transportation protocols. Regular inspections will be conducted to ensure compliance. Residual impacts are expected to be low following implementation of mitigation measures.

The following sections of this chapter present the identification and assessment of potential community health, safety, and security impacts associated with the Project during the construction phase. The table below consolidates construction related impacts and provides the associated mitigation and management measures, along with an evaluation of the resulting residual impacts.

Table 18-2 Construction Phase Impact Significance, Mitigation & Management Measures and Residual Impacts

Potential Impact	Magnitude	Receptor	Sensitivity	Impact Significance	Residual Impact
Worker Influx and Community Health Impacts	**Medium**	Residents of Ilgor MFY (Eco-City area), Chekshura MFY, Ortashura MFY, nearby Eco City developments (residential, institutional and commercial users within 2.5 km AoI)	**High**	**Moderate**	Negligible
Public and Community Safety	**Medium**	Local road users, pedestrians, residents along access routes, Eco City internal roads, nearby schools/institutional receptors	**Medium**	**Moderate**	Negligible
Community Security	**Medium**	Local communities, Eco City residents, vulnerable groups (women, children, elderly)	**High**	**Moderate**	Negligible

Potential Impact	Magnitude	Receptor	Sensitivity	Impact Significance	Residual Impact
Gender-Based Violence, Harassment, and Sexual Exploitation & Abuse (GBVH/SEA)	**Medium**	Women, children, vulnerable households within Core Impact Area	**High**	**Moderate**	Negligible
Risks to Vulnerable Groups	**Medium**	Women-headed households, elderly, persons with disabilities, low-income households, marginalized groups	**High**	**Moderate**	Negligible
Traffic and Road Safety Risks	**Medium**	Increased construction traffic may cause congestion, accidents, and road-user conflicts.	**High**	**Moderate**	Negligible
Dust, Air Quality and Community Health Impacts	**Medium**	Residents within Eco City residential zones (~562 m), nearby community (~1 km), institutional receptors	**Medium**	**Moderate**	Negligible
Noise and Vibration Impacts on Community Wellbeing	**Medium**	Construction noise and vibration may disturb nearby communities and sensitive receptors.	**High**	**Moderate**	Negligible
Communicable Disease Transmission and Public Health Risks	**Medium**	Nearby communities, construction workforce interface zones, vulnerable groups	**Medium**	**Moderate**	Negligible
Community Exposure to Hazardous Materials	**Medium**	Residents, pedestrians, children, Eco City users near construction perimeter	**High**	**Moderate**	Negligible
Emergency Preparedness and Community Response Risks	**Low to Medium**	Nearby communities, Eco City users, construction workforce interface zones	**Medium**	**Moderate**	Negligible
Cumulative Community Health, Safety and Security Impacts	**Medium**	Combined impacts from multiple Eco City projects (traffic, dust, noise, workforce).	**High**	**Moderate**	Negligible

Potential Impact	Magnitude	Receptor	Sensitivity	Impact Significance	Residual Impact
<u>Mitigation measures to manage worker influx and community health impacts</u> • Develop and implement a Labour Influx Management Plan (LIMP) aligned with IFC PS4, addressing workforce demographics, accommodation strategy, service demand, community interaction risks, and cumulative impacts with other Eco City developments. • Implement a structured local recruitment strategy, including transparent hiring procedures in coordination with mahalla committees and local employment centres to maximise local employment and reduce migrant worker inflow. • Provide worker accommodation in line with IFC/EBRD Workers' Accommodation Standards, including adequate living space, potable water, sanitation, drainage, solid waste management, pest control, ventilation, fire safety, and recreational facilities. Accommodation will be routinely inspected and audited. • Establish a Worker Code of Conduct (CoC) translated into relevant languages, covering prohibition of GBVH/SEA/SH, discrimination, violence, substance abuse, wildlife exploitation, and interaction boundaries with local communities. Enforcement will include disciplinary sanctions and termination clauses. • Implement mandatory induction training and periodic refresher training covering: community health and safety, cultural sensitivity, communicable disease prevention, HIV/STI awareness, road safety, and grievance procedures. • Establish camp management systems including security controls, visitor restrictions, curfews (if required), and behaviour monitoring. • Provide on-site welfare, recreation, and food services to reduce worker mobility into surrounding communities and minimise informal economic pressures. • Appoint a dedicated Community Liaison Officer (CLO) responsible for structured engagement, grievance intake, monitoring of social tensions, and coordination with mahalla leaders. • Implement a project-level Grievance Redress Mechanism (GRM) with multiple access points (in-person, phone, written, digital), confidential handling procedures, and defined response timelines. • Conduct community health awareness programmes in collaboration with local health authorities covering communicable diseases, hygiene practices, and preventive health measures. • Undertake health screening and medical fitness certification for all workers prior to mobilisation, including periodic health surveillance during construction. • Monitor community perception indicators and social risks through regular stakeholder engagement meetings and feedback surveys <u>Mitigation measures for public community safety</u> • Develop and implement a comprehensive Traffic Management Plan (TMP) aligned with IFC PS4, including designated haul routes, traffic scheduling, convoy management, speed limits, and driver behaviour standards. • Conduct road safety risk assessments for all major access routes prior to construction and update periodically as works progress. • Install and maintain road safety infrastructure, including signage, warning systems, speed calming measures (speed bumps, rumble strips), pedestrian crossings, and reflective markings in coordination with local authorities. • Deploy trained traffic marshals and flagmen at high-risk intersections, site entrances, and pedestrian crossing points during peak movement periods. • Enforce strict driver management protocols, including defensive driving training, fatigue management, maximum driving hours, vehicle speed monitoring (GPS tracking), and disciplinary enforcement for violations. • Schedule material deliveries outside peak school and community movement hours where feasible to reduce exposure risks.					

Potential Impact	Magnitude	Receptor	Sensitivity	Impact Significance	Residual Impact
• Ensure all vehicles undergo routine inspection and certification, including braking systems, lighting, reversing alarms, and load securing procedures. • Conduct community road safety awareness campaigns, including school-based programmes where relevant, focusing on pedestrian safety and construction traffic awareness. • Coordinate with Eco City developers and municipal authorities to ensure cumulative traffic impacts are jointly managed. <u>Mitigation measures for community security</u> • Develop and implement a Project Security Management Plan (PSMP) aligned with IFC PS4 and Good Practice Handbook on Security Forces. • Ensure all security personnel receive human rights, proportional use of force, GBVH/SEA/SH prevention, and grievance handling training. • Enforce strict Code of Conduct for security staff, including zero tolerance for abuse, harassment, or intimidation. • Establish controlled access systems, including vehicle registration, visitor logs, and screening procedures. • Install and maintain CCTV surveillance systems and adequate lighting at site boundaries, access gates, and high-risk zones. • Maintain incident reporting and escalation protocols, integrated with the GRM and HSE systems. • Conduct regular stakeholder engagement meetings with mahalla leaders and local authorities to address security concerns. • Coordinate security arrangements with local law enforcement agencies to ensure proportional response and accountability <u>Mitigation measures against Gender-Based Violence, Harassment, and Sexual Exploitation & Abuse (GBVH/SEA)</u> • Implement a comprehensive GBV/SEA/SH Prevention and Response Framework, including a formal policy applicable to all contractors and subcontractors. • Conduct mandatory GBV/SEA/SH training and refresher training for all workers, supervisors, and management staff. • Establish a confidential, survivor-centred grievance mechanism, ensuring anonymity, non-retaliation, and safe reporting channels (including third-party reporting options). • Develop referral pathways for medical, psychosocial, and legal support services, in collaboration with local service providers. • Conduct community awareness programmes targeting both men and women on GBV risks, prevention, and available support mechanisms. • Improve lighting in and around camps, access roads, and construction zones to reduce risk exposure. • Engage mahalla committees, local NGOs, and healthcare providers for coordinated prevention and response. • Maintain strict confidentiality protocols and data protection systems for all reported cases. <u>Mitigation measures for risks to vulnerable groups</u> • Ensure inclusive and accessible stakeholder engagement processes, including meetings in local languages (Uzbek and Russian). • Provide non-digital communication channels (community notice boards, face-to-face engagement) for vulnerable populations. • Implement targeted employment and training opportunities for vulnerable groups where feasible. • Design safe pedestrian access routes and mobility support measures for persons with disabilities and elderly residents.					

Potential Impact	Magnitude	Receptor	Sensitivity	Impact Significance	Residual Impact
• Ensure GRM accessibility and support services, including assistance for illiterate or disabled complainants. • Undertake disaggregated monitoring of impacts to track differential effects on vulnerable groups. • Coordinate with mahalla committees to ensure early identification and support for at-risk households. <u>Mitigation measures for traffic and road safety risks</u> • Implement Construction Traffic Management Plan • Designate and enforce haul routes • Schedule deliveries outside peak traffic periods • Enforce speed limits and driver safety protocols • Deploy traffic marshals at critical junctions • Maintain vehicles in roadworthy condition • Install warning signage and road lighting • Coordinate traffic planning with Eco City developers and authorities <u>Measures Dust, Air Quality and Community Health Impacts</u> • Apply dust suppression measures, including continuous water spraying on haul roads, exposed surfaces, stockpiles, and during demolition/excavation works. • Ensure all haul trucks carrying loose materials are fully covered and sealed to prevent dust dispersion. • Install and operate wheel-wash facilities at site exits to prevent off-site soil tracking. • Implement noise control measures, including use of low-noise equipment, regular maintenance of machinery, installation of silencers/mufflers, and acoustic enclosures for high-noise equipment where required. • Restrict noisy activities to daytime hours near sensitive receptors and apply scheduling controls for high-impact works (piling, excavation). • Install temporary noise barriers where construction activities occur near residential areas. • Conduct routine ambient air quality and noise monitoring at site boundaries and nearest sensitive receptors, with corrective actions triggered if exceedances occur. • Maintain equipment and vehicles to ensure compliance with emission standards, including regular servicing and inspection. • Communicate short-term high-impact works schedules to nearby communities in advance via notices and liaison channels. <u>Mitigation measures for Noise and Vibration Impacts on Community Wellbeing</u> • Restrict high-noise works to daytime hours • Use low-noise equipment where feasible • Install temporary noise barriers near receptors • Maintain equipment to minimise noise emissions • Establish buffer zones between works and residences • Conduct pre-construction condition surveys • Monitor vibration during piling or heavy works <u>Measures for Communicable Disease Transmission and Public Health Risks</u> • Implement a Communicable Disease Prevention and Control Plan aligned with IFC PS4 requirements. • Provide safe and potable drinking water, sanitation facilities, and hygiene stations at all worker accommodation and construction sites.					

Potential Impact	Magnitude	Receptor	Sensitivity	Impact Significance	Residual Impact
• Conduct routine health screening and surveillance of workers, including pre-employment and periodic checks. • Implement vector control programmes, including elimination of stagnant water, pest control, regular waste removal, and environmental housekeeping. • Deliver health education and awareness campaigns for workers and nearby communities covering TB, HIV/AIDS, STIs, respiratory infections, and hygiene practices. • Ensure proper solid waste and wastewater management systems, preventing contamination of surrounding environment. • Coordinate with local health authorities for early detection and outbreak response protocols. • Maintain health incident reporting systems integrated into the project HSE management system <u>Measures for Community Exposure to Hazardous Materials</u> • Install and maintain secure perimeter fencing with controlled access points around all construction zones. • Provide clear hazard signage, warning boards, and multilingual safety notices at all entry points and high-risk areas. • Establish strict access control systems, including ID cards, visitor permits, PPE enforcement, and entry authorisation procedures. • Implement safe pedestrian diversion routes clearly separated from construction zones using barriers and signage. • Secure all excavation pits, trenches, and open structures using barriers, covers, lighting, and reflective markings. • Conduct daily site safety inspections and weekly HSE audits, with corrective action tracking. • Maintain 24/7 site security presence to prevent unauthorised access, particularly during non-working hours. • Ensure emergency access routes remain unobstructed at all times for ambulance and fire services <u>Measures for Emergency Preparedness and Community Response Risks</u> • Develop and implement a comprehensive Emergency Preparedness and Response Plan (EPRP) covering fire, explosion, spill, structural failure, and medical emergencies. • Establish on-site emergency response teams trained in first aid, fire response, and evacuation procedures. • Conduct regular emergency drills and simulation exercises involving workers and contractors. • Maintain formal coordination agreements with local hospitals, ambulance services, and fire departments in Fergana. • Ensure unobstructed emergency access routes across the construction site at all times. • Install firefighting equipment, alarms, and emergency communication systems at all site facilities and camps. • Implement incident reporting and investigation procedures linked to corrective action tracking systems.					

18.4.2 Operational Phase

During the operational phase, the Fergana Eco City Regional Hospital will operate as a 24/7 tertiary healthcare facility providing emergency, inpatient, outpatient, diagnostic, surgical, and intensive care services to an estimated population of approximately 3.8 million people across the Fergana Region and surrounding districts.

Clinical service delivery is expected to involve consolidation and redeployment of healthcare staff from existing regional facilities. Based on the feasibility study, approximately 2,584 personnel including doctors, nurses, administrative, and paramedical staff may be sourced from key hospitals in the region, although final staffing levels will be confirmed by the Ministry of Health and may be subject to change. In addition, Focus Group Discussions (FGDs) were conducted with doctors, nurses, administrative, and paramedical staff from key hospitals in the region to capture their perspectives on the proposed hospital and the transition process.

The hospital will operate under a PPP arrangement, with the Ministry of Health of Uzbekistan responsible for clinical services and the Private Partner (through the SPV and FM Company) responsible for non-clinical operations and facility management. The scale and continuous operation of the facility will generate both significant public health benefits and potential community health, safety, and security risks within the Area of Influence.

18.4.2.1 Improved Access to Healthcare and Public Health Benefits

A key positive outcome of the Project will be the substantial improvement in access to tertiary healthcare services within the Fergana Region. The hospital will provide specialised services that are currently limited or unavailable locally, including advanced diagnostics, specialist surgical procedures, intensive care, emergency medicine, and inpatient care.

The Project is expected to significantly reduce the need for patients to travel to other regions or the capital for advanced treatment. Improved access to healthcare is anticipated to contribute to earlier diagnosis, reduced treatment delays, improved patient outcomes, lower mortality rates, and enhanced quality of life for residents across the region.

The hospital will also strengthen regional healthcare resilience by increasing system capacity to respond to disease outbreaks, public health emergencies, natural disasters, and mass casualty incidents. In addition, the inclusion of telemedicine facilities, academic spaces, and medical training infrastructure will support workforce development and improve overall healthcare quality in Uzbekistan.

Given the scale of the beneficiary population, the long-term nature of benefits, and the absence of comparable tertiary healthcare facilities in the Fergana Region, the impact is assessed as Major Positive.

18.4.2.2 Traffic and Road Safety Impacts

Hospital operations will generate continuous vehicle movements associated with ambulances, patients, visitors, hospital staff, service providers, medical supply deliveries, pharmaceutical logistics, maintenance contractors, and waste transportation activities. Due to the hospital's function as a regional referral centre, traffic volumes are expected to remain consistently high throughout both daytime and night-time periods.

Increased traffic movements may contribute to traffic congestion, increased accident risks, and conflicts between pedestrians and vehicles, particularly around hospital entrances, drop-off areas, parking facilities, and intersections connecting to the wider Eco City road network. Vulnerable road users, including elderly patients, children, persons with disabilities, and emergency responders, may be particularly susceptible to road safety risks.

Emergency vehicles operating under priority response conditions may also increase risks to road users if access routes and traffic management systems are not effectively designed and maintained.

Without appropriate controls, the increase in traffic volumes and emergency vehicle movements has the potential to result in community safety risks, particularly within the hospital campus and along adjoining access roads. The impact is expected to be long-term and continuous throughout the operational life of the Project. Although the affected area is largely confined to the hospital and surrounding road network, the presence of sensitive receptors and the potential for traffic accidents or pedestrian conflicts increases the consequence of such incidents. Accordingly, the unmitigated operational traffic and road safety impact is assessed as Moderate.

The Project will develop and implement an Operational Traffic Management Plan (TMP) that incorporates traffic flow modelling, access management, road safety controls, and emergency vehicle prioritisation procedures. Separate circulation routes will be established, where feasible, for ambulances, visitors, service vehicles, and hospital staff.

Dedicated ambulance access routes and emergency vehicle priority systems will be maintained to minimise conflicts with general traffic. Traffic signage, speed control measures, pedestrian crossings, lighting, and wayfinding systems will be installed and regularly maintained throughout the hospital campus and surrounding access roads.

Adequate parking facilities will be provided to accommodate patients, visitors, and staff and prevent parking overflow into neighbouring developments. Periodic traffic monitoring and road safety audits will be undertaken to assess performance and identify areas requiring improvement.

The Project will also coordinate with Eco City authorities and local government agencies regarding cumulative traffic management and future road infrastructure planning.

With implementation of these mitigation and management measures, traffic movements will be effectively managed, risks to pedestrians and other road users will be substantially reduced, and emergency access will be maintained. The residual impact is therefore assessed as Minor.

18.4.2.3 Healthcare Waste and Hazardous Materials Management Risks

Operation of the hospital will generate various healthcare waste streams, including infectious waste, pathological waste, sharps, pharmaceutical waste, laboratory waste, chemical waste, and general domestic waste. The hospital will also store and utilise hazardous substances including cleaning agents, disinfectants, laboratory reagents, medical gases, fuels, and maintenance chemicals.

Without appropriate controls, improper handling, storage, transportation, treatment, or disposal of healthcare waste and hazardous materials could result in infection transmission, accidental exposure, chemical releases, environmental contamination, and health risks to workers, patients, visitors, waste contractors, and surrounding communities. Given the scale of healthcare services to be provided and the continuous generation of medical waste throughout the operational life of the Project, the unmitigated impact is assessed as Moderate.

To minimise these risks, the Project will implement a comprehensive Healthcare Waste Management Plan consistent with the requirements of the World Bank Group Environmental, Health and Safety (EHS) Guidelines for Health Care Facilities and applicable national regulatory requirements.

Mitigation and management measures will include:

- Segregation of healthcare waste at source using a colour-coded waste management system.
- Provision of dedicated waste storage areas with controlled access, secondary containment, adequate ventilation, and appropriate signage and labelling.
- Collection, transportation, treatment, and final disposal of hazardous and infectious waste by authorised and licensed service providers.
- Maintenance of hazardous materials inventories and Safety Data Sheets (SDS) for all hazardous substances.
- Provision of spill prevention and response equipment together with site-specific emergency response procedures.
- Routine inspections, internal audits, monitoring programmes, and record keeping to verify compliance with waste management procedures.
- Regular training of healthcare workers, cleaners, maintenance personnel, and waste handlers on waste segregation, handling procedures, use of personal protective equipment (PPE), spill response, and emergency preparedness.
- Periodic review and updating of waste management procedures to ensure continued compliance with regulatory requirements and international good practice.

With implementation of these measures, compliance monitoring, and application of good international industry practice, the residual impact is assessed as Minor, as the likelihood of uncontrolled releases or exposure is expected to be low and any remaining risks can be effectively managed through routine operational controls.

18.4.2.4 Infection Control and Communicable Disease Risks

As a tertiary referral hospital, the Project will routinely receive patients suffering from infectious diseases, communicable illnesses, and complex medical conditions. This creates an inherent risk of disease transmission among patients, healthcare workers, visitors, contractors, and service personnel.

Potential risks include healthcare-associated infections (HAIs), transmission of airborne diseases, outbreak events, and infection spread within clinical and public areas of the facility. These risks may increase during periods of epidemic or pandemic disease outbreaks.

The hospital's role as a regional referral centre increases the likelihood of treating complex and highly infectious cases, requiring robust infection prevention and control systems.

The hospital will implement a comprehensive Infection Prevention and Control (IPC) Programme in accordance with national healthcare requirements, WHO guidance, and international healthcare standards.

The programme will include patient screening and triage procedures, isolation facilities, infection surveillance systems, personal protective equipment (PPE) management, staff training, cleaning and disinfection protocols, ventilation management, and outbreak response procedures.

Routine infection monitoring and reporting systems will be maintained to identify trends and support rapid intervention where required. The hospital will also coordinate closely with regional and national public health authorities regarding outbreak preparedness and response.

18.4.2.5 Emergency Preparedness and Critical Infrastructure Risks

The hospital will rely on uninterrupted operation of critical infrastructure systems including electricity supply, emergency generators, water supply systems, medical gas networks, IT

infrastructure, communications systems, boilers, HVAC systems, elevators, and fire protection systems. Failure of these systems could disrupt clinical services, compromise patient safety, affect emergency response capacity, and reduce the hospital's ability to provide healthcare services during emergencies.

The presence of hazardous energy systems, oxygen infrastructure, fuel storage, electrical substations, and heating systems introduces additional operational safety risks.

The Project will develop and implement a comprehensive Emergency Preparedness and Response Plan (EPRP) covering fire, explosion, hazardous materials incidents, utility failures, natural hazards, mass casualty events, disease outbreaks, and security incidents.

Redundant infrastructure systems, emergency generators, backup utilities, preventive maintenance programmes, and emergency response teams will be maintained throughout operation. Regular drills, simulations, inspections, and emergency response exercises will be undertaken to test preparedness and identify opportunities for improvement.

The hospital will maintain mutual aid arrangements and coordination protocols with local emergency services, healthcare institutions, and relevant government authorities.

18.4.2.6 Community Exposure to Operational Nuisances

Although most operational activities are internal to the facility, certain systems may generate off-site environmental effects. These may include noise and emissions from standby generators, HVAC systems, and service areas, as well as temporary nuisance impacts associated with waste collection, delivery logistics, and ambulance operations.

Improper management of hospital waste storage areas could also result in odour nuisance or pest attraction if operational controls are not effectively implemented. Lighting associated with 24/7 hospital operations may also contribute to minor visual or light pollution impacts on adjacent Eco City residential areas.

The Project will implement preventive maintenance programmes for all mechanical systems, install noise attenuation measures where necessary, maintain enclosed waste storage facilities, implement pest control programmes, and minimise unnecessary light spill through appropriate lighting design and directional luminaires.

Community complaints and nuisance-related grievances will be monitored and addressed through the Project Grievance Mechanism.

18.4.2.7 Security and Controlled Access Risks

The hospital will accommodate large numbers of patients, visitors, healthcare workers, contractors, and service providers on a daily basis. The facility will also contain high-value medical equipment, pharmaceuticals, sensitive patient information, and restricted clinical areas.

Potential security risks include unauthorised access, theft, vandalism, aggressive behaviour, violence against healthcare workers, and disturbances within public areas, particularly emergency departments.

The Project will implement a Hospital Security Management Plan aligned with IFC PS4 and the IFC Good Practice Handbook on the Use of Security Forces. Access control systems, CCTV surveillance, visitor management procedures, security patrols, and incident reporting systems will be established.

Security personnel will receive training on human rights, conflict de-escalation, grievance management, and GBVH prevention. Security operations will be conducted in a manner that respects the rights and dignity of patients, visitors, and community members.

18.4.2.8 Vulnerable Groups and Equity of Access

The hospital will serve a diverse population, including women, children, elderly persons, persons with disabilities, low-income households, and other potentially vulnerable groups. Operational barriers to healthcare access could arise if services are not designed and managed in an inclusive and equitable manner.

Potential issues may include mobility constraints, communication barriers, inadequate accessibility features, unequal treatment, or limited awareness of available services.

The hospital will implement universal accessibility principles and non-discrimination policies consistent with national legislation and international good practice. Accessible infrastructure, multilingual communication materials, patient support services, disability access measures, and inclusive service delivery procedures will be maintained throughout operation.

Healthcare access and patient satisfaction indicators will be monitored across demographic groups to identify and address any disparities.

18.4.2.9 Occupational-Community Interface Risks

The hospital environment will involve continuous interaction between healthcare workers, patients, visitors, contractors, service providers, and emergency responders. These interactions create potential risks associated with overcrowding, behavioural conflicts, accidental exposure to operational hazards, and access to restricted clinical or service areas.

Operational activities such as maintenance works, medical equipment servicing, emergency response activities, and patient management may also create temporary safety risks if public access is not effectively controlled.

The hospital will establish visitor management procedures, access control systems, operational zoning arrangements, clear signage, crowd management procedures, and routine inspections of public areas. Staff will receive training on public interaction, conflict resolution, emergency response, and patient safety management.

The facility will maintain appropriate segregation between public, clinical, service, and emergency operational areas to minimise opportunities for accidental exposure to hazards.

The following table consolidates these impacts and provides the associated mitigation and management measures, along with an evaluation of the resulting residual impacts.

Table 18-3 Community Health Safety: Impact Significance, Mitigation & Management Measures and Residual Impacts – Operation

Potential Impact	Magnitude	Receptor	Sensitivity	Potential Impact Significance	Residual Impact
Improved Access to Healthcare and Public Health Benefits	**High Positive**	Residents of Fergana Region, vulnerable groups, patients, healthcare institutions	**High**	**Major Positive**	**Major Positive**
Traffic and Road Safety Impacts	**Medium**	Patients, visitors, staff, ambulance users, local residents, road	**High**	**Moderate**	**Negligible**

Potential Impact	Magnitude	Receptor	Sensitivity	Potential Impact Significance	Residual Impact
		users, pedestrians			
Healthcare Waste and Hazardous Materials Management Risks	**Medium**	Nearby communities, waste handlers, transport contractors, patients, visitors	**High**	**Moderate**	**Negligible**
Infection Control and Communicable Disease Risks	**Medium**	Patients, visitors, healthcare workers, surrounding communities	**High**	**Moderate**	**Negligible**
Emergency Preparedness and Critical Infrastructure Risks	**Medium**	Patients, visitors, staff, surrounding communities	**High**	**Moderate**	**Negligible**
Security and Controlled Access Risks	**Medium**	Patients, visitors, surrounding communities, vulnerable groups	**High**	**Moderate**	**Negligible**
Vulnerable Groups and Equity of Access	**Medium**	Women, children, elderly persons, persons with disabilities, vulnerable patients and visitors	**High**	**Moderate**	**Negligible**
Community Exposure to Operational Nuisances	**Low to Medium**	Eco City residents, nearby developments, visitors	**Medium**	**Minor**	**Negligible**
Occupational–Community Interface Risks	**Medium**	Patients, visitors, healthcare workers, contractors	**Medium**	**Moderate**	**Negligible**

Potential Impact	Magnitude	Receptor	Sensitivity	Potential Impact Significance	Residual Impact
Measures to improve access to healthcare and public health benefits • Ensure the hospital operates in accordance with national healthcare regulations and international good practice standards. • Maintain sufficient staffing levels, equipment availability, and operational capacity to provide continuous tertiary healthcare services. • Establish transparent patient referral systems and emergency response procedures. • Ensure equitable access to healthcare services regardless of gender, age, disability, ethnicity, or socio-economic status. • Maintain accreditation and certification requirements in accordance with Ministry of Health requirements and lender expectations. • Implement community outreach and health awareness programmes focusing on preventative healthcare, maternal health, communicable disease prevention, and vulnerable populations. • Establish telemedicine and medical education programmes to strengthen regional healthcare capacity. Measures for traffic and road safety impacts • Develop and implement an Operational Traffic Management Plan covering staff traffic, ambulance movements, deliveries, visitor access, parking management, and emergency vehicle priority routes. • Designate separate access routes and circulation areas for ambulances, service vehicles, visitors, and staff where feasible. • Install and maintain road safety infrastructure including signage, pedestrian crossings, speed-calming measures, traffic signals, lighting, and directional systems. • Provide dedicated drop-off and pick-up areas to minimise congestion. • Implement parking management systems to prevent overspill parking into surrounding communities. • Conduct periodic road safety audits and coordinate with Eco City authorities regarding cumulative traffic management. • Undertake public awareness campaigns on road safety around hospital access areas. • Maintain emergency access routes free of obstruction at all times. Healthcare Waste and Hazardous Materials Management Risks • Develop and implement a Healthcare Waste Management Plan (HCWMP) consistent with WBG EHS Guidelines for Health Care Facilities. • Develop and implement a Hazardous Materials Management Plan covering procurement, transport, storage, use, and disposal of chemicals and medical gases. • Segregate waste at source using colour-coded systems for infectious, pathological, pharmaceutical, chemical, sharps, recyclable, and general waste streams. • Provide secure, ventilated, and access-controlled waste storage facilities. • Ensure collection, transportation, treatment, and disposal are undertaken by licensed and authorised contractors and facilities. • Establish documented chain-of-custody procedures for hazardous and infectious waste. • Conduct routine inspections and audits of waste management systems. • Train all relevant staff and contractors on healthcare waste handling procedures and emergency response requirements. • Maintain contingency measures in the event of treatment facility failure or waste transport disruption. Mitigation measures for infection control and communicable disease risks • Implement a comprehensive Infection Prevention and Control (IPC) Programme aligned with WHO guidance and national healthcare requirements.					

Potential Impact	Magnitude	Receptor	Sensitivity	Potential Impact Significance	Residual Impact
• Establish infection surveillance systems for healthcare-associated infections (HAIs). • Maintain isolation facilities, quarantine procedures, and outbreak response protocols. • Ensure availability and use of appropriate personal protective equipment (PPE). • Implement hand hygiene programmes, sterilisation procedures, and environmental cleaning standards. • Develop pandemic and epidemic preparedness plans integrated with regional health authorities. • Conduct regular IPC training and competency assessments for clinical and non-clinical staff. • Undertake routine monitoring and reporting of infection control performance indicators. <u>Mitigation measures for emergency preparedness and critical infrastructure risks</u> • Develop and implement a comprehensive Emergency Preparedness and Response Plan (EPRP) covering fire, explosion, medical gas incidents, hazardous material releases, natural hazards, and utility failures. • Install and maintain fire detection, alarm, suppression, smoke extraction, and emergency communication systems. • Maintain backup power systems (EDGs), emergency water supplies, and critical infrastructure redundancy. • Conduct routine emergency drills involving hospital personnel, contractors, emergency services, and relevant authorities. • Establish mutual aid arrangements with local emergency response agencies. • Implement preventive maintenance programmes for all critical systems. • Develop mass casualty and surge-capacity response procedures <u>Impacts for security and controlled access risks</u> • Develop and implement a Hospital Security Management Plan consistent with IFC PS4 and the IFC Good Practice Handbook on the Use of Security Forces. • Maintain trained security personnel operating under a Code of Conduct consistent with human rights principles. • Implement controlled access systems, visitor management procedures, and identification protocols. • Install CCTV systems, perimeter lighting, access control systems, and emergency communication mechanisms. • Ensure security personnel receive training on conflict management, de-escalation, GBVH/SEA/SH awareness, and grievance handling. • Maintain incident reporting and investigation procedures integrated with the Project GRM. • Conduct regular security risk assessments and audits <u>Impacts to vulnerable groups and equity of access</u> • Implement and enforce a GBVH/SEA/SH Prevention and Response Framework applicable to all hospital staff, contractors, visitors, and service providers. • Maintain a zero-tolerance policy towards harassment, discrimination, abuse, and retaliation. • Provide mandatory training to all staff on GBVH/SEA/SH prevention, safeguarding, patient rights, and respectful treatment. • Establish confidential and survivor-centred reporting mechanisms. • Ensure referral pathways to medical, psychosocial, legal, and social support services. • Maintain adequate lighting, security coverage, and safe waiting areas throughout the facility. • Conduct periodic audits and monitoring of safeguarding measures <u>Mitigation measures for community exposure to operational nuisances</u>					

Potential Impact	Magnitude	Receptor	Sensitivity	Potential Impact Significance	Residual Impact
• Maintain preventive maintenance programmes for HVAC systems, generators, boilers, and mechanical equipment. • Install acoustic attenuation measures where required. • Restrict non-emergency deliveries to designated hours where practicable. • Maintain enclosed waste storage facilities and regular waste collection schedules to minimise odour generation. • Implement lighting designs that minimise unnecessary light spill beyond the hospital boundary. • Monitor and respond to community complaints through the Project GRM. <u>Mitigation measures for Occupational–Community Interface Risks</u> • Implement visitor management procedures and access controls for clinical and restricted areas. • Clearly segregate public, clinical, service, and emergency response zones. • Provide clear wayfinding signage and information systems throughout the hospital. • Maintain adequate staffing and crowd management procedures during peak demand periods. • Ensure routine inspection and maintenance of public areas to prevent slips, trips, falls, and other hazards. • Maintain incident reporting systems and corrective action procedures.					

18.5 Monitoring

The Project Company, EPC Contractor, Ministry of Health, and Facilities Management Company (FM Co.) will implement a comprehensive Community Health, Safety and Security Monitoring Programme throughout the construction and operational phases of the Project. The monitoring programme will be integrated within the Environmental and Social Management System (ESMS) and will be used to verify compliance with Project commitments, applicable national legislation, IFC Performance Standards, EBRD Environmental and Social Requirements (ESRs), and relevant WBG EHS Guidelines.

Monitoring results will be reviewed regularly to identify trends, assess the effectiveness of mitigation measures, facilitate adaptive management, and support reporting to lenders and relevant authorities.

Table 18-4 Community Health, Safety and Security Monitoring Measures - Construction & Operation

Monitoring Area / Management Aspect	Monitoring Indicator	KPI/Target	Frequency
Worker Influx Management	• Total workforce numbers. • Workforce origin (local/non-local). • Accommodation occupancy rates • Worker-community related incidents	• ≥80% of workforce accommodated in approved facilities. • Zero significant worker-community conflicts • 100% incidents investigated	Monthly
Worker Code of Conduct Compliance	• Number and type of reported violations of the Worker Code of Conduct, including anti-social	• 100% of workers inducted and signed Code of Conduct	Monthly

Monitoring Area / Management Aspect	Monitoring Indicator	KPI/Target	Frequency
	behaviour, harassment, discrimination, substance abuse, violence, or community-related misconduct • Development and Implementation of training materials.	• 100% violations investigated and corrective actions implemented • Worker Code of Conduct training materials were developed and approved prior to mobilization. • 100% of workers receive Code of Conduct induction training before commencing work. • Training records maintained 100% of personnel. • Training effectiveness reviewed periodically and updated based on incidents, grievances, lessons learned, or changes in Project risks.	
Local Recruitment Performance	Percentage of workforce recruited from local communities and surrounding districts	• Achieve local recruitment target established in the Labour Management Plan. • Monitoring increasing trends where feasible	Quarterly
Community Grievance Management	Number, type, location, and trend analysis of community grievances related to health, safety, security, traffic, noise, dust, worker behaviour, waste management, nuisance, access restrictions, or other Project activities	• 100% grievances acknowledged within Project timeframe. • ≥90% resolved within agreed timeframe • Zero overdue high-risk grievances	Monthly
Grievance Resolution Effectiveness	Percentage of grievances acknowledged, investigated, resolved, and closed within established timeframes; number of unresolved or escalated grievances	• ≥90% grievances closed within target period. • Corrective actions implemented for recurring issues	Monthly
Stakeholder Engagement Activities	Number of stakeholder engagement activities undertaken, including community meetings, consultations, focus group discussions, information disclosure activities, and vulnerable group engagements	• Stakeholder Engagement Plan implemented • 100% planned engagements completed. • Vulnerable groups represented where applicable	Monthly during construction; Quarterly during operation
Community Satisfaction	Community perceptions regarding Project health, safety, security, access, and overall Project performance through	• No recurring unresolved community concerns. • Improving or stable satisfaction trends	Annually

Monitoring Area / Management Aspect	Monitoring Indicator	KPI/Target	Frequency
	stakeholder feedback and engagement records		
Vulnerable Group Engagement	Number of consultations undertaken with women, elderly persons, persons with disabilities, low-income households, youth, and other vulnerable groups identified in the ESIA	• 100% planned consultations completed. • Barriers to participation addressed	Quarterly
Community Health and Safety Incidents	Number and type of community-related incidents, near misses, injuries, illnesses, fatalities, property damage events, or dangerous occurrences attributable to Project activities	• Zero fatalities are attributable to Project activities. • All incidents investigated and corrective actions implemented	Monthly
Lost Time Injuries Involving Third Parties	Number of lost time injuries, medical treatment cases, restricted work cases, and fatalities involving community members or visitors	• Zero third-party fatalities. • Continuous reduction in recordable incidents	Monthly
Community Exposure to Construction Hazards	Number of incidents involving public exposure to construction works, excavations, machinery, hazardous substances, or restricted work areas	• Zero uncontrolled public access to active construction areas. • 100% hazardous areas secured	Monthly during construction
Traffic Management Performance	Number of vehicle movements, compliance with designated haul routes, speed limits, traffic control measures, and driver requirements	• 100% compliance with approved Traffic Management Plan. • Zero major traffic violations by Project vehicles	Monthly
Traffic Incidents	Number and severity of road traffic accidents, near misses, pedestrian incidents, vehicle collisions, and emergency vehicle-related incidents involving Project activities	• Zero traffic fatalities involving Project activities. • All incidents investigated	Monthly
Road Safety Inspections	Compliance status of road signage, traffic calming measures, pedestrian crossings, lighting, traffic marshals, and access controls	• ≥95% compliance during inspections. • Corrective actions completed promptly	Monthly
Public Access Management	Number of unauthorised access incidents, trespassing events, perimeter breaches, and public access violations recorded	Zero unauthorised public access to restricted areas	Monthly
Security Performance	Number and type of security incidents including theft, vandalism, trespass, public disorder, threats, violence, intimidation, or conflict involving	Zero serious security incidents involving excessive use of force or community harm	Monthly

Monitoring Area / Management Aspect	Monitoring Indicator	KPI/Target	Frequency
	Project personnel or community members		
Security Personnel Compliance	Percentage of security personnel trained in human rights, use of force, conflict de-escalation, grievance handling, stakeholder engagement, and GBVH awareness	100% security personnel trained prior to deployment and refresher training completed annually	Quarterly
Use of Security Force Incidents	Number of reported incidents involving use of force, allegations of misconduct, human rights complaints, or community concerns related to security personnel	• Zero substantiated human rights violations. • 100% allegations investigated	Monthly
GBVH / SEA / SH Monitoring	Number of GBVH, SEA, SH, harassment, discrimination, or exploitation complaints reported, investigated, referred, and closed in accordance with survivor-centred procedures	• 100% of complaints managed using survivor-centred procedures. • Confidential referral pathways maintained	Monthly
Community Awareness Programmes	Number of awareness programmes undertaken on road safety, communicable diseases, emergency preparedness, waste management, public safety, GBVH prevention, and grievance mechanisms	• Annual awareness programme implemented. • Planned campaigns completed	Quarterly
Healthcare Waste Management Compliance	Compliance with waste segregation, storage, transportation, treatment, disposal, and manifest tracking requirements	• 100% compliance with approved healthcare waste procedures. • Zero uncontrolled releases	Monthly
Hazardous Materials Management	Quantities of hazardous substances stored and used, inventory tracking, storage inspections, and compliance with hazardous materials procedures	• Zero significant hazardous material spills. • 100% storage inspections completed	Monthly
Emergency Preparedness and Response	Number of emergency drills conducted, including fire, hazardous materials incidents, medical emergencies, disease outbreaks, utility failures, security incidents, and mass casualty scenarios	• All planned emergency drills are completed. • Corrective actions closed within agreed timeframe	Quarterly
Community Nuisance Monitoring	Number of complaints related to noise, dust, lighting, odours, traffic, waste handling, visual impacts, and other nuisance effects	• No persistent recurring complaints. • Corrective actions implemented where complaints arise	Monthly

19 Labour and Working Conditions

19.1 Applicable Requirements & Standards

19.1.1 National Regulations

19.1.1.1 Constitution of the Republic of Uzbekistan (1992, as amended in 2023)

Key constitutional provisions in regard to labour rights include:

- Everyone shall have the right to decent work, to free choice of profession and occupation, favourable working conditions that meet the requirements of safety and hygiene, to fair remuneration for work without any discrimination and not below the established minimum wage, as well as the right to unemployment protection in the manner prescribed by law.
- The minimum wage shall be determined considering the need to ensure a decent standard of living for a person.
- It shall be prohibited to refuse to hire women, dismiss them from work and reduce their wages on the basis of pregnancy or having a child.
- Any forced labour shall be prohibited, except as punishment under the court decision, or in some other Instances specified by law.
- Any form of child labour that poses a threat to the health, safety, morality, mental and physical development of the child, including those that prevent him or her from getting an education, shall be prohibited.
- The amount of pensions, allowances and other types of social welfare established by law, may not be set lower than the officially fixed minimum consumer expenditure.
- Trade unions express and protect the social and economic rights and interests of workers.
- Membership in trade unions is voluntary.

With regards to human rights, the constitution asserts that “democracy in the Republic of Uzbekistan shall be based upon common human principles, according to which the highest values shall be the human being, his life, freedom, honour, dignity and other inalienable rights.”

19.1.1.2 Labour Code of the Republic of Uzbekistan (1995, amended in 2021)

The principal law on labour rights and welfare in Uzbekistan sets out the following requirements:

- Employers' obligations to provide safe and healthy working conditions, implement occupational health and safety (OHS) measures, provide appropriate personal protective equipment (PPE), ensure additional protections where required (including for employees with disabilities), and establish procedures for the reporting, investigation and recording of occupational accidents and incidents.
- Employees' obligations to comply with applicable occupational health and safety requirements, correctly use PPE provided by the employer, follow established safety procedures, and promptly report workplace hazards, incidents and accidents.
- Provision for collective bargaining through collective contracts and agreements as a mechanism for regulating labour relations and balancing the social and economic interests of employers and employees.

19.1.1.3 The Law on Occupational Safety in Hazardous Production Facilities (2006)

The Law stipulates the legal, economic and social terms of ensuring safe exploitation of hazardous production facilities, with the aim of building enterprise capacity and preventing accidents.

In addition to the main legislation, the Republic also has national normative documents addressing the issues of occupational health and safety. These include (i) Sanitary Rules and Norms (SanR&N), (ii) State Occupational Safety Standards (GOST, SSBT), (iii) Construction Norms and Rules (CR&N (SNiPs)), (iv) Standards of the content of harmful substances (maximum allowable concentrations and levels), and (v) Normative methodological documents on individual issues setting forth requirements for occupational safety in hazardous facilities, when manufacturing or applying various products. In addition to state normative documents, various sectors of industry enforce departmental and interdepartmental norms, requirements and rules of occupational safety and health.

The main state bodies responsible for the implementation of Occupational Health and Safety (OHS) policy are:

- Ministry of Employment and Labor Relations of the Republic of Uzbekistan, including the State Labor Inspection under the Ministry with territorial branches distributed throughout the Republic;
- State Committee for Industrial Safety of the Republic of Uzbekistan (Goskomprombez);
- Sanitary and Epidemiological Welfare and Public Health Committee of the Republic of Uzbekistan under the Ministry of Health of the Republic of Uzbekistan.

The Ministry of Employment and Poverty Reduction has an OHS directorate and the State Labor Inspection and its regional branches in the Republic of Karakalpakstan, viloyats (provinces), and the Fergana city and district directorates and branches on labour, employment and social security. They constitute a single system of supervision and monitoring compliance with OHS requirements for ministries and agencies, institutions, organizations, and industrial and agricultural enterprises, with the exception of hazardous facilities that are under the jurisdiction of the State Inspection on Safety in Industry, Mining and the Housing and Utilities Sector.

19.1.1.4 Human Rights

As a member of the United Nations, Uzbekistan supports and implements key international human rights instruments, including the Universal Declaration of Human Rights, Human Rights Council Resolution No. 30/15 on human rights and preventing and countering violent extremism, and the Convention on the Elimination of All Forms of Discrimination against Women, among others.

Uzbekistan's State Policy on human rights is aimed at preventing violations or any restriction on human rights and freedoms, and at establishing the necessary organisational, legal, social, economic, spiritual and moral foundations for the protection and promotion of human rights across all sectors.

In 1995–1996, two independent and effective institutions for the protection of human rights were established in Uzbekistan. The Human Rights Commissioner (Ombudsman) of the Oliy Majlis of the Republic of Uzbekistan and the National Centre for Human Rights. In subsequent years, additional specialised human rights structures have been established within various ministries and departments to strengthen oversight and implementation.

From an ESIA and lender safeguard perspective, human rights considerations are also closely interlinked with labour and working conditions, particularly in relation to non-

discrimination, prevention of forced and child labour, fair treatment, occupational health and safety, grievance mechanisms, and freedom of association. These aspects are addressed in detail in the Labour and Working Conditions section of this ESIA, in alignment with relevant international standards such as IFC Performance Standard 2 and related national labour legislation.

19.1.1.5 The Protection of Women against Harassment and Violence Act (2019)

The Act defines various forms of violence against women, including sexual, physical, economic, and psychological violence. It establishes protection from harassment and violence as a system of urgent economic, social, legal, organisational, psychological, and other measures aimed at eliminating threats to women's life and health, ensuring their safety, and preventing repeated unlawful actions.

Within the context of this ESIA, the provisions of this Act are directly relevant to the Labour and Working Conditions framework, particularly in relation to preventing and addressing sexual harassment, gender-based violence, and discrimination in the workplace and associated worker accommodation areas. These requirements are typically operationalised through project-level labour management procedures, codes of conduct, and grievance mechanisms applicable to all workers, including contractors and subcontractors.

19.1.1.6 Other pertinent legislation

The list of other laws and regulations providing for fair and safe working conditions and benefits include the following:

- Law "On the Employment of the Population" No. 642 of 20.10.2020
- Joint Decree of the Ministry of Labour and Social Protection of the Population (No. 7) and the Ministry of Healthcare (No. 13) "On approval of the list of jobs with unfavorable working conditions, where the employment of persons under 18 years is prohibited" registered by the Ministry of Justice of the Republic Uzbekistan, dated July 29 2009, No. 1990
- Decree of the Cabinet No. 133 of 11 March 1997 to approve normative acts necessary for the realization of the Labour Code of the Republic of Uzbekistan.
- Decree of the Cabinet of the Ministers No. 1011 of 22 December 2017 "On Perfection of the Methodology of Definition of Number of People in Need of Job Placement, including the Methodology for Observing Households with Regard to Employment Issues, also for the Development of Balance of Labour Resources, Employment and Job Placement of Population".
- Decree of the Cabinet of the Ministers No. 965 of 5 December 2017 "On the Measures for Further Perfection of the Procedure of Establishment and Reservation of Minimum Number of Job Places for the Job Placement of Persons who are in need of Social Protection and Face Difficulties in Searching Employment and Incapable of Competing in Labour Market with Equal Conditions".
- Decree No. 964 of 5 December 2017 "On the measures for Improvement of the Activity of Self-Government Bodies Aimed at Ensuring Employment, firstly for the Youth and Women".
- The Protection of Women Against Harassment and Violence Act (2019).
- The National Human Rights Strategy was approved by Presidential Decree on 22 June 2020. No. PD-6012.
- Law on guaranteeing equal rights and opportunities for women and men (2019).

- The Law on Mediation (2018).
- Law on Public Control (2018).
- Law on Administrative Procedures (2018)

19.1.2 Lender Requirements

19.1.2.1 IFC Performance Standards and Good Practice Requirements

The IFC Performance Standards provide a framework for identifying, assessing, and managing potential environmental and social risks and impacts associated with projects. This includes risks and impacts relating to labour and working conditions, which are addressed under Performance Standard 2: Labour and Working Conditions.

IFC Performance Standard 2 is guided by a number of international labour and human rights conventions, including conventions adopted by the International Labour Organization (ILO). These conventions reflect internationally recognised principles relating to fair treatment, non-discrimination, freedom of association, collective bargaining, the prohibition of forced labour, the elimination of child labour, and the protection of workers' rights. In particular, PS2 is informed by the following conventions:

- ILO Convention 29: Forced Labor;
- ILO Convention 87: Freedom of Association and Protection of the Right to Organize;
- ILO Convention 98: Right to Organise and Collective Bargaining;
- ILO Convention 100: Equal Remuneration;
- ILO Convention 105: Abolition of Forced Labor;
- ILO Convention 111: Discrimination (Employment and Occupation);
- ILO Convention 138: Minimum Age (of Employment) (Minimum age specified as 15 years);
- ILO Convention 182: Worst Forms of Child Labor;
- UN Convention on the Rights of the Child, Article 32.1; and
- UN Convention on the Protection of the Rights of all Migrant Workers and Members of their Families.

In addition to Performance Standard 2, the IFC also provides guidance on gender-based violence and harassment (GBVH) in the construction sector through the IFC Group sector brief, *Addressing Gender-Based Violence and Harassment (GBVH) in the Construction Sector (2020)*. The guidance recognises that construction projects can present heightened GBVH risks, particularly where they involve labour influx, male-dominated workforces, worker accommodation, contractors and subcontractors, security personnel, and interaction between workers and local communities. It supports the identification, prevention, mitigation and response to GBVH risks through measures such as:

- *Survivor Centred:* The rights of GBVH survivors need to be consistently prioritised and used as the starting point for all decisions on efforts to assess, prevent, monitor and respond to GBVH.
- *Safe:* Survivors, witnesses and those who report and seek to address GBVH can be at risk of retaliation, including threatening and violent behaviour, often from those who do not like their position of power being challenged. Companies should prioritise the safety of those who have experienced, witnessed and reported GBVH.

- *Context specific:* All measures need to be rooted in a thorough understanding of the local context. Investors and companies should understand the legal and social context and identify the support mechanisms that are in place.
- *Collaborative:* Companies should seek inputs from a range of internal and external stakeholders to increase the likelihood of broader buy-in and make GBVH prevention more effective.
- *Inclusive:* Companies should recognise the heightened risks of GBVH faced by certain groups who are subject to discrimination and marginalisation. High risk groups often include people with disabilities, single parents, migrants and ethnic minorities and sexual and gender minorities. The system should also account for illiterate or non-literate people who may not be able to access written information on GBVH reporting mechanisms.
- *Integrated:* Processes, efforts to assess, prevent, monitor and respond to GBVH needs to be integrated as much as possible into existing processes and management systems, such as occupational health safety, security management systems, environmental and social management systems (ESMS) and human resources (HR) policies and procedures.
- *Non-discriminatory:* All survivors need to be listened to and treated equally and promote diversity in the work place.
- *Well-informed:* Companies should draw on relevant expertise when developing prevention and response measures. The grievance mechanism and investigation procedures should be set up to ensure they are appropriate, relevant and safe in the local context.

According to the guidance, the benefits of addressing GBVH include:

- Improves workers' physical and emotional wellbeing and strengthens occupational health and safety.
- Avoids reputational damage, financial risks and legal liabilities for companies, investors and construction contractors.
- Builds relationships and social license to operate in communities. This can result from regular dialogue to understand and track project GBVH risks as well as the effective use of measures to prevent and respond to GBVH.
- Broadens the pool of potential workers that companies can draw upon, including women workers from nearby communities because of lower perceived risk of GBVH.

Regarding human rights:

- In line with EP IV requirements, the United Nations Human Rights Guiding Principles (HRGP) apply to the Project. HRGP II on "The corporate responsibility to respect human rights" recognises that it is the responsibility of businesses and corporations to respect human rights. It is a global standard of expected conduct for all business enterprises wherever they operate. It exists independently of a States' ability and/or willingness to fulfil their human rights obligations and does not diminish those obligations.

19.1.2.2 EBRD

ESR2 is applicable to Labour and Working Conditions and has the following key objectives:

- Respect and protect the fundamental principles and rights of workers;

- Promote the decent work agenda, including fair treatment, non-discrimination and equal opportunities of workers;
- Establish, maintain and improve a sound worker-management relationship;
- Promote compliance with any collective agreements to which the client is a party, national labour and employment laws;
- Protect and promote the safety and health of workers, especially by promoting safe and healthy working conditions; and
- Prevent the use of forced labour and child labour (as defined by the ILO) as it relates to project activities.

In terms of dedicated accommodation, compliance is required with IFC and EBRD Workers Accommodation: Processes and Standards (2009).

In regard to human rights, According to EBRD's Environmental and Social Policy, EBRD is committed to the respect of human rights in the Project they finance. EBRD is also guided by the International Bill of Human Rights and the eight core conventions of the International Labour Organization.

19.1.2.3 DFC

The United States Development Finance Corporation (DFC) requires that projects it finances are implemented in accordance with its Environmental and Social Policy and Procedures (ESPP, 2024), which are aligned with IFC Performance Standard 2 (Labour and Working Conditions) and relevant ILO core labour standards. These requirements apply to all categories of project workers, including direct employees, contracted workers (EPC Contractor and subcontractors), and where relevant, primary supply chain workers.

Key DFC labour requirements include:

- **Fair and transparent employment conditions:** Written employment contracts for all workers, clearly defining wages, working hours, benefits, and terms of employment, in compliance with national law and good international practice.
- **Non-discrimination and equal opportunity:** Equal treatment in recruitment and employment, with measures to promote inclusion of women, youth, and other vulnerable groups.
- **Prohibition of forced and child labour:** Zero tolerance for forced, bonded, trafficked, or child labour, with age verification procedures in place.
- **Safe working conditions (OHS):** Implementation of occupational health and safety measures consistent with IFC EHS Guidelines, including PPE provision, training, and incident management.
- **Working hours and wages:** Compliance with legal limits on working hours, fair remuneration, and voluntary overtime with appropriate compensation.
- **Freedom of association:** Respect for workers' rights to form or join workers' organisations in line with national law.
- **Worker grievance mechanism:** Accessible and confidential grievance system with non-retaliation provisions.
- **GBVH prevention:** Zero tolerance for GBVH, supported by reporting and response mechanisms.
- **Contractor compliance:** Labour requirements extended to EPC Contractors, subcontractors, and key suppliers through contractual obligations and monitoring.

19.2 Baseline Conditions

19.2.1 Construction Labour in Uzbekistan

Uzbekistan has experienced sustained economic growth over recent decades, supported by structural reforms aimed at transitioning towards a more market-oriented economy. The national labour force continues to expand, driven by demographic growth and internal migration, with significant movement of workers from rural areas towards urban centres such as Tashkent, Andijan, and Fergana.

The construction sector remains one of the key employment generators in Uzbekistan, alongside agriculture and manufacturing. It is a highly labour-intensive sector and is particularly relevant in Fergana Region given ongoing infrastructure development, including large-scale urban expansion and Eco City developments. Employment in construction is predominantly male dominated, with women representing a very small proportion of the workforce. Informal employment remains prevalent, particularly among low-skilled workers, daily wage labourers, and migrant workers from rural districts.

In Fergana Region, construction activity is increasingly linked to public-private partnership (PPP) projects, housing developments, and industrial expansion. Labour demand is typically met through a combination of local workers and internal migrants from surrounding districts and neighbouring regions. The sector is characterized by short-term contracts, subcontracted labour arrangements, and variable enforcement of formal labour protections, particularly among smaller contractors and informal labour brokers.

19.2.2 Employment, Migration, and Livelihood Dynamics

The Fergana Region is one of the most densely populated areas of Uzbekistan and is characterised by a diversified but predominantly informal livelihood structure. The regional economy relies heavily on agriculture, small-scale trade, services, and seasonal or temporary labour. Labour mobility both within the region and across borders plays a central role in household income strategies and overall socio-economic resilience.

A large proportion of the working-age population engages in seasonal or temporary employment, frequently combining agricultural activities with construction work or informal service-sector jobs. Daily and weekly commuting between rural mahallas and urban centres is widespread, reflecting a persistent mismatch between local labour supply and the availability of stable, formal employment opportunities.

External labour migration remains a critical livelihood strategy for many households in Fergana. Workers commonly migrate to Russia, South Korea, and increasingly to countries in the Middle East in search of construction, industrial, and service-sector employment. Remittances form a significant component of household income, supporting basic consumption needs, education expenses, and housing improvements. However, this dependence on migration also contributes to periodic labour shortages in local skilled and semi-skilled occupations, particularly in construction trades, technical services, and healthcare support roles.

Focus Group Discussions (FGDs) conducted in selected mahallas within the broader Fergana socio-economic context provide important insights into local livelihood patterns, employment constraints, and intra-community differences in labour participation.

Across the mahallas consulted, including Ilgor and Cheksura (as part of comparative livelihood assessment), participants consistently described employment as largely informal, unstable, and dependent on daily opportunities. Work is commonly accessed through personal networks, informal labour markets, or short-term recruitment for construction and agricultural activities rather than formal employment channels.

In Urtashura mahalla, FGDs highlighted significant out-migration of working-age males, particularly to Russia and South Korea, where they are primarily employed in construction and manual labour. Households reported that remittances are a primary income source, however, they also noted that income flows are irregular and subject to seasonal variation. The return of migrant workers during off-peak employment periods, particularly in winter months, was identified as a period of increased household economic vulnerability due to reduced cash inflows and limited local employment opportunities.

Participants further indicated that local employment opportunities within the mahalla are limited and predominantly low-paid. Informal construction labour, small-scale trading, and agricultural work were identified as the main income-generating activities. Employment arrangements are typically verbal rather than contractual, with limited access to formal labour protections, social insurance, or job security mechanisms.

In Nurafshon mahalla, livelihoods are strongly characterised by daily commuting and short-term labour engagement in nearby urban and peri-urban areas. Men are predominantly engaged in construction, transport-related work, and casual manual labour, while women are more frequently involved in informal service-sector activities such as catering, cleaning, and small-scale retail. Women's participation in the labour market was reported to be constrained by childcare responsibilities, limited mobility, and cultural expectations regarding household roles.

FGD participants emphasised that employment is highly dependent on daily demand, with individuals often seeking work on a day-to-day basis without guarantee of continuity. This results in significant income volatility and limited capacity for household financial planning.

Across Urtashura and Nurafshon mahallas, participants identified a range of structural barriers to improved employment outcomes, including:

- Limited access to vocational and technical training aligned with labour market demand
- Low digital literacy, restricting access to formal job platforms and emerging employment opportunities
- Transport constraints limiting access to employment opportunities outside local communities
- High childcare and household responsibilities, particularly affecting women's ability to engage in full-time employment
- Weak linkages between education systems and local labour market needs

In addition to these constraints, FGDs also highlighted a strong reliance on social networks for job access. Employment opportunities are frequently obtained through informal referrals rather than formal recruitment systems, reinforcing the prevalence of casual and unregulated labour arrangements.

Participants consistently described prevailing employment conditions as lacking formal contracts, predictable wages, or legal safeguards. This informality was noted to contribute to job insecurity, delayed payments in some cases, and limited recourse in the event of disputes between workers and employers.

While no significant in-migration of external workers was reported in the consulted mahallas, participants noted that labour dynamics are sensitive to broader regional development trends. There was a general perception that future infrastructure or construction projects could attract incoming workers, which may increase pressure on local services, and community infrastructure if not adequately managed.

19.2.3 Labour Market Profile

The Fergana Region represents one of the most densely populated and economically active areas of Uzbekistan, with a labour market characterised by a high reliance on agriculture, small-scale trade, construction, and informal service activities. The region benefits from a large working-age population and a steady supply of low to semi-skilled labour, which supports both local economic activity and external labour migration.

Employment in Fergana is strongly influenced by seasonal agricultural cycles, which continue to play a significant role in rural livelihoods. During peak agricultural periods, labour demand increases substantially, while during off-season periods, workers typically transition into construction, retail, and informal urban employment. This cyclical pattern contributes to a flexible but structurally unstable labour market[26].

The construction sector in Fergana is expanding in line with ongoing urban development, housing demand, and large-scale infrastructure initiatives, including PPP-driven projects such as Eco City developments. The sector primarily relies on semi-skilled and unskilled labour, with a relatively smaller proportion of formally trained tradespeople (e.g., electricians, welders, machinery operators). Skilled labour shortages are intermittently reported, particularly for specialised technical roles and supervisory positions.

The healthcare sector in the region, by contrast, is characterised by formal public employment structures and regulated professional qualification requirements. However, there remains a general shortage of highly specialized medical professionals in certain disciplines, which may necessitate external recruitment or training programmes for advanced hospital operations.

Overall, the labour market in Fergana provides adequate capacity to support large construction projects but is heavily dependent on informal labour channels and internal mobility, which may affect workforce stability, skill consistency, and compliance with formal labour standards.

19.2.4 Labour Rights Enforcement and Institutional Capacity

The labour regulatory framework in Uzbekistan is based on the national Labour Code and supported by institutions under the Ministry of Employment and Poverty Reduction. While the legal framework provides for protections related to wages, working hours, occupational safety, and non-discrimination, enforcement capacity varies across regions and sectors.

In Fergana Region, labour inspections are conducted by regional labour authorities; however, available information suggests that enforcement resources may be constrained relative to the size of the informal labour market. As a result, compliance monitoring is generally stronger in formal enterprises, while informal and subcontracted employment arrangements receive less consistent oversight.

The construction sector presents enforcement challenges due to its reliance on multi-tier subcontracting, temporary employment arrangements, and day labour systems. These factors can reduce visibility of employment relationships and complicate regulatory monitoring of wages, working conditions, and occupational health and safety compliance.

Trade union presence exists within Uzbekistan, primarily through sectoral unions; however, their influence in informal construction settings is limited. Worker representation is more commonly observed in large state-owned or formally structured private enterprises than in small subcontracting firms.

Overall, while institutional frameworks for labour rights protection are in place, effective enforcement in Fergana Region remains variable, particularly in sectors characterised by

[26] https://stat.uz/en/

informal employment. This highlights the importance of project-level labour management systems, contractor oversight, and independent monitoring for large-scale PPP projects such as the Fergana Eco City Hospital.

19.2.5 Employment Practices and Working Conditions

Available information indicates that labour and working conditions across sectors in Uzbekistan vary considerably depending on the level of formalisation of employment, enterprise size, and enforcement capacity of labour regulations. Formal employment within state-owned enterprises and large private companies is generally governed by the Labour Code of Uzbekistan and is characterised by written contracts, defined working hours, and statutory entitlements relating to wages, leave, and social insurance contributions. In contrast, informal employment remains widespread across several key sectors, particularly construction, agriculture, trade, and low-skilled service activities.

The informal economy continues to play a significant role in absorbing surplus labour, especially among rural populations and internal migrants. Workers in informal employment arrangements are typically engaged on a daily-wage or short-term contractual basis, often without formal written agreements. This contributes to a lack of employment security and limited access to legal protections, including social insurance, pension contributions, and workplace grievance mechanisms. In many cases, employment relationships are mediated through informal labour brokers or subcontracting chains, which further weakens traceability of employment conditions and accountability for labour standards.

Within this context, commonly reported labour issues in informal sectors include absence of written contracts, delayed or incomplete wage payments, non-transparent wage deductions, and excessive or unregulated working hours. Workers may also experience limited rest days and overtime that is not formally recorded or compensated in accordance with statutory requirements. In addition, social protection coverage remains low among informal workers, leaving them vulnerable to income shocks, workplace injuries, and seasonal unemployment.

Occupational health and safety (OHS) practices are similarly variable and are often inconsistently implemented in small and medium-sized enterprises (SMEs), particularly within subcontracted operations. While national regulations require employers to provide safe working environments, adequate training, and protective equipment, enforcement at lower tiers of the labour market is often limited. As a result, compliance with OHS requirements tends to be stronger in large-scale, donor-funded, or internationally financed projects, where structured management systems and external monitoring are in place.

In the construction sector relevant to the Fergana Region, labour conditions reflect both national trends and local project-specific dynamics associated with rapid urbanisation and infrastructure expansion. Construction workers may be exposed to a range of occupational hazards, including working at height, excavation works, operation of heavy machinery, manual handling of materials, electrical works, and exposure to dust, vibration, and noise. In addition, seasonal weather conditions such as high summer temperatures and winter cold stress can further increase occupational risks if not adequately managed.

The use of personal protective equipment (PPE) and adherence to safe working procedures varies significantly across contractors and subcontractors. Larger and more established contractors typically demonstrate higher levels of compliance, supported by formalised safety management systems, dedicated HSE personnel, and routine training programmes. In contrast, smaller subcontractors and informal labour arrangements may exhibit lower levels of compliance due to cost constraints, limited awareness, and weaker enforcement of contractual requirements.

Safety training practices are also inconsistent, with induction training and task-specific safety briefings more commonly observed in formal projects, while informal worksites may rely on ad hoc instructions provided by supervisors. Emergency preparedness, incident reporting,

and systematic accident investigation procedures are generally more developed in formal enterprises but remain limited in informal settings.

Overall, the labour market context in Fergana Region reflects a dual structure, where formal employment offers relatively better protection and working conditions, while a significant proportion of workers remain engaged in informal or semi-formal arrangements characterised by higher exposure to labour rights and occupational safety risks. This baseline highlights the importance of robust contractor management, monitoring systems, and enforcement mechanisms for large infrastructure projects such as the Fergana Eco City Hospital, particularly during the construction phase where labour demand and subcontracting levels are expected to be high.

19.2.6 Forced Labour

According to the latest Trafficking in Persons Report issued by the United States Department of State, Uzbekistan has not yet attained full compliance with minimum standards for the elimination of human trafficking, although significant progress towards these standards has been realised. In 2019, there were 95 reported victims of human trafficking, 89 of whom were victims of sexual exploitation. While most of the victims were exploited abroad, 15 endured exploitations within the country. The report highlights that Uzbekistan's efforts include steps to end to the systematic mobilisation of students, teachers, and health care personnel for the annual cotton harvest, and granting international, third-party observers' unimpeded access for monitoring purposes. According to 2017 data from Uzbek Ministry of Internal Affairs, out of 501 victims of human trafficking, 303 were women, 198 were men which includes 61 children. In 2018, the victims included 147 women, 103 men and 41 children. In 2019, the victims of human trafficking included 87 women, three men and 35 children.

In July 2019, a Decree of the President of the Republic of Uzbekistan titled Additional Measures to Further Improve the System of Combating Trafficking in Persons and Forced Labour, entered into force. It transformed the Interdepartmental Commission of the Republic for Combating Human Trafficking into a National Commission under the guidance of the President of the Senate. The Commission comprises two sub-committees chaired by the Ministry of Internal Affairs and the Ministry of Employment respectively. Regional commissions were created in each of the Country's regions and a national rapporteur was eventually appointed.

In August 2020, the country's 2008 law on human trafficking was amended as new concepts, preventive measures, and a procedure to identify victims of human trafficking (including minors and their rights), were introduced. While listing the main policy lines in this sector, the law provides a specific definition of the status of the National and Territorial Commissions for combating human trafficking and forced labour, as well as the powers of the Council of Ministers. The relevant government agencies include the General Prosecutor's Office and the Ministry of Employment and Labour Relations. A new chapter on human trafficking prevention has been introduced in the legislation, with measures ranging from ongoing monitoring and awareness raising campaigns on dangerous situations to the development and implementation of educational programs in public and private educational establishments. The Ministry of Internal Affairs will create a unified database for human trafficking crimes, with information on traffickers, victims and the various types of exploitation. The new law introduces a two-stage procedure to identify the victims of human trafficking. When individuals are granted the status of victim of human trafficking they are entitled to rehabilitation and social integration programs, according to the outcome of the final investigation carried out by the Territorial Committee (United States Department of State, 2021).

19.2.7 Child Labour

In 2019, Uzbekistan achieved appreciable progress in action towards the elimination of the worst forms of child labour. The government took active measures to prevent the use of child labour in the cotton harvest, including by introducing criminal penalties for repeat violations of hazardous work prohibitions, doubling the number of labour inspectors, and conducting extensive awareness-raising on child labour laws and penalties for violations. The government also established a new National Commission on Combating Trafficking in Persons and Forced Labour and adopted a new roadmap to combat trafficking in persons and forced labour. However, children in Uzbekistan engage in the worst forms of child labour, including in commercial sexual exploitation. Although the government made meaningful efforts in all relevant areas, laws prohibiting the commercial sexual exploitation of children do not meet international standards. Uzbekistan also has not carried out a national child labour survey to determine the prevalence of child labour in sectors other than cotton production.

Surveys conducted by UNESCO and ILO have shown that about 5% of children in Uzbekistan are engaged in work during studies, and 4.3% are fully devoted to employment. Whilst the surveys have indicated that children below the age of 18 years are chiefly employed in the agricultural and service industries, children were also shown to engage in sex trafficking transnationally, and also internally in brothels, clubs, and private residences. Children in institutions were also shown to be vulnerable to sex trafficking. Table 19-1 below provides an overview of the sectors and occupations reported to employ minors in Uzbekistan.

Table 19-1 Sectors and Work Streams Employing Child Labour in Uzbekistan

Sector/ Category of Labour	Activity
Agriculture	- Cultivating silk cocoons; - Preparing land for crop planting.
Services	- Vending; - Car washing; - Collection of scrap metals; - Refurbishing school grounds and facilities; - Vending in markets.
Categorical Worst Forms of Child Labour	- Commercial sexual exploitation, sometimes as a result of human trafficking; - Forced labour in cultivating silk cocoons; - Forced labour in construction, non-cotton agriculture, and cleaning parks, streets, and buildings.

With regards to child labour in agriculture and the cotton cultivation sub-sector in particular, the Government of Uzbekistan abolished the oppressive quota system that governed cotton production in some parts of Uzbekistan in 2020. Under the pre-existing cotton production quota system, regional and local officials were mandated to mobilise sufficient labour to meet production targets assigned to farmers, and child workers were recruited with onerous working conditions. Vestiges of child labour in cotton farming are reported to employ children in a supporting capacity, whereby older children assist in harvesting to supplement household income (United States Embassy in Uzbekistan, 2022).

Table 19-2 provides a summary of key mechanisms for the Government's coordination of efforts towards the eradication of child labour in Uzbekistan.

Table 19-2 Mechanisms for Governmental Coordination of Child Labour Eradication Requirements Set out in Uzbekistan's Legal Framework

Sector/ Category of Labour	Activity
National Commission on Combating Trafficking in Persons and Forced Labour (National Commission)	- Coordinates state and local entities' efforts to combat trafficking in persons and forced labour; - Analyses and monitors efficacy of government programs to address trafficking in persons and forced labour; - Organises international cooperation on combating human trafficking and forced labour; - Provides legal and policy recommendations for improvement of government efforts in these areas. Chaired by the National Rapporteur on Combating Trafficking in Persons and Forced Labour. Comprises the two sub-commissions on combating human trafficking and on forced labour, respectively. The Minister of Internal Affairs heads the Sub-Commission on Combating Trafficking in Persons and the Minister of Labour heads the Sub-Commission on Combating Forced Labour. In 2019, the National Commission drafted and adopted a roadmap to combat trafficking in persons and forced labour, and roadmaps for the cotton harvest, a national plan for work with international organizations, and a media plan.
National Rapporteur on Combating Trafficking in Persons and Forced Labour (National Rapporteur)	Chairs the National Commission on Combating Trafficking in Persons and Forced Labour. - Reports annually to the President on trafficking in persons and forced labor issues, government efforts to punish perpetrators, and services for victims of human trafficking and forced labor crimes. - Conducts public awareness-raising activities related to human trafficking and forced labor. (35) In 2019, the National Rapporteur convened the National Commission monthly.
Local Commissions for Combating Human Trafficking and Forced Labour (Local Commissions)	- Ensure timely and rigorous implementation of all laws and regulations, including those issued by the National Commission, related to trafficking in persons and forced labour. Local Commissions mirror the structure of the National Commission, with sub-commissions on trafficking in persons and on forced labor, respectively. Local Commissions are chaired by the regional hokim (governor) and provide monthly reports to the National Commission.

FGDs conducted across selected Fergana Mahallas within the Project Area of Influence provide mixed insights into community perceptions and reported practices related to child and forced labour in Ilgor Mahalla, Chekshura Mahalla, Nurafshon Mahalla, and Urtashura Mahalla.

Overall, participants across these communities generally reported an absence of child labour practices. In several discussions, children were described primarily as learners, with households emphasising the importance of school attendance and educational attainment as a key priority for long-term socio-economic mobility.

However, the FGDs also indicate variation in the extent to which children participate in household and agricultural activities. In some households, children's involvement in domestic chores and livestock-related tasks was reported as part of normal family responsibilities. While these practices are socially accepted and typically informal and

unpaid, they may result in reduced study time and occasional school absenteeism, particularly during peak agricultural periods.

In a limited number of cases, it was noted that household economic arrangements, including small-scale livestock activities supported through preferential loans, may contribute to increased reliance on children for animal care and related tasks. This can place an additional labour burden on minors, even where such practices are not formally recognised as child labour within the community.

Overall, the FGDs across Ilgor, Chekshura, Nurafshon, and Urtashura Mahallas suggest that while forced labour is not a reported concern, child participation in household and livelihood activities persists in varying degrees. These findings highlight the importance of continued monitoring and awareness-raising to ensure that children's involvement in domestic and economic activities does not negatively affect their education, well-being, or alignment with applicable child protection and labour standards.

19.2.8 Occupational Health and Safety

Occupational health and safety (OHS) in Uzbekistan is governed by the Labour Code of the Republic of Uzbekistan and associated occupational safety legislation, which establish employer responsibilities relating to safe working conditions, the provision of personal protective equipment (PPE), worker training, accident reporting and the prevention of occupational injuries and illnesses. Compliance with these requirements is monitored by the State Labour Inspectorate through workplace inspections, accident investigations and enforcement of labour legislation.

Official statistics indicate that occupational accidents remain a concern across several sectors of the Uzbek economy, particularly those involving construction and industrial activities. During 2025, the State Labour Inspectorate investigated and recorded 849 work-related accidents, resulting in 961 injured workers, including 680 serious injuries, and 248 fatalities. The construction sector recorded the highest number of workplace accidents (234 cases), followed by the light industry (47 cases) and transport (37 cases). Enforcement action was taken against employers and responsible officials, including the initiation of 432 criminal cases and 241 administrative penalties for breaches of labour legislation associated with serious workplace incidents. These findings highlight the continued importance of effective occupational health and safety management, particularly within the construction sector, which is relevant to the proposed Project (ZAMIN 2026).

More recent data indicate that occupational safety remains a national priority. During the first half of 2026**,** 447 workplace accidents affecting 494 workers were recorded, including 137 fatalities and 337 serious injuries**.** The highest number of reported incidents occurred in heavy industry (144 cases) and the construction sector (127 cases)**,** while comparatively fewer accidents were recorded in the healthcare sector (14 cases). These findings indicate that, although healthcare presents lower rates of traumatic workplace accidents than construction and heavy industry, healthcare workers remain exposed to sector-specific occupational hazards, including biological agents, infectious diseases, sharps injuries, hazardous pharmaceuticals and chemicals, ergonomic risks associated with patient handling, and psychosocial stress (The Tashkent Times 2026).

19.2.9 Gender and Vulnerable Workers in the Labour Market

Labour force participation in Uzbekistan demonstrates notable gender disparities, particularly in the construction sector, which remains heavily male dominated. Women's participation in construction related employment in Fergana Region is minimal and is generally concentrated in indirect support roles or informal service activities.

Women are more commonly engaged in the service sector, including retail, catering, cleaning, education, and healthcare. However, these roles are often characterised by

informal or semi-formal employment arrangements, lower wage levels, and limited career progression opportunities. Barriers to female labour force participation include caregiving responsibilities, limited mobility, cultural norms, and restricted access to vocational training in technical fields[27].

Vulnerable groups in the Fergana labour market include low-income rural populations, internal migrants, youth entering the labour market for the first time, and workers with limited formal education or technical skills. These groups are more likely to be engaged in informal employment and are therefore more exposed to insecure working conditions, wage variability, and limited social protection[28].

Youth employment is particularly relevant in the region, with many young workers entering construction, agriculture, or informal trade sectors immediately after completing secondary education. While this provides early income opportunities, it often occurs outside structured training or apprenticeship systems, limiting long-term skills development.

The presence of vulnerable worker groups underscores the importance of inclusive employment practices, equal opportunity measures, and targeted labour protections during project implementation.

19.2.10 Labour Accommodation and Living Conditions

Housing conditions for low-income and migrant workers in Fergana Region generally depend on income level, employment type, and proximity to urban centres. In the absence of project-provided facilities, such workers particularly those engaged in informal or temporary employment typically rely on shared rental housing, employer-provided dormitories, or family-based living arrangements. For the Fergana Eco City Hospital Project, the majority of the construction workforce (to constitute of unskilled workers) is expected to be recruited from Fergana City and the surrounding region, whilst skilled workers may be recruited locally or from surrounding countries. The Project will develop onsite workers accommodation. Senior management and specialist personnel may be accommodated in rented apartments or other commercial accommodation within Fergana City, in close proximity to the Project site. The provision of on-site accommodation is expected to minimise demand for local rental housing and reduce potential pressure on housing availability and municipal services during the construction phase.

All workers' accommodation associated with the Project will be designed, constructed, operated, and maintained in accordance with the IFC/EBRD Workers' Accommodation: Processes and Standards guidance. This includes adequate living space, ventilation, potable water, sanitation facilities, fire safety systems, emergency lighting, safe means of egress, food preparation and refrigeration facilities, waste management, cleaning programmes, welfare facilities, and appropriate security arrangements.

Prior to commencement of the main construction works, the Project Company and EPC Contractor will confirm the feasibility of accommodating the anticipated peak construction workforce within the Project site. A detailed Workers' Accommodation Management Plan, together with the accommodation layout and supporting facilities, will be developed prior to occupation and implemented throughout the construction phase.

19.2.11 Retrenchment Policy and Practice in Uzbekistan

Retrenchment in Uzbekistan is governed by the Labour Code of the Republic of Uzbekistan, which regulates workforce reductions resulting from organizational restructuring, technological changes, economic circumstances, liquidation of enterprises, or reductions in staffing levels. The legislation requires employers to demonstrate legitimate grounds for

[27] https://www.worldbank.org/ext/en/country/uzbekistan

[28] https://www.adb.org/where-we-work/uzbekistan

redundancy and to follow established procedures designed to protect workers from arbitrary dismissal[29].

Where workforce reductions are necessary, employers are required to provide affected employees with appropriate notice, settle all outstanding wages and employment-related benefits, and provide severance compensation in accordance with legal requirements. Employers are also encouraged to consider alternative employment opportunities within the organization before proceeding with termination.

The Labour Code provides additional protections for vulnerable categories of workers and grants employees the right to challenge termination decisions through labour dispute resolution mechanisms. These provisions aim to ensure that retrenchment processes are conducted fairly, transparently, and in accordance with workers' rights.

In Uzbekistan, workforce reductions are commonly associated with organizational restructuring, privatization initiatives, economic reforms, and the completion of large construction projects where labour demand declines following peak construction activities. Consequently, workforce demobilization at the end of construction phases is generally recognized as a normal feature of project-based employment.

International lenders, including the IFC, EBRD, and DFC, require that retrenchment be managed in a manner consistent with national legislation and international good practice. Where significant workforce reductions are anticipated, projects are expected to implement retrenchment planning measures that include worker consultation, transparent selection criteria, adequate compensation, grievance mechanisms, and measures to minimize adverse socio-economic impacts on affected workers.

For the Fergana Eco City Hospital Project, workforce reductions may occur during the transition from construction to operation as temporary construction-related employment comes to an end. Any such workforce demobilization will be managed in accordance with Uzbek labour legislation and applicable lender requirements to ensure fair treatment of workers and protection of their rights.

19.1 Area of Influence and Receptors

19.1.1 Area of Influence

The AoI for Labour and Working Conditions is defined as the spatial and organisational extent within which Project-related labour management decisions, employment practices, recruitment processes, working conditions, and worker welfare arrangements may be established, influenced, or affected across the Project lifecycle. The AoI reflects the requirements of IFC Performance Standard 2, EBRD Environmental and Social Requirement 2, and the DFC Environmental and Social Policy and Procedures (2024), particularly in relation to contractor management, supply chain labour risks, and workforce mobility.

The AoI for Labour and Working Conditions for the Fergana Eco City Hospital Project includes the following components:

- The 8-hectare hospital footprint and the wider Eco City masterplan area, which will host core construction activities, site-based workforce deployment, temporary facilities, and potential worker accommodation and welfare infrastructure during the construction phase.

[29] Retrenchment and redundancy in Uzbekistan are governed by the Labour Code of the Republic of Uzbekistan (Law No. ORQ-820, effective 30 April 2023)

- Offices and operational bases of the Project Company (SPV), EPC Contractor (KOC Construction Mekanik Elektrik LLC FE), subcontractors, and the future Facility Management Company (FM Co.), where recruitment, procurement, workforce planning, and labour management decisions are undertaken.
- Local communities within Fergana City and surrounding mahallas, as well as broader regional and national labour markets across Uzbekistan, from which skilled, semi-skilled, and unskilled workers are expected to be recruited. This includes both formal recruitment channels and informal labour supply networks typical of the construction sector.
- Workers' accommodation within the Project area. This will include employer-provided dormitories and any temporary worker accommodation facilities that may be established during peak construction periods. While the exact configuration and layout of these facilities will be determined by the contractor and subject to applicable regulatory approvals, they are expected to be located within the Eco City development area.
- Road networks and mobility routes used for daily worker commuting, workforce mobilisation, and transport of personnel between accommodation areas and the Project site. These include internal Eco City access roads and external connections to Fergana City and surrounding districts.

19.1.2 Receptors

The following table identifies the key Environmental and Social (E&S) receptors relevant to Labour and Working Conditions, along with their sensitivity and justification in the context of the project:

Table 19-3 E&S Impact Receptors – Labour and Working Conditions

Receptor	Sensitivity	Justification
Prospective construction workers (skilled, semi-skilled, and unskilled)	**Medium**	Employment terms, wages, working hours, occupational health and safety (OHS) provisions, and access to grievance mechanisms will be defined during pre-construction. Decisions taken by contractors and the Project Company will directly affect working conditions and worker welfare throughout the construction phase.
Local job seekers from Fergana City and surrounding mahallas	**Medium**	Local communities may expect priority access to employment opportunities. Sensitivity arises from the risk of exclusion, unequal access to jobs, or non-transparent recruitment practices if local hiring procedures are not clearly defined and implemented.
Migrant and non-local workers (regional and national)	**High**	Migrant workers are more vulnerable due to reliance on employers for contracts, accommodation, transport, and information. They may also face higher risks of exploitation, recruitment fees, and limited awareness of rights in the absence of strong labour management systems.
Workers employed through EPC Contractors and subcontractors	**High**	Labour conditions may vary significantly across tiers of subcontracting. Without robust contractual labour requirements and monitoring, risks may arise related to inconsistent wages, excessive working hours,

Receptor	Sensitivity	Justification
		inadequate OHS practices, and weak enforcement of worker rights.
Support and ancillary service workers (security, catering, cleaning, transport, maintenance)	**Medium**	These workers are typically employed through third-party service providers and may face lower job security, variable working conditions, and reduced access to grievance mechanisms unless explicitly included in Project labour standards and contractual obligations.
Vulnerable worker groups (including youth, low-skilled workers, informal daily labourers, and workers with limited literacy)	**High**	Vulnerable groups may have limited bargaining power and awareness of labour rights. Without targeted safeguards, they are at higher risk of discrimination, unsafe working conditions, wage exploitation, and exclusion from formal employment mechanisms.
Female workers and workers at risk of GBVH (Gender-Based Violence and Harassment)	**High**	Although female participation in construction is limited, women engaged in construction-related services or auxiliary roles may face heightened risks of discrimination and GBVH. Sensitivity is increased due to the need for safe working environments, reporting mechanisms, and inclusive workplace policies in line with DFC and IFC requirements.
Labour regulatory and enforcement institutions (regional labour inspectorates and authorities)	**Medium**	These institutions play a key role in labour law enforcement, however, capacity constraints may limit inspection frequency and enforcement effectiveness, particularly in subcontracted and informal employment arrangements.

19.2 Potential Impacts, Mitigation, Management & Residual Impacts

19.2.1 Construction Phase

The construction phase of the Fergana Eco City Hospital Project is expected to generate significant employment demand, with a peak workforce of approximately 1,865 workers engaged across civil works, structural construction, MEP installation, equipment integration, and associated support services. This workforce will comprise a combination of direct employees of the EPC Contractor, subcontracted labour, and workers engaged through third-party service providers. In line with IFC Performance Standard 2 (PS2), EBRD Environmental and Social Requirement 2 (ESR2), and DFC Environmental and Social Policy and Procedures (ESPP), the Project will need to ensure that labour risks are systematically identified and managed across all tiers of employment relationships.

19.2.1.1 Early Works Labour and HSE Management

At the time of this assessment, Project activities onsite were limited to early enabling works consisting of site fencing. Although these activities involve a relatively small workforce, they present occupational health and safety and labour management risks requiring appropriate management prior to implementation of the full construction Environmental and Social Management System (ESMS).

Pending implementation of the comprehensive Construction ESMS, the EPC Contractor will develop and implement a standalone Interim Environmental, Social and Health & Safety Management Plan applicable to all early works activities. The interim plan will establish minimum requirements for occupational health and safety, emergency preparedness, labour management, contractor supervision, incident reporting, worker welfare, and environmental controls. A suitably qualified Health, Environmental and Safety (HSE) Manager will be appointed on site throughout the early works period to oversee implementation of the interim management arrangements and monitor compliance with Project requirements.

It was communicated that the early works pertaining Project perimeter fencing were concluded, and temporary construction workers were no longer present onsite

19.2.1.2 Employment generation and local economic benefits

Construction activities are expected to generate positive socio-economic benefits through direct and indirect employment opportunities for residents of Fergana City, surrounding mahallas, and wider districts of the Fergana Region. The demand for labour will span multiple skill levels, including unskilled workers for general construction activities, semi-skilled workers for trades such as masonry and steel fixing, and skilled personnel for specialised technical works such as electrical installation, HVAC systems, and medical equipment integration. This demand is expected to contribute to temporary income generation, local business stimulation, and increased economic circulation within the project influence area.

The significance of this impact is considered positive, direct, regional in extent, and moderate in magnitude, particularly where local recruitment is effectively implemented and supported through transparent hiring mechanisms and skills development initiatives.

19.2.1.3 Labour rights, employment conditions, and contractor management

Despite the positive employment benefits, construction activities also present risks associated with inconsistent employment conditions across multiple contractors and subcontractors. These risks typically include the absence or inadequacy of written contracts, delayed or incomplete wage payments, excessive working hours, inconsistent application of overtime provisions, and variable access to grievance mechanisms. Such risks are particularly relevant in construction environments characterised by multi-layer subcontracting structures and high reliance on temporary or informal labour arrangements.

To manage these risks, the Project Company will develop and implement a Labour Management Plan (LMP) in accordance with applicable national labour legislation, IFC Performance Standard 2 (Labour and Working Conditions), EBRD Performance Requirement 2 (Labour and Working Conditions), and other applicable lender requirements. The LMP will apply to all categories of project workers, including direct workers, contractor and subcontractor workers, and, where relevant, primary supply chain workers.

The LMP will establish requirements and procedures relating to: (i) terms and conditions of employment; (ii) recruitment and hiring practices; (iii) prohibition of forced labour, child labour, and human trafficking; (iv) non-discrimination and equal opportunity; (v) wages, benefits, working hours, overtime, and leave entitlements; (vi) workers' accommodation, where provided; (vii) occupational health and safety management; (viii) worker welfare provisions; (ix) worker grievance mechanisms; (x) freedom of association and collective bargaining, consistent with national law and lender requirements; (xi) contractor and subcontractor labour management and monitoring; and (xii) labour and human rights due diligence within the primary supply chain, where applicable.

All personnel will be engaged under written employment contracts that clearly define their terms and conditions of employment, including roles and responsibilities, remuneration, working hours, benefits, leave entitlements, disciplinary procedures, and access to grievance

mechanisms. Recruitment processes will be conducted on a voluntary, transparent, and non-discriminatory basis, with strict prohibition on recruitment fees, coercion, forced labour, and any other form of labour exploitation. Contractors and subcontractors will be required to comply with the provisions of the LMP, applicable national labour legislation, and good international practice standards through contractual obligations and ongoing performance monitoring.

Worker welfare and human rights risks will be proactively managed through implementation of the LMP, robust contractual controls, regular audits and inspections, workforce engagement, effective grievance management, and corrective action processes throughout the construction period. These measures will reduce the likelihood of labour-related non-compliance and adverse social impacts while promoting fair, safe, and equitable working conditions for all project workers.

A structured worker grievance mechanism will be established and made accessible to all workers, including subcontracted and migrant labour. The mechanism will ensure confidentiality, non-retaliation, and timely resolution of complaints. The EPC Contractor will also be required to conduct regular audits of subcontractors to verify compliance with labour standards, supported by periodic reporting to the Project Company. With the implementation of these measures, the residual impact is considered minor adverse, reflecting a controlled and managed labour environment consistent with international good practice.

Prior to mobilisation of the main construction workforce, the Project Company will undertake labour compliance verification of workers currently engaged by the EPC Contractor. This verification will include confirmation of employment status, written contracts, legal right to work, wage payment records, working hours, age verification, and other employment conditions consistent with national legislation and IFC PS 2.

19.2.1.4 Occupational Health and Safety (OHS)

Construction activities will expose workers to a range of occupational health and safety hazards, including working at height, excavation works, movement of heavy machinery, electrical installations, manual handling of materials, and exposure to dust, noise, vibration, and hazardous substances. These risks are inherent to large-scale construction projects and may result in injuries or, in severe cases, fatalities if not adequately managed.

The significance of this impact is considered negative, direct, site-specific, and major prior to mitigation, reflecting the inherently high-risk nature of construction activities.

To mitigate these risks, the EPC Contractor will implement a comprehensive Occupational Health and Safety Management System aligned with national legislation and World Bank Group EHS Guidelines. This will include mandatory induction training for all workers, task-specific risk assessments, Permit-to-Work systems for high-risk activities, and provision of appropriate personal protective equipment (PPE) at no cost to workers.

Additional controls will include traffic management systems to segregate pedestrians and vehicles, fall protection measures for work at height, safe lifting procedures, electrical safety protocols, and strict supervision of machinery operation. Emergency preparedness measures, including first aid facilities, emergency evacuation procedures, and incident reporting systems, will also be established. Regular safety inspections, audits, and incident investigations will be conducted to ensure continuous improvement.

With effective implementation of these measures, the residual impact is considered moderate adverse, reflecting a controlled but inherently hazardous construction environment.

19.2.1.5 Worker accommodation and living conditions

Worker accommodation is to be provided onsite with potential for impacts related to overcrowding, inadequate sanitation, poor hygiene standards, insufficient ventilation, and limited access to recreational or welfare facilities. Such conditions may contribute to worker dissatisfaction, health risks, and increased potential for communicable disease transmission.

These risks are particularly relevant during peak construction periods when demand for accommodation may exceed local supply, leading to informal or substandard housing arrangements in surrounding areas. The significance of this impact is considered negative, local in extent, medium-term, and moderate prior to mitigation.

To address these risks, all accommodation facilities will be developed and managed in accordance with IFC and EBRD Workers' Accommodation: Processes and Standards guidance. Accommodation will be required to provide adequate space, sanitation, potable water, waste management systems, ventilation, and safe cooking and dining facilities. Regular inspections will be undertaken to ensure compliance with hygiene and safety standards.

Prior to mobilisation of the peak workforce, the Project Company and EPC Contractor will confirm whether sufficient accommodation capacity exists to house all workers on site in accordance with IFC/EBRD Workers' Accommodation standards. Should capacity constraints be identified, appropriate alternative accommodation arrangements will be developed to avoid pressure on local housing markets and associated community impacts.

During the current early works phase, temporary accommodation facilities will be subject to interim health, safety, and welfare controls pending development of the permanent workers' accommodation facilities. Where temporary container accommodation is utilised, minimum controls will include adequate fire extinguishers, emergency lighting, clearly marked emergency exits, potable water, sanitation facilities, appropriate ventilation, food storage facilities, routine cleaning schedules, and regular inspections.

The Project Company will verify that temporary accommodation complies, to the extent reasonably practicable, with the IFC/EBRD Workers' Accommodation: Processes and Standards guidance. Where temporary facilities cannot achieve these standards, alternative accommodation arrangements meeting the required standards will be provided.

19.2.1.6 Labour influx and community interaction

The mobilisation of a large construction workforce will be managed through on-site worker accommodation within the Eco City development, thereby avoiding labour influx into Fergana City and surrounding areas and eliminating associated pressure on local housing markets, transportation, food services, and other urban infrastructure.

As workers will be accommodated on site, interaction between the construction workforce and nearby communities will be significantly reduced, thereby minimising the potential for cultural tensions or inappropriate behaviour. The significance of the impact is therefore considered negative, indirect, local in extent, and medium-term, but reduced in magnitude compared to scenarios involving off-site accommodation.

To further manage residual risks, a Labour Influx Management Plan will be implemented, including prioritisation of local recruitment where feasible, structured management of on-site workforce accommodation, and enforcement of a Worker Code of Conduct outlining expected behaviour, respect for local customs, and disciplinary measures for misconduct. Community grievance mechanisms will be established to enable local residents to report any concerns related to construction activities. Ongoing coordination with local authorities and mahalla representatives will also be maintained. With these mitigation measures in place, the residual impact is considered minor adverse.

19.2.1.7 Child labour and forced labour risks

Although Uzbekistan has made significant progress in eliminating systemic forced labour and child labour, residual risks may still exist within informal labour markets and subcontracting arrangements. These risks may arise particularly during recruitment processes, where undocumented labour, informal hiring, or third-party labour brokers are used.

For the purposes of this assessment:

- Direct risks may arise where contractors or subcontractors engaged for project work fail to implement adequate labour screening, age verification, or ethical recruitment procedures, potentially resulting in the inadvertent employment of underage workers or forced labour conditions within the project workforce.
- Indirect risks may arise through upstream recruitment agents, labour brokers, or supply chain actors not directly controlled by the Project, where workers may be subjected to coercive recruitment practices prior to their engagement on the Project.

To mitigate these risks, the Project will implement a strict prohibition on child labour and forced labour, supported by mandatory age verification procedures for all workers. Contractors will be required to conduct labour due diligence for all subcontractors and labour agencies. No worker will be required to pay recruitment fees, and all recruitment processes will be documented and transparent.

Regular labour inspections and audits will be conducted to ensure compliance, and any identified violations will trigger corrective action, including termination of contracts where necessary. A confidential grievance mechanism will also be available for reporting labour rights violations. With these controls, the residual impact is considered minor adverse.

19.2.1.8 Gender-Based Violence and Harassment (GBVH), Sexual Exploitation and Abuse (SEA), and Sexual Harassment (SH)

The construction phase of the Fergana Eco City Hospital Project is expected to involve a temporary influx of construction workers, including a predominance of male workers recruited from within Fergana Region and other regions of Uzbekistan. In line with typical large-scale construction projects, this influx may create conditions that increase the risk of Gender-Based Violence and Harassment (GBVH), Sexual Exploitation and Abuse (SEA), and Sexual Harassment (SH) both within the workforce and between workers and surrounding communities.

The separation of workers from their families and familiar social environments, combined with long working hours, high-pressure work environments, and informal living arrangements, may contribute to increased vulnerability to inappropriate behaviour, peer pressure, and misconduct. There is a potential risk that such conditions could lead to incidents of harassment or exploitation targeting local women, adolescent girls and boys, or female workers within the Project workforce. These risks may be further exacerbated where supervision is weak or where subcontractor labour is not adequately controlled.

Within the local context of Fergana City and surrounding mahallas, women’s mobility in public spaces and their participation in non-traditional sectors such as construction remain limited. This may increase vulnerability to unwanted attention, harassment, or socially inappropriate behaviour linked to worker-community interactions, particularly in areas adjacent to worker accommodation sites, transport routes, and informal gathering areas.

The significance of this impact is considered negative, indirect and direct, workforce and community-related, medium-term in duration, and high in magnitude prior to mitigation, due to the sensitivity of the issue and alignment with IFC PS2, EBRD ESR2, and DFC GBVH requirements.

GBVH/SEA/SH Risks in Worker Accommodation Facilities

Worker accommodation will be provided on-site in controlled facilities. Despite managed conditions, GBVH risks may arise due to close living arrangements, shared amenities, and interaction among a predominantly male, culturally diverse workforce. Female workers may face heightened vulnerability, including harassment, intimidation, and reduced privacy in dormitory settings.

The EPC Contractor will apply accommodation standards consistent with IFC and EBRD Workers' Accommodation Guidance. Key measures will include gender-segregated or clearly separated accommodation blocks, secure access control, adequate lighting, and separate sanitation facilities. Accommodation design will incorporate privacy considerations and safe communal spaces where appropriate. Facilities will be actively supervised and managed to ensure acceptable conduct standards are maintained.

Residual impact could be minor to moderate adverse, depending on enforcement effectiveness.

Workplace GBVH/SH and Power Imbalances

GBVH risks may also arise in the workplace due to hierarchical reporting structures and the male-dominated nature of construction activities. Potential risks include verbal harassment, intimidation, discriminatory treatment, and unwanted advances, particularly affecting lower-skilled and female workers.

To manage these risks, the EPC Contractor will implement a zero-tolerance GBVH policy applicable to all personnel, supported by mandatory induction and periodic refresher training. Supervisory staff will receive additional training on appropriate conduct, disciplinary procedures, and complaint handling. A confidential, survivor-centred grievance mechanism will be established with referral pathways to medical, psychosocial, and legal support services as required.

With these measures in place, the residual impact is considered minor adverse.

GBVH Risks Associated with Labour Influx and Community Interaction

Interaction between construction workers and surrounding communities may increase GBVH-related risks in nearby urban and informal social settings. While no evidence of systemic GBVH is identified locally, international experience indicates that unmanaged labour influx can increase risks of harassment or inappropriate behaviour.

The EPC Contractor will implement a Worker Code of Conduct prohibiting harassment and misconduct toward community members, supported by training on cultural sensitivity and respectful behaviour. A monitoring system for complaints and incidents will be established, with coordination mechanisms involving local authorities and community representatives to address concerns promptly.

Following mitigation, the residual impact is considered minor adverse.

Wage Discrimination and Gender Inequality

Women in the construction sector may face indirect discrimination through occupational segregation and limited access to skilled roles, leading to potential wage disparities arising from job allocation rather than formal pay structures.

The EPC Contractor will implement an Equal Opportunity and Non-Discrimination Policy requiring equal pay for work of equal value and merit-based recruitment practices. Opportunities for women's participation in suitable roles (e.g., administration, logistics, HSE support) will be promoted, and workforce composition will be monitored by job category and gender.

With these measures in place, the residual impact is considered minor adverse with potential for moderate beneficial effects where inclusion is achieved.

Discrimination Related to Employment Benefits, Family Responsibilities, and Social Norms

There is a risk of indirect discrimination against women due to perceptions related to maternity, caregiving responsibilities, and workforce continuity requirements, despite existing legal protections under national law.

The EPC Contractor will ensure recruitment and employment policies explicitly prohibit discrimination based on gender, marital status, pregnancy, or family responsibilities. Employment terms, including maternity and paternity rights, will be clearly communicated in written contracts or verbally explained where necessary to ensure full understanding.

Following mitigation, the residual impact is considered minor adverse.

Discrimination Based on Sexual Orientation and Gender Identity

Although not explicitly protected under national legislation, individuals with diverse sexual orientation or gender identity may face stigma or exclusion in conservative, male-dominated work environments.

The EPC Contractor will enforce a non-discrimination Code of Conduct covering all personal characteristics and ensure a confidential grievance mechanism is available, with protection from retaliation. Awareness training on respectful behaviour and inclusion will be provided to all workers.

With these measures in place, the residual impact is considered minor adverse.

19.2.1.9 Wages, Working Hours, Right to Health & Rest and Job Security

During the construction phase, workers may be exposed to labour related risks such as excessive working hours, unpaid or involuntary overtime, delayed wage payments, or unclear employment conditions if labour management arrangements are inadequately implemented. Such practices can adversely affect workers' health, well-being, morale, and productivity, and may also give rise to grievances or labour disputes. National labour legislation establishes clear requirements regarding maximum working hours, rest periods, overtime compensation, and timely payment of wages, which are intended to safeguard workers' rights and ensure fair and safe working conditions.

In line with these requirements, the Project and its contractors will implement robust labour management procedures to ensure that all working hours remain within legally prescribed limits, with any overtime undertaken on a voluntary basis and compensated at the applicable statutory rates. Wages will be paid on a regular and predictable schedule, in a transparent manner, and without unlawful deductions, ensuring that workers clearly understand how their remuneration is calculated. The principle of equal pay for work of equal value will be applied consistently, irrespective of gender, nationality, or other personal characteristics. Employment during the construction phase will be contractual and time-bound, with workers clearly informed at the outset of the duration, terms, and conditions of their employment. This transparency will help manage expectations, reduce uncertainty regarding job security, and minimise the risk of misunderstandings or disputes between workers and employers.

19.2.1.10 Collective Bargaining and Freedom of Association

Although Uzbekistan's Labour Code (Article 30) provides for collective bargaining rights, and workers are legally entitled to form or join trade unions, there is a potential risk that freedom of association and collective bargaining may be limited in practice, particularly within private sector construction environments where union presence is typically low.

This risk may arise where subcontracting arrangements, informal labour recruitment, or site-level management practices inadvertently discourage workers from organising, engaging in collective dialogue, or raising workplace concerns through representative structures. In such contexts, workers may perceive constraints or fear potential repercussions for participating in collective activities, even where no formal restriction exists.

The significance of this potential impact is considered negative, indirect, and of moderate significance, particularly during the construction phase where workforce turnover and subcontracting are expected to be high.

19.2.1.11 Workers' Freedom of Movement

There is a potential risk of perceived or informal restrictions on workers' freedom of movement, particularly for non-local workers residing in accommodation camps or managed housing facilities. While workers are expected to have the right to move freely within the community, project-related security protocols, accommodation arrangements, or informal management controls may inadvertently be perceived as limiting mobility.

In addition, unrestricted movement of workers into surrounding communities may contribute to potential social tensions or misunderstandings, particularly where cultural, behavioural, or religious differences exist between the workforce and local communities. Such interactions may create perceptions of inappropriate behaviour or cultural insensitivity if not adequately managed.

The significance of this potential impact is considered negative, indirect, local to regional in extent, and low to moderate in magnitude, depending on workforce size and level of community interaction.

19.2.1.12 Worker Grievance Mechanism

In the absence of a fully effective, trusted, and accessible worker grievance mechanism, there is a potential risk that worker complaints and concerns may not be adequately raised, addressed, or resolved in a timely manner. This may include issues related to employment conditions, occupational health and safety, accommodation standards, discrimination, harassment, or other workplace-related matters.

Where grievance channels are weak, poorly communicated, or not perceived as confidential or free from retaliation, workers may be discouraged from reporting issues. This can result in unresolved grievances escalating into worker dissatisfaction, reduced morale, workplace conflict, or potential reputational and compliance risks for the Project.

The significance of this potential impact is considered negative, direct, and moderate in the absence of effective mitigation measures, particularly during peak construction activities involving large, subcontracted workforces.

19.2.1.13 Retrenchment

The construction phase of the Fergana Eco City Hospital is expected to employ a substantial workforce, peaking at approximately 1,865 workers. While workforce levels will remain stable during early and peak construction stages, progressive demobilisation is anticipated as specific work packages are completed and labour demand reduces toward the latter stages of the construction programme.

If workforce demobilisation is not appropriately planned and implemented, it may result in adverse socio-economic and labour-related impacts on affected workers and their households. The primary impact pathway relates to temporary or permanent loss of employment and income for workers whose contracts end upon completion of specific construction activities. This may create financial insecurity, particularly where alternative employment opportunities are limited or not immediately accessible. The impacts are likely

to be more pronounced for low-skilled workers, migrant workers, workers with dependents, and households that rely heavily on Project-related income.

In addition, poorly managed workforce reduction processes may lead to labour dissatisfaction, increased grievances, disputes, and reduced morale among remaining workers. Lack of transparency regarding contract duration, termination procedures, or entitlements may contribute to perceptions of unfair treatment and heighten the risk of worker complaints or labour unrest. There is also a risk of non-compliance with national labour legislation and lender requirements (including IFC Performance Standard 2, EBRD Environmental and Social Requirement 2, and DFC labour standards), which may result in legal and reputational consequences for the Project.

Given that workforce reduction during construction completion is a foreseeable and normal feature of large infrastructure projects, the potential impact associated with unmanaged or poorly managed demobilisation is considered to be of Moderate significance prior to mitigation.

To avoid and minimise these potential impacts, the EPC Contractor will develop and implement a Workforce Demobilisation and Retrenchment Procedure consistent with the Labour Code of Uzbekistan, IFC Performance Standard 2, EBRD ESR 2, and DFC requirements.

Employment contracts will clearly communicate the temporary and project-specific nature of construction employment, including anticipated contract durations and conditions under which employment may be terminated. Workers will be informed of expected workforce reduction processes in advance, allowing reasonable time for planning alternative employment arrangements.

The EPC Contractor will adopt a phased, transparent, and needs-based demobilisation approach aligned with completion of construction activities. Objective, fair, and non-discriminatory criteria will be applied in all workforce reduction decisions, ensuring that selection is based on operational requirements rather than personal characteristics such as gender, age, ethnicity, disability, or other protected attributes.

Where feasible, prior to termination, opportunities for reassignment, redeployment, or transfer to other Project-related activities will be explored. Contractors and subcontractors will also be encouraged to facilitate job referrals and share information on alternative employment opportunities within the region where practicable.

All affected workers will receive all legally and contractually required entitlements, including wages, accrued benefits, compensation for unused leave, and any applicable severance payments in accordance with national legislation and contractual obligations. Records of all terminations and associated payments will be maintained to demonstrate compliance with legal and lender requirements.

A Worker Grievance Mechanism will remain accessible throughout the construction phase and demobilisation period to enable workers to raise concerns related to termination, compensation, or perceived unfair treatment. All grievances will be addressed in a timely manner without retaliation.

Where significant workforce reductions are anticipated, the EPC Contractor will prepare a Retrenchment Plan outlining the rationale for workforce reductions, implementation arrangements, consultation measures, compensation provisions, and monitoring requirements.

19.2.1.14 Supply Chain Risks

The engagement of suppliers will present potential risks relating to labour and working conditions such as:

- Child labour, forced labour, gender- based violence and sexual abuse, exploitation and harassment
- Lack of written contracts for workers.
- Labour rights violations including poor working conditions and poor terms of agreement for female employees, overtime work without pay etc.
- Health & safety issues for workers and local communities.
- Risks associated with the use of migrant labour and ethnic minorities.
- Risks to freedom of movement e.g., being able to leave worker accommodation; and
- Impact on the environment relating to pollution of water supplies, soil and air.

The project company will request to assess these risks from their suppliers by undertaking supply risk assessment.

Prior to procurement of major goods and services, the Project Company will undertake a Supply Chain Risk Screening and Due Diligence Assessment to identify high-risk procurement categories and evaluate potential labour, human rights, occupational health and safety, and environmental risks associated with primary suppliers. The assessment will be proportionate to the significance of identified risks and will inform supplier prequalification, contractual requirements, monitoring, and corrective actions throughout Project implementation.

Table 19-4 Labour and Working Conditions: Impact Significance, Mitigation & Management Measures and Residual Impacts – Construction

Potential Impact	Magnitude	Receptor	Sensitivity	Impact Significance	Residual Impact
Employment Generation and Local Economic Benefits	Moderate Positive	Local communities, local job seekers, regional workforce	Medium	Moderate Positive	Moderate Positive
Labour rights, employment conditions, and contractor management	Moderate	Project workforce (direct, subcontracted, supply chain workers)	High	Moderate	Minor
Occupational Health and Safety (OHS)	High	Construction workers, subcontractors, visitors, suppliers	High	Major	Minor to Moderate
Worker accommodation and living conditions	Moderate	Migrant workers and accommodated workers	High	Moderate	Minor
Labour influx and community interaction	Medium	Local communities, local authorities, migrant workers	Medium	Moderate	Minor

Potential Impact	Magnitude	Receptor	Sensitivity	Impact Significance	Residual Impact
Child labour and forced labour risks	High	Direct workers, contractor workers, subcontractor workers, migrant workers, vulnerable workers	High	Major	Minor
Gender-Based Violence and Harassment (GBVH), Sexual Exploitation and Abuse (SEA), and Sexual Harassment (SH)	High	Female workers, vulnerable workers, local women and girls, communities	High	Major	Minor to Moderate
Wages, Working Hours, Right to Health & Rest and Job Security	Medium	All workers	High	Moderate	Negligible to Minor
Collective Bargaining and Freedom of Association	Low	All workers	Medium	Minor	Negligible
Workers' freedom of movement	Low	Workers in accommodation camps	Medium	Moderate	Negligible
Worker Grievance Mechanism	Medium	All workers	High	Moderate	Negligible
Retrenchment	Medium	Direct employees of EPC contractor, subcontractors, and informal/migrant workers	Medium	Moderate	Minor
Supply Chain Risks	High	Supplier and contractor workforce	High	Major	Minor Adverse

Mitigation and Management Measures

Employment Generation and Local Economic Benefits

- Prioritise recruitment of qualified local workers where feasible.
- Advertise vacancies transparently through local employment centres and mahalla committees.
- Implement skills development and on-the-job training opportunities.
- Promote equal access to employment opportunities.

Labour rights, employment conditions, and contractor management

- Implementation of Labour Management Plan (LMP).
- Written contracts for all workers.

Potential Impact	Magnitude	Receptor	Sensitivity	Impact Significance	Residual Impact
• Prohibition of forced/child labour • No recruitment fees. • Clear wage and working hour policies. • Contractor compliance monitoring. • Audits and inspections. • Grievance mechanism for workers <u>Occupational Health and Safety (OHS)</u> • Develop and implement a Construction Occupational Health and Safety Management Plan aligned with IFC PS2, EBRD PR2 and WBG EHS Guidelines. • Conduct task-specific risk assessments and Job Safety Analyses (JSAs). • Implement Permit-to-Work systems for high-risk activities including confined spaces, lifting operations, excavation, hot works and work at height. • Provide mandatory PPE at no cost to workers. • Conduct induction training, toolbox talks and refresher training. • Maintain first aid facilities, emergency response arrangements and trained first aiders. • Undertake routine inspections, audits and incident investigations. • Monitor contractor and subcontractor OHS performance through KPIs and reporting. <u>Worker accommodation and living conditions</u> • A Workers' Accommodation Management Plan, aligned with IFC/EBRD Workers' Accommodation Guidance, will be developed and implemented to govern on-site living arrangements. • On-site accommodation will be provided with adequate sleeping quarters, safe potable water, sanitation facilities, appropriate heating and ventilation, and essential welfare amenities. • Regular inspections and audits of the accommodation facilities will be undertaken to ensure compliance with health, safety, and hygiene standards. • Workers will have access to healthcare services, recreational facilities, and an effective grievance redress mechanism. <u>Labour influx and community interaction</u> • Implement a Labour Influx Management Plan. • Prioritise local recruitment where feasible. • Develop workforce mobilisation and demobilisation procedures. • Provide cultural awareness and behavioural training. • Implement and enforce a Worker Code of Conduct. • Coordinate regularly with local authorities and mahalla representatives. • Implement a Labour Management Plan (LMP). <u>Child labour and forced labour risks</u> • Ensure all workers are employed under written contracts in a language they understand. • Apply transparent recruitment procedures and prohibit recruitment fees. • Implement age verification procedures and maintain employment records. • Prohibit forced labour, bonded labour, child labour and human trafficking. • Undertake labour audits of contractors, subcontractors and labour agencies. • Include labour compliance obligations in all contracts. • Conduct periodic labour inspections and worker interviews. <u>Gender-Based Violence and Harassment (GBVH), Sexual Exploitation and Abuse (SEA), and Sexual Harassment (SH)</u> • Develop and implement a GBVH/SEA/SH Prevention and Response Plan. • Adopt and enforce a Worker Code of Conduct. • Conduct mandatory awareness training for all workers. • Establish survivor-centred grievance procedures and referral pathways. • Provide gender-sensitive accommodation and welfare facilities. • Monitor incidents and undertake corrective actions. • Engage with local stakeholders regarding GBVH risks. <u>Wages, Working Hours, Right to Health & Rest and Job Security</u>					

Potential Impact	Magnitude	Receptor	Sensitivity	Impact Significance	Residual Impact
• Ensure compliance with Labour Code requirements for wages, overtime and rest periods. • Maintain transparent payroll systems and wage records. • Ensure overtime is voluntary and compensated appropriately. • Conduct payroll audits and workforce interviews. • Clearly communicate employment duration and conditions. • Implement Workforce Health Management Programme. • Provide access to medical services and first aid facilities. • Conduct health awareness campaigns. • Implement communicable disease prevention measures. • Maintain sanitation, hygiene and waste management standards. • Establish outbreak response procedures. <u>Collective Bargaining and Freedom of Association</u> • Respect workers' rights to organise and collectively bargain in accordance with national legislation. • Facilitate worker representation mechanisms. • Ensure no retaliation against worker representatives. <u>Workers' freedom of movement</u> • Workers shall retain full freedom of movement outside working hours, subject only to reasonable site safety and security requirements. • No physical barriers, curfews, or administrative controls shall be imposed that amount to confinement or involuntary restriction. • Any access controls to construction sites or accommodation areas will be strictly for safety, asset protection, and emergency management purposes. • A written set of accommodation rules shall be developed, communicated, and signed by all residents upon arrival. • Rules will define acceptable behaviour, quiet hours, hygiene standards, visitor policies, and grievance procedures. • The rules shall be applied consistently and transparently to avoid arbitrary enforcement or discrimination. • Workers will be informed of disciplinary procedures and their right to appeal any sanctions. • Establish and maintain a dedicated Worker Grievance Mechanism accessible to direct and contracted workers. <u>Worker Grievance Mechanism</u> • Allow anonymous submissions. • Ensure confidentiality and protection against retaliation. • Maintain grievance registers and response timelines. • Include specific channels for GBVH-related complaints. <u>Retrenchment</u> • Develop and implement a Retrenchment Policy and Procedure consistent with IFC PS2 and Uzbekistan Labour Code. • Provide adequate notice periods to all affected workers in line with contractual and legal requirements. • Conduct transparent selection criteria for retrenchment based on skill, performance, and operational requirements, avoiding discrimination. • Ensure timely payment of all outstanding wages, benefits, severance pay, and social contributions. • Provide end-of-contract documentation (employment certificates, experience letters). • Implement worker transition support measures, such as job placement assistance within other Project packages or referrals to other local employment opportunities. • Engage subcontractors to ensure consistent retrenchment standards across supply chain. • Establish a worker grievance mechanism to address disputes related to termination and compensation. • Conduct awareness sessions for workers on end-of-contract rights and entitlements.					

Potential Impact	Magnitude	Receptor	Sensitivity	Impact Significance	Residual Impact
Supply Chain Risks • Implement a Supply Chain Management Plan and Supplier Code of Conduct. • Undertake labour and human rights due diligence for primary suppliers. • Screen suppliers for child labour, forced labour and OHS risks. • Conduct supplier audits and corrective action monitoring. • Include contractual rights to suspend or terminate non-compliant suppliers. • Notify lenders of material labour rights violations.					

19.2.2 Operation Phase

During the operational phase of the Fergana Eco City Hospital, labour and working conditions will be managed through the PPP structure involving both public and private entities. The Ministry of Health of Uzbekistan will be responsible for recruitment and management of all clinical staff and the delivery of healthcare services in accordance with national labour laws and public sector requirements.

Non-clinical staff, including facilities management and support services, will be employed and managed by the Facility Management Company (FM Co.), to be established by Vision Invest and Rekeep World Srl, ensuring compliance with national legislation and IFC Performance Standard 2 on Labour and Working Conditions.

The Project Company will retain overall oversight to ensure that all contractors and service providers implement consistent labour standards, occupational health and safety requirements, and grievance mechanisms throughout the operational period.

19.2.2.1 Employment and Workforce Composition

During the operational phase, the Fergana Eco City Hospital is expected to generate a long-term, significant positive socio-economic impact through sustained employment creation and the consolidation of specialist healthcare services. The Project will rely on a consolidated clinical workforce drawn from existing healthcare facilities in the region, supplemented by administrative, facility management, and other support personnel.

As per the feasibility study, the consolidation of clinical services is expected to involve approximately 2,584 staff, including doctors, nurses, paramedical staff, and administrative personnel, sourced from several regional hospitals, including the Fergana Branch of the Republican Specialized Urology Scientific and Applied Medical Center (89 staff), the Endocrinology Centre (233 staff), the Republican Specialized Cardiology Scientific-Practical Medical Center (113 staff), the Fergana Regional Multidisciplinary Medical Center (697 staff), and the Republican Scientific Center for Emergency Medical Care (1,142 staff). The final staffing requirements remain subject to confirmation by the Ministry of Health.

The hospital will operate as a 24/7 tertiary healthcare facility requiring a stable and highly skilled workforce to ensure uninterrupted delivery of both clinical and non-clinical services. In addition to generating sustained employment opportunities in the Fergana Region, the Project will contribute to local economic development through direct employment and the procurement of goods and contracted services.

However, while the overall impact is beneficial due to significant employment generation and workforce stabilisation, there are potential secondary negative labour-related impacts associated with workforce consolidation across multiple employers and service providers. These include possible variability in employment conditions, wage structures, and labour practices across different workforce groups.

If not adequately managed, such disparities may lead to worker dissatisfaction, grievances, increased turnover, and potential reputational risks for the Project. To ensure that the

positive employment benefits are fully realised, it will be essential to implement transparent recruitment processes, equitable access to employment, and consistent application of labour standards across all categories of workers. Effective labour management will be necessary to maintain workforce stability, employee satisfaction, and alignment with good international industry practice.

At the time of preparation of this ESIA, the Ministry of Health has not made a final decision regarding the future operational status of the existing specialised healthcare facilities whose services may ultimately be consolidated within the Fergana Eco City Hospital. Consequently, the extent of workforce transfer or retrenchment remains uncertain. Early indications from MoH suggest that any decisions on existing hospital/clinic closures or consolidations would likely be made in mid-2027.

The Project Company will continue engagement with the MoH throughout Project development. Should future restructuring result in significant workforce reductions attributable to the Project, a Retrenchment Plan consistent with IFC PS 2, EBRD PR 2, applicable national legislation, and relevant contractual arrangements will be prepared in consultation with the Ministry prior to implementation. Where such restructuring may result in impacts on Project-affected workers, the Project Company will undertake appropriate engagement and consultation with potentially affected workers in accordance with the stakeholder engagement commitments and procedures set out in the Stakeholder Engagement Plan (SEP). The SEP will therefore provide a framework for worker engagement should retrenchment or other significant workforce changes become relevant to the Project.

However, it is to be noted that the Project Company engagement with workers will be limited to the Project workforce, inclusive of the FM Co. and its subcontractors. The FM Co. will consider the absorption of general workers into the Project, however the scale of workforce to be considered for absorption is yet to be determined.

Clinical workers will be contracted under the MoH for which the Project Company has no influence on.

19.2.2.2 Occupational Health and Safety

Healthcare facilities present a distinct and elevated range of occupational health and safety (OHS) risks compared to typical construction or non-clinical workplaces. Within hospital environments, workers may be exposed to a combination of biological, chemical, physical, and psychosocial hazards. These include exposure to infectious diseases and bloodborne pathogens, handling of hazardous pharmaceuticals and medical gases, risks of sharps injuries, ionising radiation, ergonomic strain associated with patient handling and mobility support, and psychosocial stress arising from emergency response situations, shift work, and sustained high patient loads.

Clinical personnel, including doctors, nurses, laboratory technicians, and allied health professionals, are generally at the highest risk of exposure due to direct patient contact and routine handling of biological samples and infectious materials. Non-clinical personnel, such as cleaners, waste handlers, maintenance staff, and security personnel, may also face occupational exposure through contact with contaminated materials, medical waste, or clinical environments, particularly where segregation and access controls are not strictly maintained.

In addition to general OHS risks, healthcare workers are particularly vulnerable to communicable diseases, including respiratory infections, bloodborne diseases, emerging infectious diseases, and hospital-acquired infections. This elevated exposure reflects the inherent nature of healthcare delivery, where diagnosis, treatment, and care of infected patients occur as part of routine operations. Outbreaks of communicable diseases can also

affect workforce availability, operational continuity, and overall worker wellbeing, thereby reinforcing the importance of robust health protection systems within the facility.

It is assumed that the hospital will operate in accordance with established occupational health and safety management systems, infection prevention and control (IPC) protocols, and applicable national and international healthcare standards. Key measures include safe handling of sharps and hazardous substances, appropriate segregation, storage, and disposal of medical waste, use of personal protective equipment (PPE), staff training and competency development, vaccination programmes where applicable, health surveillance systems, incident reporting mechanisms, and emergency preparedness and response procedures.

Where these controls are effectively implemented and consistently enforced, the likelihood and severity of occupational exposure and communicable disease transmission are significantly reduced, although not eliminated given the inherently high-risk nature of healthcare settings. Accordingly, the residual risk is expected to remain moderate under normal operating conditions with effective implementation of SOPs, IPC measures, and occupational health programmes. However, in the absence of adequate compliance, training, or enforcement, the magnitude and significance of potential occupational health impacts could increase substantially, potentially resulting in high residual risk conditions.

19.2.2.3 Working Hours, Shift Work, and Fatigue

The hospital will operate on a 24-hour basis, requiring continuous staffing through rotating shifts, night work, emergency response duties, and on-call arrangements. Healthcare workers may be exposed to long working hours, irregular shift patterns, and high workloads, particularly during periods of increased patient demand or public health emergencies.

Fatigue, stress, and burnout may affect both clinical and non-clinical staff, potentially impacting worker health, job satisfaction, and service quality. Extended shifts and insufficient recovery periods may increase the likelihood of workplace incidents, clinical errors, and reduced operational effectiveness.

Particular attention will be required to workforce scheduling, adequate staffing levels, rest periods, and employee wellbeing programmes to ensure that fatigue risks are effectively managed throughout the operational life of the hospital.

19.2.2.4 Labour Management and Employment Conditions

Hospital operations will involve a combination of direct employees and contractor personnel engaged in security, catering, cleaning, landscaping, waste management, facility maintenance, and specialist technical services. The involvement of multiple employers and service providers may present challenges in ensuring consistent labour standards and working conditions across the workforce.

The Project Company, in coordination with the Facility Management Company (FM Co.) and future hospital operator, will implement a comprehensive Labour Management Plan (LMP) in line with IFC Performance Standard 2, EBRD Performance Requirement 2, DFC Environmental and Social Policy and Procedures, and applicable Uzbek labour legislation.

The LMP will define requirements covering employment terms and conditions, recruitment practices, wages and benefits, working hours, occupational health and safety, non-discrimination, grievance mechanisms, contractor management, worker welfare, freedom of association, and prevention of child and forced labour, as well as workforce monitoring. Effective implementation of the LMP will be essential to ensure fair, consistent, and equitable treatment of all workers across the Project.

19.2.2.5 Workforce Diversity, Gender, and Discrimination

The operational workforce is expected to comprise both male and female employees across a wide range of professional, technical, administrative, and support roles. Unlike the construction phase, women are expected to represent a significant proportion of the healthcare workforce, particularly within nursing, administration, and clinical support functions.

Despite this, risks relating to workplace discrimination, unequal career advancement opportunities, gender stereotyping, harassment, and unequal access to leadership positions may remain. Female workers engaged in shift work or night duties may also face additional safety and security concerns associated with transportation and workplace access outside normal working hours.

The Project will therefore be required to maintain robust equal opportunity and non-discrimination policies, supported by transparent recruitment, promotion, remuneration, and performance management processes.

19.2.2.6 Gender-Based Violence and Harassment (GBVH), Sexual Exploitation and Abuse (SEA), and Sexual Harassment (SH)

Although the operational workforce will be smaller and more stable than the construction workforce, risks associated with GBVH, SEA, and SH will remain relevant throughout the operational phase. Healthcare facilities involve frequent interaction among staff, patients, visitors, contractors, and members of the public, creating potential exposure to workplace harassment and inappropriate behaviour.

Female healthcare workers may be particularly vulnerable to harassment from colleagues, supervisors, patients, or visitors. Power imbalances within hierarchical clinical structures may also create risks of workplace harassment and discrimination if not adequately addressed.

The hospital operator will be required to implement a zero-tolerance policy towards GBVH, SEA, and SH, supported by mandatory staff training, confidential reporting mechanisms, survivor-centred response procedures, and disciplinary measures for perpetrators.

19.2.2.7 Child Labour, Forced Labour and Human Trafficking Risks

The operation of the hospital will involve direct employment and engagement of multiple service providers and contractors. Although the healthcare sector is generally characterised by formal employment arrangements, risks relating to child labour, forced labour, recruitment fees, and labour exploitation may still arise within contracted services and supply chains.

The Project will maintain a zero-tolerance approach towards child labour, forced labour, human trafficking, and any form of labour exploitation. Contractors and service providers will be required to comply with the Project's labour standards, undertake age verification procedures, and demonstrate compliance with applicable labour legislation and lender requirements.

19.2.2.8 Worker Welfare, Facilities and Standard of Living

No dedicated long-term worker accommodation is anticipated during the operational phase. However, the hospital operator will be required to provide adequate worker welfare facilities including rest areas, sanitation facilities, changing rooms, meal areas, drinking water, medical support services, and facilities appropriate for both male and female employees.

Given the nature of healthcare operations, particular attention will be required to staff wellbeing, mental health support, stress management programmes, and employee assistance services to promote workforce resilience and reduce occupational stress.

19.2.2.9 Worker Grievance Mechanism, Freedom of Association and Collective Bargaining

A formal Worker Grievance Mechanism will be maintained throughout the operational phase and will be accessible to all direct employees, contractors, and subcontractors. The mechanism will provide confidential and non-retaliatory channels for raising concerns relating to employment conditions, discrimination, harassment, occupational health and safety, remuneration, and workplace welfare.

Workers will also retain the right to freedom of association and collective bargaining in accordance with national legislation and lender requirements. The hospital operator will not interfere with workers' rights to form or join trade unions or other representative organisations.

19.2.2.10 Supply Chain Labour Risks

Operational activities will require the procurement of pharmaceuticals, medical consumables, medical equipment, facility management services, food supplies, cleaning materials, uniforms, and other goods and services. Supply chains may present labour and human rights risks including child labour, forced labour, unsafe working conditions, discrimination, excessive working hours, and poor occupational health and safety performance.

The Project will implement supply chain due diligence procedures proportionate to identified risks and consistent with IFC PS2, EBRD PR2, and DFC requirements. Suppliers and contractors will be expected to comply with applicable labour standards and may be subject to audits, inspections, and corrective action requirements where material labour risks are identified.

Prior to procurement of major goods and services, the Project Company will undertake a Supply Chain Risk Screening and Due Diligence Assessment to identify high-risk procurement categories and evaluate potential labour, human rights, occupational health and safety, and environmental risks associated with primary suppliers. The assessment will be proportionate to the significance of identified risks and will inform supplier prequalification, contractual requirements, monitoring, and corrective actions throughout Project implementation.

Table 19-5 Labour and Working Conditions: Impact Significance, Mitigation & Management Measures and Residual Impacts – Operation

Potential Impact	Magnitude	Receptor	Sensitivity	Impact Significance	Residual Impact
Employment and Workforce Composition	Medium	Direct employees, contracted service providers, healthcare professionals, administrative staff	Medium	Moderate	Negligible
Occupational Health and Safety (OHS)	High	Medical personnel, maintenance staff, cleaners, waste handlers, security personnel, contractors	High	Major	Minor Adverse

Potential Impact	Magnitude	Receptor	Sensitivity	Impact Significance	Residual Impact
Working Hours, Shift Work, and Fatigue	Medium	Doctors, nurses, emergency personnel, security staff and shift workers	High	Moderate	Minor Adverse
Labour Management and Employment Conditions	Medium	Security, cleaning, catering, maintenance, waste management contractors	Medium	Moderate	Negligible
Workforce Diversity, Gender, and Discrimination	Medium	Women workers, young professionals, disabled persons, migrant and non-local workers	High	Moderate	Negligible
Gender-Based Violence and Harassment (GBVH), Sexual Exploitation and Abuse (SEA), and Sexual Harassment (SH)	Medium	Women workers, young professionals, disabled persons, migrant and non-local workers	High	High	Minor Adverse
Child Labour, Forced Labour and Human Trafficking Risks	Low to Medium	Contracted workers, subcontractor workers and supply chain workers	High	Moderate	Negligible
Worker Welfare, Facilities and Standard of Living	Medium	All Workers	Medium	Moderate	Negligible
Exposure to Infectious Diseases and Biological Hazards	High	Healthcare workers, laboratory staff, cleaners, waste handlers	High	Major	Minor Adverse
Worker Grievance Mechanism, Freedom of Association and Collective Bargaining	Medium	All workers	High	Moderate	Negligible

Potential Impact	Magnitude	Receptor	Sensitivity	Impact Significance	Residual Impact
Supply Chain Labour Risks	Medium	Primary supply chain workers, contracted suppliers	High	Moderate	Minor Adverse

Mitigation and Management Measures

Employment and Workforce Composition

- Develop and implement a Human Resources Management System (HRMS), including labour management procedures, aligned with IFC PS2, EBRD PR2/ESR2, DFC requirements, and applicable Uzbekistan labour legislation.
- Establish transparent, merit-based, and non-discriminatory recruitment and selection procedures, supported by documented criteria and equal opportunity provisions.
- Prioritise local recruitment where suitably qualified candidates are available and meet job requirements.
- Ensure all workers are provided with written employment contracts in a language they understand, clearly outlining key terms and conditions of employment.
- For workers with limited literacy, ensure that employment terms and conditions are communicated verbally in an accessible manner and appropriately documented.
- Clearly communicate wages, benefits, working hours, leave entitlements, and grievance mechanisms to all workers as part of onboarding and ongoing HR processes.
- Monitor workforce composition, employment conditions, and labour compliance across direct employees and contracted service providers.
- Conduct periodic audits and inspections of contractors and service providers to ensure compliance with applicable labour standards and contractual requirements.

Occupational Health and Safety (OHS)

- Implement an Occupational Health and Safety Management System consistent with national legislation, IFC PS2, and World Bank Group EHS Guidelines for Healthcare Facilities.
- Undertake task-specific risk assessments for all hospital activities.
- Provide mandatory OHS induction and refresher training.
- Ensure provision and use of appropriate PPE.
- Implement infection prevention and control (IPC) procedures.
- Establish protocols for handling sharps, hazardous substances, medical gases, pharmaceuticals, and infectious waste.
- Maintain emergency preparedness and response procedures including fire safety, medical emergencies, chemical spills, and infectious disease outbreaks.
- Conduct regular inspections, audits, incident investigations, and corrective action programmes.
- Provide occupational health surveillance for high-risk workers.

Working Hours, Shift Work, and Fatigue

- Establish working hour limits and rostering systems consistent with labour legislation and healthcare sector good practice.
- Implement fatigue management procedures for critical healthcare functions.
- Ensure adequate staffing levels to minimise excessive overtime.
- Provide sufficient rest breaks and shift recovery periods.
- Monitor overtime and night-shift workloads.
- Provide psychosocial support and employee wellbeing programmes.
- Periodically review staffing needs and workforce performance indicators.

Labour Management and Employment Conditions

- Include labour and working condition requirements within all service contracts.
- Require compliance with Project Labour Management Plan and national labour legislation.
- Conduct contractor prequalification and labour due diligence.

Potential Impact	Magnitude	Receptor	Sensitivity	Impact Significance	Residual Impact
• Undertake periodic audits and inspections of contractor performance. • Require contractors to maintain worker grievance mechanisms integrated with the Project Worker Grievance Mechanism. • Implement corrective action plans for non-compliance. • Maintain contractor performance monitoring records. <u>Workforce Diversity, Gender, and Discrimination</u> • Adopt an Equal Opportunity and Non-Discrimination Policy. • Ensure recruitment, promotion, remuneration, training, and career progression are based on merit and qualifications. • Promote gender balance in clinical, managerial, and support functions. • Ensure equal access to training, professional development, and grievance mechanisms. • Provide accessible workplace facilities for persons with disabilities. • Monitor workforce diversity indicators and address barriers to participation. • Conduct periodic awareness training on inclusion and workplace respect. <u>Gender-Based Violence and Harassment (GBVH), Sexual Exploitation and Abuse (SEA), and Sexual Harassment (SH)</u> • Implement a zero-tolerance GBVH/SEA/SH Policy. • Develop and enforce a Code of Conduct applicable to all workers and contractors. • Deliver mandatory awareness and behavioural training. • Establish confidential, survivor-centred reporting and grievance mechanisms. • Ensure referral pathways to medical, psychosocial, and legal support services. • Implement disciplinary procedures for violations. • Monitor complaints and response effectiveness while maintaining confidentiality. <u>Child Labour, Forced Labour and Human Trafficking Risks</u> • Maintain a strict prohibition on child labour, forced labour, debt bondage, and human trafficking. Verify age and identity documentation during recruitment. • Prohibit recruitment fees and retention of worker identity documents. • Conduct labour due diligence on contractors, labour suppliers, and primary suppliers. • Undertake periodic labour audits and inspections. • Train HR personnel and contractors on labour exploitation risks. • Maintain confidential reporting channels for labour rights concerns. <u>Worker Welfare, Facilities and Standard of Living</u> • Provide adequate welfare facilities including drinking water, sanitation, changing facilities, rest areas, prayer facilities, and dining areas. • Ensure access to occupational health services and first aid. • Implement employee wellbeing and mental health programmes. • Promote healthy lifestyles and stress management initiatives. • Provide access to healthcare services for employees where required. • Monitor worker satisfaction and welfare indicators. <u>Exposure to Infectious Diseases and Biological Hazards</u> • Implement Infection Prevention and Control (IPC) Plans. • Provide vaccination programmes where appropriate. • Ensure proper segregation, storage, transportation, and disposal of healthcare waste. • Provide specialised PPE and training for high-risk staff. • Establish outbreak response and disease surveillance procedures. • Maintain adequate supplies of infection control materials and emergency stockpiles. • Conduct regular compliance monitoring and audits. <u>Worker Grievance Mechanism, Freedom of Association and Collective Bargaining</u> • Respect workers' rights to form or join trade unions and participate in collective bargaining in accordance with national legislation. • Ensure no discrimination against worker representatives. • Facilitate communication between management and workforce representatives.					

Potential Impact	Magnitude	Receptor	Sensitivity	Impact Significance	Residual Impact
• Provide access to grievance and consultation mechanisms. • Maintain records of worker engagement activities. • Establish a dedicated Worker Grievance Mechanism accessible to all categories of workers. • Allow multiple reporting channels including anonymous submissions. • Ensure confidentiality, non-retaliation, and timely resolution. • Maintain grievance registers and track corrective actions. • Periodically analyse grievance trends to identify systemic issues. • Communicate outcomes to complainants and workforce representatives. <u>Supply Chain Labour Risks</u> • Conduct supply chain labour and human rights due diligence. • Assess suppliers for risks relating to child labour, forced labour, GBVH, discrimination, OHS, and poor working conditions. • Include labour and human rights requirements in procurement contracts. • Undertake supplier audits where high-risk sectors or suppliers are identified. • Establish corrective action requirements and supplier improvement plans. • Monitor ongoing supplier compliance through periodic reviews and reporting.					

19.3 Monitoring

Monitoring of Labour, Working Conditions will be undertaken as required through the management measures outlined above. The following table outlines key indicators.

Table 19-6 Labour and Working Conditions Key Monitoring Indicators

Monitoring	KPI/Targets	Frequency & Durations	Monitoring Locations
Construction & Operations			
Early Works E&S Compliance	• Interim E&S/H&S Management Plan implemented; EHS Officer appointed; number of inspections; corrective actions closed	• Weekly during early works	Early works site
Worker Accommodation Compliance	• Compliance with IFC/EBRD Workers' Accommodation Standards; fire safety inspections; occupancy vs design capacity	• Monthly	Worker accommodation
Labour Compliance Verification	• % workers with verified contracts; wage verification; age verification; employment documentation	• Quarterly	Contractor offices
Employment Conditions & Labour Compliance	• % of workers with written employment contracts. • Compliance with wage payment schedules (timeliness and completeness). • Records of overtime hours and voluntary consent. • Number of labour-related grievances received and resolved.	• Monthly monitoring. • Continuous tracking of payroll and contracts. • Quarterly labour audits	Construction sites, EPC contractor offices, subcontractor offices, worker accommodation sites

Monitoring	KPI/Targets	Frequency & Durations	Monitoring Locations
	• Instances of non-compliance identified in audits		
Occupational Health and Safety (OHS)	• Lost Time Injury Frequency Rate. • Total Recordable Incident Rate. • Number of near-miss incidents reported. • PPE compliance rates. • Number of safety trainings conducted and attendance levels. • Findings from site inspections and audits. • Number of corrective actions closed on time	• Daily site inspections. • Weekly toolbox talks • Monthly performance reporting. • Quarterly audits	All active construction fronts, workshops, warehouses, and site offices
Labour Influx and Community Impacts	• Ratio of local vs non-local workers. • Number of community complaints linked to workforce behaviour. • Housing occupancy pressure in surrounding areas (qualitative tracking). • Incidents involving worker-community interactions. • Compliance with Code of Conduct	• Monthly monitoring. • Continuous grievance tracking. • Quarterly stakeholder review	Surrounding mahallas, worker accommodation areas, transport routes, community interfaces
Worker Accommodation and Welfare	• Occupancy rates vs design capacity. • Hygiene inspection scores. • Availability of potable water, sanitation, and waste facilities. • Number of health or safety non-conformities identified. • Worker satisfaction feedback results. • Incidents of communicable disease outbreaks	• Weekly inspections. • Monthly welfare audits. • Continuous health monitoring	On-site and off-site worker accommodation facilities
GBVH/SEA/SH and Workplace Conduct	• Number of GBVH/SEA/SH complaints reported. • Percentage of cases resolved within defined timelines. • Training coverage on GBVH awareness (%). • Disciplinary actions related to misconduct.	• Continuous reporting. • Quarterly trend analysis. • Annual review of effectiveness	Worksites, accommodation facilities, offices, and community interaction points

Monitoring	KPI/Targets	Frequency & Durations	Monitoring Locations
	• Functionality of confidential reporting channels		
Child Labour, Forced Labour & Human Trafficking Risks	• % of workers with verified age documentation • Number of recruitment audits conducted • Findings from subcontractor labour inspections • Incidents of forced labour indicators identified • Use of recruitment fees (zero tolerance monitoring)	• Pre-employment verification. • Quarterly audits. • Continuous contractor monitoring	Recruitment points, contractor/subcontractor sites, labour agencies, supply chain interfaces
Working Hours, Wages & Employment Terms	• Average weekly working hours per worker category • Overtime hours and compliance with legal thresholds • Wage payment delays (number of cases) • Wage deduction complaints • Contract compliance rates	• Monthly payroll reviews. • Quarterly audits. • Continuous monitoring	Contractor payroll systems, HR offices, construction sites
Freedom of Association & Grievance Mechanism	• Number of grievances received (by category) • % of grievances resolved within agreed timeframe • Worker awareness of grievance mechanism (%) • Worker representation meetings held • Absence of retaliation cases reported	• Monthly grievance tracking. • Quarterly worker engagement reviews.	Project site and Accommodation area
Human rights complaints/violations as reported by Project workers including workers hired through third-parties or in the supply chain	Reported human rights complaints/violations, including supply chain labour concerns	On-going	As defined in the Stakeholder Engagement Plan (SEP)
Retrenchment and labour condition compliance monitoring	• Implementation of retrenchment procedures in line with national labour law and IFC PS2 • Issuance of prior notice to affected workers • Timely payment of wages, severance, and all terminal benefits • Provision of employment certificates and work experience documentation	• Monthly during demobilisation phase • At each workforce reduction / retrenchment event until completion of construction	EPC contractor and subcontractor offices, construction sites, worker accommodation camps, and project grievance mechanism records

Monitoring	KPI/Targets	Frequency & Durations	Monitoring Locations
	• Functioning of grievance mechanism for termination-related complaints • Compliance of subcontractors with retrenchment and labour transition requirements		
Supply Chain Labour Compliance	• % of suppliers screened for labour risks • Number of supplier audits conducted • Non-compliance findings (child labour, OHS, wages, etc.) • Corrective action plan completion rate • High-risk supplier list updates	• Biannual supplier audits. • Continuous procurement screening. • Annual review	Supplier facilities, procurement offices, delivery and logistics points

20 Human Rights Impact Assessment

In line with Equator Principles IV (EP IV) and evolving international expectations on corporate accountability, a Human Rights Impact Assessment (HRIA) has been carried out for the Fergana Project as part of the ESIA. The assessment identifies and evaluates potential adverse human rights impacts associated with Project activities on workers and communities within the Project's area of influence.

Although labour and community-related risks are addressed in detail in other sections of the ESIA, this section provides a consolidated overview of the key human rights considerations, without repeating previously defined mitigation measures. The HRIA is aligned with EP IV requirements and the United Nations Guiding Principles on Business and Human Rights, drawing on key international instruments such as the International Bill of Human Rights and the ILO Declaration on Fundamental Principles and Rights at Work. The Project is committed to respecting human rights throughout its lifecycle and expects all contractors, subcontractors, and suppliers to uphold the same standards and prevent or address any adverse human rights impacts linked to their activities.

20.1 Applicable Requirements & Standards

20.1.1 National Regulations

Uzbekistan, as a UN member, supports and implements all of the UN's major international instruments relating to the protection of human rights and freedoms, including the UN Universal Declaration of Human Rights, Human Rights Council Resolution No. 30/15 on human rights and preventing and countering violent extremism, and the Convention on the Elimination of All Forms of Discrimination. The State Policy on Human Rights in Uzbekistan aims to prevent infringement of human rights and freedoms, as well as to develop the necessary organizational, legal, social, economic, spiritual, and moral grounds for human rights protection. Two relevant legislative acts have been discussed in further detail below:

Constitution of the Republic of Uzbekistan (1992)

The constitution asserts that "democracy in the Republic of Uzbekistan shall be based upon common human principles, according to which the highest values shall be the human being, his life, freedom, honour, dignity and other inalienable rights."

Human rights guarantees are specifically addressed in Chapter X (Chapter 10): "Guarantees of Human Rights and Freedoms." This chapter sets out the State's obligations to protect and uphold fundamental rights, including;

- Article 43. The state shall safeguard the rights and freedoms of citizens proclaimed by the Constitution and laws.
- Article 44. Everyone shall be entitled to legally defend his rights and freedoms and shall have the right to appeal any unlawful action of state bodies, officials and public associations.
- Article 45. The rights of minors, the disabled and the single elderly shall be protected by the state.
- Article 46. Women and men shall have equal rights.

In addition, the institutional framework for human rights protection includes the Commissioner for Human Rights (Ombudsman) under the Oliy Majlis (Parliament), which provides an independent mechanism for reviewing and addressing complaints related to human rights violations.

The Protection of Women against Harassment and Violence Act (2019).

The Act defines the various forms of violence - sexual, physical, economic, psychological against women. Protection from harassment and violence is defined as a system of urgent measures of economic, social, legal, organizational, psychological and other nature in order to eliminate the danger to women's life and health, to ensure their safety and to prevent repeated illegal actions against them.

Other relevant legislation of the Republic of Uzbekistan includes:

- National Human Rights Strategy, approved by Presidential Decree on 22 June 2020 (No. PD-6012);
- Law on Guaranteeing Equal Rights and Opportunities for Women and Men (2019);
- Law on Mediation (2018);
- Law on Public Control (2018); and
- Law on Administrative Procedures (2018).

The Republic of Uzbekistan has also made international commitments in relation to human rights. They are listed below:

- The Universal Declaration of Human Rights
- The International Covenant on Civil and Political Rights
- The International Covenant on Economic, Social and Cultural Rights

20.1.2 Lender Requirements

The Project Company is seeking to secure project finance from international financial institutions that apply defined environmental and social (E&S) standards as part of their investment decision-making processes. These institutions may either implement their own internal E&S policies and performance requirements or align with internationally recognised sustainability frameworks and development finance standards.

20.1.2.1 IFC Performance Standards and Good Practice Requirements

The table below outlines the IFC PS that are linked to human rights provisions and requirements.

Table 20-1 Applicable PSs in relation to human rights

Requirement	Description
PS 1 – Assessment and management of environmental and social risks and impacts	States that clients should respect human rights and address adverse human rights impacts that clients may cause or contribute to. It requires the assessment and management of environmental and social risks and impacts to workers, affected communities, environment, and those associated with the supply chain.

Requirement	Description
PS 2 – Labour and working conditions	PS 2 is guided by several ILO conventions and recognises that economic growth through employment creation and income generation should be accompanied by the protection of the fundamental rights of Project workers inclusive of supply chain workers. Outlines requirements for projects linked to Human Resource (HR) policies, management, working conditions as well as key processes for occupational health and safety (OHS) management and grievance redress. Additionally, where accommodation is provided to workers, it should be provided in a manner consistent with principles of non-discrimination and equal opportunity. Workers' accommodation facilities should not restrict workers' freedom of movement or of association.
PS 4 – Community health, safety and security	Establishes requirements for the safeguard of affected communities from risks and impacts, such as those related to the spread of communicable diseases, the loss of ecosystem functions, site access and operation, material use, etc. Requires clients to prevent or reduce the risks and impacts that project-related activities may have on vulnerable groups in respect to community health, safety, and security. PS4 states that the safeguarding of project workers and property should be carried out in accordance with relevant human rights principles.

In addition to the PSs, the following IFC guidelines are applicable to the proposed Project:

- IFC Guidance on Gender based violence and harassment in the construction sector (2020).
- IFC Good Practice Handbook on the Use of Security Forces: Assessing and Managing Risks and Impacts (2017).
- IFC Stakeholder Engagement: A Good Practice Handbook for Companies Doing Business in Emerging Markets (2007).

IFC Guidance on Gender Based Violence and Harassment (GBVH) in the Construction Sector

The assessment, prevention, monitoring, and response measures with regard to GBVH should be developed in line with established international best practice, including IFC Performance Standards and relevant sectoral guidance. These measures should be grounded in the recognition that GBVH constitutes a serious violation of fundamental human rights, including the rights to dignity, equality, non-discrimination, security of person, and safe and healthy working conditions.

Accordingly, GBVH risk management is not only an occupational health and safety or workforce management issue, but also a core human rights obligation for project developers and contractors. The Project is therefore expected to apply a "zero tolerance" approach to all forms of GBVH, ensuring that prevention, reporting, and response mechanisms are designed to uphold and protect the rights of all workers and affected community members.

In this context, the following principles should guide implementation:

- Respect for internationally recognised human rights, including those set out in the Universal Declaration of Human Rights and the International Labour Organization (ILO) core conventions
- Prevention of harm through proactive risk identification, training, and awareness-raising among workers, contractors, and communities
- Protection of victims and survivors through safe, confidential, and accessible reporting and grievance mechanisms
- Accountability through clear disciplinary procedures and enforcement mechanisms for perpetrators
- Non-retaliation, ensuring that individuals who report GBVH are not subjected to intimidation, dismissal, or other adverse consequences
- Continuous monitoring and improvement of GBVH prevention and response systems throughout the project lifecycle

Through this approach, GBVH management is embedded within a broader human rights due diligence framework, ensuring that project activities do not contribute to or exacerbate human rights abuses and that affected individuals are effectively protected and supported.

20.1.2.2 EBRD

According to EBRD's Environmental and Social Policy, EBRD is committed to the respect of human rights in the Project they finance. EBRD is also guided by the International Bill of Human Rights and the eight core conventions of the International Labour Organization.

ESR 1 states *"…it may be appropriate for the client to complement its environmental and social assessment with further studies focusing on specific risks and impacts such as human rights."*

EBRD also requires the application of ESR 5 on Land Acquisition, Restrictions on Land Use and Involuntary Resettlement to be consistent *with the universal respect for, and observance of human rights and freedoms specifically the right to private property, adequate housing and to the continuous improvement of living conditions.*

20.1.2.3 DFC

The DFC's approach is aligned with the IFC Performance Standards, particularly Performance Standard 1 (Assessment and Management of Environmental and Social Risks and Impacts) and Performance Standard 2 (Labour and Working Conditions), and is informed by internationally recognised frameworks, including the United Nations Guiding Principles on Business and Human Rights (UNGPs). Projects are expected to respect internationally recognised worker and human rights, avoid causing or contributing to adverse human rights impacts, and address any impacts with which they are directly or indirectly associated.

Within this framework, a Human Rights Impact Assessment (HRIA) is undertaken as part of the ESIA where warranted by the Project's risk profile. The HRIA identifies potential risks to human rights across the Project's area of influence, including labour rights, occupational health and safety, community health and safety, security arrangements, non-discrimination, GBVH, and the rights of vulnerable groups.

The DFC further requires that Projects ensure meaningful consultation with affected stakeholders, maintain accessible and effective grievance mechanisms, and implement

appropriate corrective and preventive actions where human rights risks are identified. Contractors, subcontractors, and supply chain actors are also required to comply with these standards as a condition of financing, ensuring that human rights due diligence is embedded throughout Project design, construction, and operation.

20.1.2.4 EPFI

In line with EP IV requirements, the United Nations Human Rights Guiding Principles apply to the Project. HRGP II on "The corporate responsibility to respect human rights" recognises that it is the responsibility of businesses and corporations to respect human rights. It is a global standard of expected conduct for all business enterprises wherever they operate. It exists independently of a states' ability and/or willingness to fulfil their human rights obligations and does not diminish those obligations. The Foundational principles to take into consideration are:

- Principle 11: Business enterprises should avoid infringing on the human rights of others and should address adverse human rights impacts with which they are involved.
- Principle 12: The responsibility of business enterprises to respect human rights refers to internationally recognized human rights – understood, at a minimum, as those expressed in the International Bill of Human Rights and the principles concerning fundamental rights set out in the International Labour Organization's Declaration on Fundamental Principles and Rights at Work
- Principle-13: The responsibility to respect human rights requires that business enterprises avoid causing or contributing to adverse human rights impacts through their activities, and address such impacts when they occur;
- Principle-14: The responsibility of business enterprises to respect human rights applies to all enterprises regardless of their size, sector, operational context, ownership and structure. Nevertheless, the scale and complexity of the means through which enterprises meet that responsibility may vary according to these factors and with the severity of the enterprise's adverse human rights impacts
- Principle-15: Business enterprises should have policies and processes appropriate to their size and circumstances in place, including:

The following Operational principles should also be taken into consideration.

- Principle-16: Policy commitment
- Principle-17 to 21: Human rights due diligence
- Principle 22: Remediation

United Nations Guiding Principles on Business and Human Rights

In addition to adhering to human rights requirements under the Uzbekistan laws and lenders requirements, the project construction and operational phases will be required to adhere to the United Nations Guiding Principles on Business and Human Rights. The Guiding Principles are grounded in recognition of the role of business enterprise as specialised organs of society required to comply with all applicable laws and to respect human rights.

20.2 Human Rights Risk Screening and Assessment Methodology

20.2.1 Human Rights Risk Screening

The Human Rights Screening and Assessment has been undertaken to identify, assess, and prioritise actual and potential human rights risks and impacts associated with the Project and to determine the rights holders, affected groups, and human rights issues requiring further assessment and management. The assessment process has been guided by the principles established under the United Nations Guiding Principles on Business and Human Rights (UNGPs), the IFC Performance Standards, the Equator Principles IV (EP4), and the Equator Principles Guidance Note on Implementation of Human Rights Assessments Under the Equator Principles (September 2020). The assessment also considers internationally recognised good practice approaches for Human Rights Impact Assessments (HRIAs), including the principles of human rights due diligence, meaningful stakeholder engagement, impact avoidance and mitigation, and monitoring of residual human rights risks throughout the Project lifecycle.

The assessment recognises that businesses may be involved in adverse human rights impacts by causing, contributing to, or being directly linked to such impacts through their activities, business relationships, or value chains. Accordingly, the screening considered not only potential risks arising directly from Project construction and operation, but also potential human rights implications associated with the broader healthcare transformation context within which the Project is being developed. This includes consideration of the potential consolidation and/or closure of existing healthcare facilities, including possible implications for healthcare workers, affected employees, and access to healthcare services for patients and surrounding communities. The assessment therefore considers potential risks related to workforce transition, continuity and accessibility of healthcare services, and the need for appropriate mitigation measures should such changes proceed.

The screening process involved:

- identification of internationally recognised human rights that may be relevant to the Project, based on the Universal Declaration of Human Rights (UDHR), the International Covenant on Civil and Political Rights (ICCPR), the International Covenant on Economic, Social and Cultural Rights (ICESCR), and the International Labour Organization (ILO) Core Labour Conventions;
- review of the national human rights context in Uzbekistan, including labour legislation, occupational health and safety requirements, non-discrimination provisions, stakeholder rights, and access to remedy;
- consideration of the Project's activities during the pre-construction, construction, commissioning and operational phases;
- review of the Project's Area of Influence, workforce characteristics, stakeholder baseline, supply chain, contractor arrangements, and community context;
- identification of potentially affected rights holders, including Project workers, contractor personnel, employees of healthcare facilities affected by the proposed consolidation, local communities, vulnerable groups, patients, visitors, suppliers and service providers;

- evaluation of the nature and source of potential human rights impacts, including direct Project impacts, cumulative impacts, and impacts that may be directly linked to the Project through government-led healthcare reforms and contractor activities; and
- Identification of potential measures to avoid, minimize, mitigate, and monitor identified human rights risks. The recommended measures will be considered for incorporation into the Project's ESIA/ESMP framework and, where applicable, reflected in relevant Project management plans and procedures (including labour management, stakeholder engagement, community health and safety, contractor management, and security management arrangements) during detailed design, construction, and operation phases.

The human rights scan has considered whether specific human rights should be Screened In, where there is a 'higher' reasonable likelihood that the Project could cause, contribute to or be directly linked to an adverse human rights impact.

20.2.2 Methodology

Human rights issues identified during the initial Human Rights Screening as Higher risk were subjected to a detailed qualitative assessment to better understand the significance of potential adverse impacts on affected rights holders and to identify appropriate management measures. This approach is consistent with the Equator Principles Guidance Note on Implementation of Human Rights Assessments (2020), which recommends that human rights issues identified as presenting higher risks during the initial scan be evaluated through a more in-depth assessment proportionate to the scale, complexity and context of the Project.

The detailed assessment considered the following factors:

- Severity of the potential human rights impact, including:
  - Scale- the seriousness of the potential impact on affected rights holders;
  - Scope- the number or extent of individuals or groups that could be affected; and
  - Remediability- the extent to which affected rights holders could reasonably be restored to the position they would have been in had the impact not occurred.
- Likelihood of the impact occurring, taking into account the nature of the Project activities, the receiving environment, and the effectiveness of existing management systems and controls.
- Vulnerability of potentially affected rights holders, recognising that certain individuals or groups may experience disproportionate or heightened impacts due to their circumstances. This included consideration of workers, women, persons with disabilities, patients, low-income households, migrant workers (where applicable), and other disadvantaged or marginalised groups identified through the baseline assessment and stakeholder engagement process.
- Duration, frequency, and reversibility of the potential impact.
- The extent to which the Project may cause, contribute to, or be directly linked to the potential adverse human rights impact through its own activities or through its business relationships, including contractors and suppliers, consistent with the UN Guiding Principles on Business and Human Rights.

Based on these considerations, each screened-in human rights issue was assigned a qualitative inherent risk rating before the application of Project-specific mitigation measures. The assessment was intended to prioritise those human rights issues requiring enhanced management attention, mitigation, monitoring and, where necessary, measures to provide or facilitate access to remedy in accordance with the Project's Human Rights Management Framework.

Based on these considerations, each screened-in human rights issue was assigned a qualitative inherent risk rating before the application of Project-specific mitigation measures. The assessment was intended to prioritise those human rights issues requiring enhanced management attention, mitigation, monitoring and, where necessary, measures to provide or facilitate access to remedy in accordance with the Project's Human Rights Management Framework.

Table 20-2 Qualitative Human Rights Risk Rating Criteria

Rating	Description
High	Human rights issue with the potential to result in severe impacts characterised by significant scale, broad scope and/or limited remediability, together with a relatively high likelihood of occurrence. These issues require priority management, enhanced mitigation measures and ongoing monitoring.
Medium	Human rights issue with the potential to result in moderate impacts that are generally localised, reversible, or capable of being effectively managed through Project mitigation measures and routine monitoring.
Low	Human rights issue with limited potential for adverse impacts due to the nature of the Project, existing management controls or contextual factors. Routine management measures are generally expected to prevent significant impacts.

20.2.3 Human Rights Risk Scan

The Human Rights Risk Scan represents the overall level of human rights exposure identified during the Human Rights screening and assessment process. It considers the Project context, national and regional human rights environment, sector-specific characteristics, affected stakeholders and the nature of Project activities. The Risk Scan provides an overall indication of the human rights issues requiring management attention and enhanced due diligence throughout the Project lifecycle.

The Risk Scan has been informed by a combination of secondary and primary information sources, including:

- review of applicable national legislation, policies and regulatory requirements related to human rights, labour, health, employment, non-discrimination, stakeholder participation and access to remedy;
- review of international human rights standards and lender requirements, including the United Nations Guiding Principles on Business and Human Rights (UNGPs), Equator

Principles IV (EP4), IFC Performance Standards and applicable international labour standards;

- review of available secondary data sources, including national and regional socio-economic profiles, demographic information, labour market conditions, healthcare sector characteristics, vulnerability assessments and relevant institutional reports;
- findings from project-specific ESIA studies, including socio-economic surveys, stakeholder engagement activities, consultations with affected communities and other relevant stakeholders, and discussions with government authorities, institutions and project personnel;
- assessment of the broader national, regional and local context, including socio-economic conditions, access to public services, existing inequalities, vulnerable groups, institutional capacity and factors that may exacerbate or mitigate potential human rights risks; and
- consideration of sector-specific human rights risks associated with both the construction phase of the Project (including labour and working conditions, occupational health and safety, worker welfare, supply chain risks, community health and safety, land-related impacts and stakeholder concerns) and the healthcare operational context (including workforce transition, employment conditions, equitable access to healthcare services, patient rights, privacy and confidentiality, occupational health risks and service delivery considerations).

The Risk Scan considers the following key factors:

- the inherent human rights risks associated with Project activities and sector characteristics;
- the sensitivity of the receiving environment and local socio-economic context;
- the number, characteristics and vulnerability of potentially affected rights-holders, including workers, surrounding communities, healthcare personnel, patients and other stakeholders;
- the scale, complexity and duration of Project activities;
- stakeholder concerns and expectations identified through engagement and consultation processes;
- applicable national legislation, international human rights standards and lender requirements;
- the effectiveness of existing policies, procedures and management systems available to prevent, mitigate and address potential adverse impacts; and
- the extent to which the Project may cause, contribute to, or be directly linked to potential human rights impacts through its activities, business relationships or associated entities.

The Risk Scan has been undertaken using a risk-based approach consistent with the UN Guiding Principles on Business and Human Rights and the Equator Principles Guidance Note on Implementation of Human Rights Assessments. Human rights risks have been assessed considering their severity (scale, scope and remediability) and likelihood of occurrence, with particular attention given to vulnerable or marginalized groups and stakeholders who may experience heightened risks.

The Human Rights Risk Scan forms part of the Project's Human Rights due diligence process and provides an initial assessment of the Project's potential and actual adverse Human Rights impacts. The screening was undertaken against internationally recognised Human Rights standards, including those contained in the International Bill of Human Rights and the International Labour Organization (ILO) Fundamental Principles and Rights at Work, with consideration of applicable national legislation and relevant international standards. The Risk Scan identifies potentially affected rights-holders, evaluates the nature and significance of potential impacts, and informs the need for further assessment and appropriate actions to avoid, minimise, mitigate, and remedy adverse Human Rights impacts. The findings also guide the development of stakeholder engagement approaches, monitoring indicators, management plans, and grievance and remedy mechanisms throughout the Project lifecycle.

Assessment of Screened-in Human Rights

Following the screening process, the human rights identified as potentially affected by the Project were subject to a more detailed assessment to determine the nature, significance and likelihood of potential impacts on affected rightsholders. The assessment considered both direct and indirect Project-related activities during the construction and operational phases, together with contextual factors influencing the enjoyment of human rights within the Project area of influence.

The assessment was undertaken using information obtained through the ESIA process, including baseline socio-economic studies, stakeholder engagement activities, labour and working conditions assessments, community health and safety studies, environmental impact assessments, and relevant national legislation and international human rights standards. Consideration was also given to vulnerable and disadvantaged groups that may experience disproportionate impacts or face barriers in accessing Project benefits and grievance mechanisms.

For each screened-in right, the assessment considered:

- the nature of the potential impact on the right;
- the Project activities giving rise to the impact;
- the affected rightsholders;
- the severity and likelihood of the impact;
- whether the Project Company causes, contributes to, or is directly linked to the impact through its business relationships;
- the duration and reversibility of the impact; and
- the Project Company's ability to influence outcomes where impacts involve third parties or government entities.

This assessment informed the development of targeted mitigation and management measures consistent with the mitigation hierarchy and the Project Company's human rights due diligence process. The resulting assessment is presented in Table 20-2.

Mitigation, Management and Remedy Measures

Where potential adverse human rights impacts were identified, mitigation and management measures have been developed in accordance with the mitigation hierarchy by seeking first to

avoid impacts wherever reasonably practicable, then minimise or reduce impacts that cannot be avoided, and, where appropriate, provide or facilitate access to remedy for affected rightsholders.

Mitigation measures are integrated within the Project's Environmental and Social Management System (ESMS) and associated management plans and are intended to prevent, minimise and manage potential adverse impacts throughout the Project lifecycle. These measures include technical controls, management procedures, contractual requirements for contractors and subcontractors, stakeholder engagement activities, workforce management measures, monitoring programmes and grievance mechanisms.

Consistent with the UN Guiding Principles on Business and Human Rights, where the Project Company identifies that it has caused or contributed to adverse human rights impacts, it will provide for or cooperate in legitimate remediation through appropriate processes. Where impacts are directly linked to the Project through business relationships but are not caused or contributed to by the Project Company, it will seek to use its leverage to encourage responsible practices and effective management by contractors, suppliers and relevant third parties, recognising that certain outcomes, particularly those involving government decisions or public sector employment matters may remain outside the Project Company's direct control.

The implementation and effectiveness of mitigation measures will be monitored throughout construction and operation through routine inspections, contractor supervision, stakeholder engagement, grievance management, periodic audits and corrective actions. The effectiveness of these measures forms the basis for determining the residual human rights risk presented in this assessment.

20.2.4 Residual Risk

The residual risk represents the anticipated level of human rights risk remaining following the implementation of the mitigation, management and monitoring measures identified through the human rights assessment process and incorporated within the ESIA and associated management plans.

Residual risk assumes that all mitigation measures are effectively implemented and maintained throughout the Project lifecycle, including:

- implementation of the Environmental and Social Management System (ESMS);
- application of the Labour Management Plan (LMP);
- implementation of the Stakeholder Engagement Plan (SEP);
- operation of worker and community grievance mechanisms;
- contractor management and performance monitoring;
- occupational health and safety management systems;
- implementation of the Community Health, Safety and Security Management Plan (CHSSMP);
- implementation of the Security Management Plan and GBVH Action Plan; and
- monitoring, auditing and corrective action throughout construction and operation.

Residual risk ratings indicate the expected effectiveness of these mitigation and management measures in reducing potential adverse human rights impacts to an acceptable level. Human rights issues with a Medium residual risk require continued monitoring, stakeholder engagement and adaptive management throughout Project implementation, while Low residual risks are expected to be effectively managed through routine Project controls and established management systems.

Where residual risks remain elevated due to factors outside the Project Company's direct control, such as government-led workforce restructuring associated with the consolidation of existing healthcare facilities, the Project Company will seek to engage constructively with affected rightsholders and relevant stakeholders, apply good international industry practice, and exercise its available leverage to promote responsible outcomes, while recognising the limits of its direct influence over government decisions.

The Human Rights Risk Assessment presented in Table 20-2 summarises the assessment of screened-in human rights, the proposed mitigation and management measures, and the anticipated residual risks associated with the Fergana Eco City Hospital Project, taking into account both Project-related activities and broader workforce transition issues arising from the consolidation of existing healthcare facilities.

Table 20-3 Human Rights Screening, Risk Assessment and Mitigation Framework

This Human Rights Screening, Risk Assessment and Mitigation Framework has been developed in accordance with the principles of human rights due diligence established under the United Nations Guiding Principles on Business and Human Rights (UNGPs), the Equator Principles IV (EP4), IFC PS 1, IFC PS 2, and applicable DFC Environmental and Social Policy and Procedures requirements. The assessment identifies actual and potential human rights risks associated with the Project, considers affected rights holders and vulnerable groups, evaluates the severity and likelihood of impacts, and defines measures to prevent, mitigate, monitor and remedy adverse human rights impacts.

Human Rights Issue / Rights at Risk	Risk to Workers and/or Affected Communities and Sources of Potential Impact	Potential Implications of the Human Rights Issue	Human Rights Context in Uzbekistan and the Project Area	Human Rights Risk Assessment	Mitigation Measures	Risk Scan	Residual Risk
Right to Safe and Healthy Working Conditions	Construction workforce exposed to high-risk activities including work at height, excavation, lifting operations, heavy equipment, electrical works, confined spaces, worker accommodation and fatigue-related risks.	Occupational injuries, fatalities, occupational illness, unsafe working conditions and violation of workers' right to a safe workplace.	Uzbekistan has established occupational health and safety requirements under national labour legislation. However, construction remains a high-risk sector requiring robust management systems. The Project will involve approximately 1,900+ construction workers undertaking hazardous activities, requiring effective OHS controls.	**High**	• Implementation of Project ESMS and OHS Management System. • Contractor OHS Plans; Permit-to-Work system. • PPE requirements; competency training and supervision. • Incident reporting; emergency preparedness. • Contractor audits and inspections.	**High**	**Low**
Right to Work, Livelihood and Fair Employment (Workforce Transition and Retrenchment)	The Project is linked to the consolidation of five existing regional hospitals into the Fergana Eco City Hospital. Clinical personnel may transition into the new facility, while non-clinical	Potential loss of employment, reduced household income, livelihood impacts, financial insecurity, psychosocial stress, grievances and reputational risks if	Uzbekistan's Labour Code provides protections related to employment termination, redundancy, severance and non-discrimination. Public-sector	**High**	• Develop Workforce Transition Framework in coordination with MoH. • Undertake employee mapping of affected hospitals; transparent communication • Consultation with affected workers.	**High**	**Medium**

Human Rights Issue / Rights at Risk	Risk to Workers and/or Affected Communities and Sources of Potential Impact	Potential Implications of the Human Rights Issue	Human Rights Context in Uzbekistan and the Project Area	Human Rights Risk Assessment	Mitigation Measures	Risk Scan	Residual Risk
	employees may be subject to workforce rationalisation or retrenchment as determined by the Ministry of Health.	workforce transition is not transparent and fair.	restructuring may create significant social impacts if consultation, notification and transition support measures are inadequate.		• Retrenchment planning aligned with IFC PS2 and international good practice. • Referral support. • Worker GRM.		
Labour Rights (Fair Employment, Wages and Working Hours)	Large construction workforce recruited through EPC contractors and subcontractors. Risks may also apply to employees transitioning from existing hospitals, including changes in employment conditions, recruitment arrangements and working terms.	Labour rights violations, delayed wages, excessive working hours, unfair employment practices, labour disputes and reputational risks.	Uzbekistan has strengthened labour legislation; however, risks remain associated with large-scale construction employment and organisational restructuring. International good practice requires transparent employment practices and fair workforce transition processes.	**High**	• Labour Management Plan. • Workforce Transition Plan. • Written employment contracts. • Payroll monitoring; working hour controls. • Transparent recruitment criteria. • Contractor compliance audits. • Worker GRM.	**High**	**Low-Medium**
Forced Labour and Human Trafficking	Use of subcontractors, labour brokers and recruitment agencies may introduce risks of recruitment fees, coercion, retention of identity documents or exploitative labour practices.	Severe human rights abuses, worker exploitation, legal liabilities, lender non-compliance and reputational impacts.	Uzbekistan has strengthened controls against forced labour; however, migrant and subcontracted labour arrangements remain recognised risk areas requiring monitoring.	**Medium**	• Ethical recruitment procedures. • Prohibition of recruitment fees and passport retention. • Worker interviews. • Contractor audits. • Supply chain monitoring. • Worker awareness programmes.	**Medium**	**Low**
Child Labour	Potential risk through lower-tier subcontractors, informal	Violation of children's rights, legal non-	Uzbekistan has legal restrictions on child labour; however,	**Medium**	• Age verification procedures.	**Medium**	**Low**

Human Rights Issue / Rights at Risk	Risk to Workers and/or Affected Communities and Sources of Potential Impact	Potential Implications of the Human Rights Issue	Human Rights Context in Uzbekistan and the Project Area	Human Rights Risk Assessment	Mitigation Measures	Risk Scan	Residual Risk
	recruitment channels or suppliers.	compliance and reputational impacts.	supply chains and informal labour arrangements require monitoring.		• Contractual prohibition of child labour; supplier screening; contractor monitoring and audits.		
Freedom of Association and Collective Bargaining	Temporary contracts, subcontracting arrangements and workforce restructuring may limit workers' willingness to organise or raise concerns collectively.	Restricted worker representation, labour disputes and reduced ability to participate in employment-related decisions.	Uzbekistan recognises workers' rights to organise and participate in labour organisations. Consultation is particularly important during workforce transition and restructuring.	**Medium**	• Respect workers' rights to representation. • Engagement with employee representatives. • Consultation during restructuring. • Non-retaliation policy. • Worker GRM.	**Medium**	**Low**
Non-discrimination and Equal Opportunity	Recruitment, workforce transition and retrenchment decisions may unintentionally disadvantage women, older workers, persons with disabilities or vulnerable groups.	Discrimination claims, unequal access to employment opportunities, grievances and legal disputes.	Uzbekistan prohibits discrimination in employment. Workforce restructuring presents increased risks if objective and transparent criteria are not applied.	**Medium-High**	• Equal Opportunity Policy; transparent recruitment and retrenchment criteria; monitoring of gender and vulnerable group outcomes; independent review and appeals process.	**Medium-High**	**Low**
Gender Equality, Gender-Based Violence and Sexual Harassment (GBVH)	Male-dominated construction workforce, worker accommodation facilities and increased interaction between workers and communities may create risks.	Sexual harassment, exploitation, intimidation, discrimination and adverse impacts on women workers and community members.	Gender-based risks are recognised internationally as key considerations for infrastructure projects involving labour influx and community interaction.	**High**	• GBVH Action Plan; Worker Code of Conduct. • Awareness training; confidential survivor-centred reporting mechanism. • Disciplinary procedures. • Referral pathways.	**High**	**Low**
Mental Health and Psychosocial Well-being	Employees affected by hospital consolidation, particularly those facing redundancy, may experience uncertainty and stress. Construction	Stress-related illness, reduced wellbeing, reduced productivity, family impacts and increased grievances.	Organisational restructuring and employment uncertainty can create significant psychosocial impacts	**Medium**	• Employee communication programme. • Transition planning; counselling/referral support where available. • Worker engagement.	**Medium**	**Low**

Human Rights Issue / Rights at Risk	Risk to Workers and/or Affected Communities and Sources of Potential Impact	Potential Implications of the Human Rights Issue	Human Rights Context in Uzbekistan and the Project Area	Human Rights Risk Assessment	Mitigation Measures	Risk Scan	Residual Risk
	workers may also experience fatigue, isolation and work-related stress.		on affected workers and households.		• Grievance mechanisms.		
Community Health, Safety and Security	Construction traffic, dust, noise, vibration, increased workforce presence, communicable disease risks and interaction between workers and nearby communities.	Community injuries, nuisance impacts, reduced wellbeing, increased safety concerns and disruption to daily activities.	The Project is located within the Eco City development area, with nearby residential receptors. Effective community health and safety management is required during construction and operation.	**High**	• Community Health and Safety Plan. • Traffic Management Plan. • Emergency Response Plan. • Communicable disease prevention measures. • Stakeholder engagement. • Grievance mechanism.	**High**	**Low-Medium**
Rights of Vulnerable Groups	Elderly persons, women, persons with disabilities, low-income households, patients and affected hospital employees may experience disproportionate impacts.	Unequal access to information, consultation opportunities, employment benefits or healthcare services.	Uzbekistan's social protection framework recognises vulnerable groups; however, targeted engagement is required to ensure equitable participation.	**Medium**	• Vulnerability assessment. • Inclusive SEP. • Targeted consultations. • Accessible communication materials. • Accessible GRM.	**Medium**	**Low**
Access to Information and Participation	Communities and affected hospital employees may not receive timely information regarding project impacts, workforce transition, recruitment, retrenchment or operational changes.	Misinformation, mistrust, reduced participation, grievances and reputational risks.	Effective disclosure and consultation are key requirements under UNGPs, IFC PS1 and lender standards.	**Medium-High**	• SEP implementation; dedicated engagement with affected employees. • Multilingual communication information sessions • Disclosure of transition milestones. • GRM.	**Medium-High**	**Low**
Right to an Effective Remedy and	Workers affected by recruitment, employment conditions,	Unresolved disputes, litigation, labour conflicts, loss of trust	Access to remedy is recognised under international human	**High**	• Establish Project Worker GRM and dedicated Workforce Transition	**High**	**Low**

Human Rights Issue / Rights at Risk	Risk to Workers and/or Affected Communities and Sources of Potential Impact	Potential Implications of the Human Rights Issue	Human Rights Context in Uzbekistan and the Project Area	Human Rights Risk Assessment	Mitigation Measures	Risk Scan	Residual Risk
Grievance Access	workforce transfer, retrenchment or community impacts may require accessible mechanisms to raise concerns.	and reputational impacts.	rights standards and national labour legislation.		Grievance Mechanism with MoH; confidential reporting; transparent investigation; timely resolution and appeals process.		
Right to Privacy and Personal Data Protection	Collection of employee records, medical information, CCTV footage and stakeholder data.	Misuse of personal information, confidentiality breaches and loss of trust.	Personal data protection requirements are increasingly recognised under Uzbekistan's regulatory framework and international good practice.	**Low-Medium**	• Data protection procedures. • Controlled access; confidentiality protocols. • Secure storage and handling of personal information.	**Low-Medium**	**Low**
Security and Use of Security Personnel	Security personnel may be deployed during construction and operation.	Excessive use of force, intimidation, restriction of access or community conflict if security is poorly managed.	International lenders require security arrangements consistent with human rights principles.	**Medium**	• Security Management Plan. • Security personnel training. • Human rights requirements in contracts. • Grievance mechanism; alignment with IFC Good Practice Handbook on Use of Security Forces.	**Medium**	**Low**
Supply Chain Human Rights	Procurement of construction materials, equipment and subcontracted services may create risks in supplier operations.	Labour rights violations, forced labour risks and reputational impacts.	Supply chain risks require due diligence, particularly for large infrastructure projects.	**Medium**	• Supplier Code of Conduct. • Contractor prequalification. • Contractual human rights clauses; supplier monitoring and audits.	**Medium**	**Low**
Access to Healthcare Services	Transition from five existing hospitals to the Eco City Hospital may temporarily affect healthcare pathways	Temporary disruption, patient confusion, increased travel requirements during transition; improved	Healthcare consolidation requires careful planning to maintain continuity of services	**Medium**	• MoH transition planning; phased commissioning; continuity-of-care planning; public	**Medium**	**Low**

Human Rights Issue / Rights at Risk	Risk to Workers and/or Affected Communities and Sources of Potential Impact	Potential Implications of the Human Rights Issue	Human Rights Context in Uzbekistan and the Project Area	Human Rights Risk Assessment	Mitigation Measures	Risk Scan	Residual Risk
	and patient access. Long-term impacts are expected to be positive.	healthcare access over long term.	and protect community health rights.		communication; patient engagement; GRM.		

20.3 Baseline Conditions

20.3.1 National Human Rights Context

The Project is located in the Republic of Uzbekistan, a country that has undertaken significant legal and institutional reforms in recent years to strengthen human rights protections and improve alignment with international standards. Uzbekistan is party to the core United Nations human rights conventions and has progressively integrated rights-based principles into its national governance, development policies, and institutional frameworks.

Human rights protections are enshrined in the Constitution and further supported by sectoral laws and policy instruments. Collectively, these frameworks address a wide spectrum of civil, political, economic, social, and cultural rights, including labour rights, gender equality, public participation, access to justice, and administrative transparency. The national legal framework also recognises fundamental civil liberties such as the right to privacy, freedom of expression, freedom of association, and the right to peaceful assembly.

Notwithstanding these developments, available assessments indicate that, as is common in countries undergoing transition and institutional reform, gaps may remain between legal provisions and their consistent implementation in practice. This is particularly evident at sub-national levels and may be relevant to large-scale infrastructure projects, where challenges can include varying levels of rights awareness among workers and communities, capacity constraints in grievance mechanisms, and potential risks relating to labour conditions, land use processes, and community health and safety.

In this context, while Uzbekistan demonstrates a steadily strengthening human rights framework, project-level due diligence remains essential to assess context-specific risks and to determine the extent to which any heightened human rights risk profile is relevant to the specific circumstances of the Fergana Project.

20.3.2 Right to Privacy

The right to privacy is protected under the Constitution of the Republic of Uzbekistan and supported by national legislation governing personal data protection, confidentiality of communications, and safeguards against unlawful interference in private and family life. These legal provisions are particularly relevant to large infrastructure developments such as the Fergana Eco City Hospital, where personal information is routinely collected, processed, and stored. This includes worker employment records, recruitment documentation, health and safety records, stakeholder engagement data, and grievance mechanism information.

While the legal framework establishes a clear basis for the protection of personal data and privacy rights, the effectiveness of implementation may vary in practice depending on institutional capacity, enforcement mechanisms, and awareness of data protection obligations at both project and local authority levels. Accordingly, appropriate data handling procedures and confidentiality controls are expected to be integrated into Project systems to support compliance with applicable legal requirements and good international industry practice.

20.3.3 Child Labour

The Republic of Uzbekistan has undergone marked changes in child labour practices over the past decade, driven by legislative reforms and international monitoring partnerships. Historically, Uzbekistan's cotton harvest was internationally criticised for widespread mobilisation of children into agricultural work, often reported as systematic and coercive prior to the mid-2010s. Independent monitoring missions and NGOs documented children,

including those below school age, being mobilised alongside adults in the cotton fields under difficult conditions, disrupting education and normal childhood activities[30].

However, according to the ILO and consistent third-party monitoring, systemic use of child labour in the cotton sector has been effectively eradicated by the early 2020s, with reporting for the cotton harvest of 2021 indicating that 99 per cent of labourers aged of working age participated voluntarily and that instances of systemic child labour were no longer prevalent.

Despite these positive developments, ongoing reports from civil society and global labour monitors indicate that isolated cases of child labour persist outside of the cotton sector, particularly in informal agriculture and family economic activities where children may work due to household economic pressures rather than formal employment structures. Laws prohibiting the worst forms of child labour are in place, and oversight mechanisms involve labour inspectors and the Prosecutor General's Office, who coordinate implementation of child protection provisions within national legal frameworks[31].

Collectively, baseline conditions in Uzbekistan reflect a significant reduction in systemic child labour activities, accompanied by national policies aimed at improved educational access and enforcement, but with residual risks for sporadic child labour in informal sectors.

20.3.4 Forced Labour

Forced labour has historically been recognised as a key human rights concern in Uzbekistan, particularly in relation to state-supported or socially driven labour mobilisation practices that were prevalent prior to major reforms introduced in the late 2010s. During the period up to approximately 2016–2018, instances were reported in which public sector employees and farmers were required, directly or indirectly, to participate in cotton harvest activities, sometimes under administrative pressure or perceived institutional expectations linked to performance obligations.

These practices have since been the subject of extensive national reforms and international monitoring, resulting in significant reductions in systemic, state-orchestrated labour mobilisation in the cotton sector.

In recent years, the Government of Uzbekistan, in collaboration with the ILO, has implemented substantial reforms aimed at eliminating systemic forced labour, particularly within the cotton sector. ILO monitoring and related assessments indicate that these reforms have contributed to a significant reduction in forced labour risks and a shift towards voluntary participation and improved labour practices.

Notwithstanding these positive developments, independent assessments continue to highlight the possibility of residual and context-specific risks. These may include isolated or indirect forms of coercion associated with administrative influence, performance targets, or quota-based practices at local levels. Such risks are generally understood to be non-systemic and more likely to arise in contexts where awareness of labour rights, enforcement capacity, or independent oversight may be limited.

The national legislative framework of Uzbekistan explicitly prohibits all forms of forced labour under both labour and criminal law. Enforcement is undertaken by relevant labour inspectorates and competent authorities. However, the effectiveness of implementation may vary across sectors and administrative levels, and continued attention is required to ensure consistent application of legal protections and the prevention of any form of coercion in employment practices.

[30] https://www.hrw.org/news/2015/08/27/human-rights-watch-submission-world-bank-group-systematic-country-diagnostic

[31] https://www.dol.gov/agencies/ilab/resources/reports/child-labor/uzbekistan

20.3.5 Working Conditions

The baseline context for working conditions in Uzbekistan is defined by a comprehensive legal and regulatory framework that safeguards workers' rights to fair remuneration, safe and decent working environments, and occupational health and safety. These provisions are set out in the national Labour Code and are further reinforced through Uzbekistan's ratification of relevant ILO Conventions. The Labour Code establishes core principles, including the right to work, protection from discrimination, prohibition of forced labour, and equal treatment of workers in employment relationships.

Notwithstanding the strength of the formal legal framework, available evidence and monitoring findings indicate that implementation challenges persist in practice. Reported issues in certain sectors include excessive working hours, delays or non-payment of wages, and inadequate occupational health and safety standards. In addition, worker grievance records and monitoring reports highlight concerns related to inconsistent enforcement of labour regulations, wage inequalities, and limited effectiveness of labour inspections, particularly within informal employment arrangements and subcontracted work environments.

While ongoing reforms and strengthened state oversight have contributed to improvements in labour governance and institutional capacity, gaps in enforcement remain due to structural and operational constraints. These limitations result in uneven application of statutory requirements across sectors and geographic areas. Accordingly, the baseline condition reflects a strong formal commitment to fair and safe working conditions under national law, alongside practical challenges in ensuring consistent enforcement and uniform protection of workers' rights in practice.

20.3.6 Collective Bargaining

Uzbekistan's labour legislation formally recognises the principles of freedom of association and collective bargaining, including through provisions in the updated Labour Code that allow workers to establish or join trade unions and other representative bodies, engage in negotiations, and conclude collective agreements. The legal framework also establishes mechanisms for social partnership and collective bargaining at enterprise, sectoral, territorial, and national levels, involving workers' representatives, employers, and public authorities to support dialogue on employment conditions and dispute resolution.

However, available baseline information indicates that the practical implementation of collective bargaining rights remains limited. In practice, trade union independence and the effectiveness of worker representation are constrained, with historically state-aligned structures continuing to influence labour relations. As a result, collective bargaining processes may not consistently provide workers with sufficient autonomy or leverage to independently negotiate wages, working conditions, or enforce agreements on an equal footing with employers.

Accordingly, while collective bargaining is legally enabled and supported through formal institutional arrangements, its practical effectiveness remains evolving. Strengthening independent worker representation and enhancing the meaningful exercise of collective bargaining rights continue to be important considerations for improving labour relations within the Project's broader workforce context.

20.3.7 Gender Inequality and Discrimination

Gender inequality and discrimination continue to be significant human rights concerns in Uzbekistan. The Constitution and national legislation, including the Law "On Guarantees of Equal Rights and Opportunities for Women and Men," prohibit discrimination based on

gender, and recent amendments to the Labour Code underscore equality of labour rights and equal pay for equal work[32].

Despite these legal guarantees, enforcement gaps and socio-economic disparities persist. Women's participation in the labour market remains significantly lower than men's, and women are disproportionately represented in informal work with lower pay and less job security. The World Bank and ILO analyses indicate that gender pay gaps and barriers to equal employment opportunities remain structural challenges, reflecting broader societal norms and labour market segmentation[33].

Gender-based discrimination also extends beyond employment into broader social and legal contexts, where protections against gender-based violence and discrimination are evolving but remain under development. Recent legislative reforms, such as new national laws addressing gender-based violence, signal progress but highlight the need for effective enforcement and cultural change to address entrenched discriminatory practices. Overall baseline conditions reflect a robust legal framework for gender equality, supported by targeted reforms and institutional commitments, alongside persistent practical and cultural challenges that continue to influence gender inequality in employment, compensation, and social rights.

20.3.8 Right to Health and Safety

In Uzbekistan, the right to health and safety is protected under the Constitution and supported through a comprehensive framework of public health, labour, and environmental legislation. Within the Fergana region, including Fergana City, access to primary and secondary healthcare services is generally available. However, differences in service quality, emergency response capacity, and environmental health management remain, particularly in the context of large-scale infrastructure and urban development projects.

Baseline conditions in the Project area indicate that environmental health and safety concerns such as air emissions, noise, increased traffic, and risks associated with construction activities are commonly associated with ongoing development in and around the Eco City area. While national laws and standards are in place to regulate and mitigate such impacts, the level of enforcement and local implementation may vary.

Certain population groups, including children, elderly people, and individuals with pre-existing health conditions, are considered more vulnerable to potential adverse health and safety impacts arising from construction activities and associated environmental changes, and therefore require particular consideration in impact management and mitigation planning.

20.3.9 Access to Information and Public Participation

In Uzbekistan, the rights to access information and participate in public decision-making are established under national legislation governing public oversight, administrative procedures, and environmental governance. In principle, affected communities are entitled to be informed about developments that may influence their environment and livelihoods, and to engage in consultation processes to express their views and concerns.

For the Fergana Project, baseline conditions suggest that although formal requirements for public consultation are increasingly integrated into project approval and permitting processes, practical access to information may vary in effectiveness. Constraints may

[32] https://wbl.worldbank.org/content/dam/sites/wbl/documents/2024/WBL2024-Response-Data-Update-Uzbekistan-CFW.pdf

[33] https://www.ilo.org/sites/default/files/2025-03/Gender%20Pay%20Gap%20in%20Uz-ENG-2802.pdf

include the technical nature of disclosed information, language and literacy barriers, and uneven outreach to different stakeholder groups, particularly vulnerable populations.

As a result, awareness of participation rights is not uniform across all segments of the population, with lower levels of engagement often observed among low-income households and informal workers. In this context, effective and inclusive stakeholder engagement is a critical factor in ensuring meaningful access to information and the protection of human rights throughout the Project lifecycle.

20.3.10 Rights of Vulnerable and Marginalised Groups

Within the context of the Fergana Project, certain population groups in Uzbekistan may experience elevated vulnerability to potential human rights impacts due to a combination of socio-economic constraints, physical limitations, and institutional or structural barriers. These groups typically include women, children, persons with disabilities, elderly persons, low-income households, and individuals engaged in informal or precarious employment. While national legal and policy frameworks recognise the need to protect such groups, the effective realisation of these rights in practice can vary, particularly at the local level.

The Constitution of the Republic of Uzbekistan enshrines equality before the law and prohibits discrimination, and this is reinforced through sector-specific legislation addressing the rights of women, children, and persons with disabilities. The National Human Rights Strategy (Presidential Decree No. PD-6012, 2020) further strengthens this commitment by promoting targeted measures to enhance inclusion, access to services, and protection for vulnerable populations. Notwithstanding these provisions, implementation challenges remain, as reflected in various national and international assessments.

Women continue to face structural constraints in the labour market, including lower participation rates, occupational segregation, and wage disparities, despite formal legal guarantees of equality. International assessments, including those by the World Bank and the ILO, indicate that women are often concentrated in lower-paid or informal sectors and remain underrepresented in technical, supervisory, and decision-making roles. Socio-cultural norms and caregiving responsibilities may also limit their participation in consultation processes and access to formal grievance mechanisms.

Children are protected under national legislation and international conventions ratified by Uzbekistan from economic exploitation and hazardous work. While significant progress has been made in eliminating systemic child labour in formal sectors, including agriculture, evidence from organisations such as UNICEF and the ILO suggests that children in low-income and informal households may still be engaged in family-based economic activities. Such conditions may increase the risk of educational disruption and long-term socio-economic vulnerability.

Persons with disabilities continue to face barriers related to accessibility and inclusion, despite Uzbekistan's alignment with the UN Convention on the Rights of Persons with Disabilities (CRPD). Baseline assessments by UNDP and national institutions indicate that limitations in accessible infrastructure, transport, and employment opportunities may restrict meaningful participation in consultations, access to employment generated by Projects, and use of grievance mechanisms.

Elderly persons and low-income households may also be disproportionately affected due to limited financial resilience and dependence on fixed incomes or informal livelihoods. According to national socio-economic data and World Bank poverty analyses, these groups may have reduced capacity to absorb economic shocks or temporary disruptions in access to services, mobility, or income.

Workers engaged in informal employment arrangements are particularly vulnerable due to the absence of formal contracts, limited social protection, and restricted access to

institutional grievance and legal remedy mechanisms. International sources, including the ILO and the U.S. Department of State Human Rights Reports, highlight that informal workers frequently remain outside the scope of effective labour protections and enforcement systems.

In the context of the Fergana Project, these baseline vulnerabilities indicate that construction and operational activities could result in disproportionate impacts on certain groups if risks are not appropriately identified and managed. Consistent with the UN Guiding Principles on Business and Human Rights, IFC Performance Standards, and EBRD Environmental and Social Requirements, the Project will adopt differentiated mitigation measures, inclusive stakeholder engagement, and strengthened grievance mechanisms to ensure that vulnerable and marginalised groups are not excluded from Project benefits or disproportionately affected by adverse impacts.

This baseline reinforces the need for vulnerability-sensitive planning throughout Project design, implementation, and operation to ensure equitable outcomes and full respect for human rights across all affected populations.

20.4 Potential Impacts, Mitigation, Management & Residual Impacts[34]

20.4.1 Construction Phase

Methodological Basis for Human Rights Impact Identification and Assessment

The identification and assessment of potential human rights impacts for the Fergana Project construction phase have been undertaken through a structured, risk-based Human Rights Due Diligence (HRDD) approach. This approach is aligned with internationally recognised standards and guidance, including:

- **UN Guiding Principles on Business and Human Rights (UNGPs)**, particularly the principles relating to human rights risk identification, prevention, mitigation, and access to remedy;
- **IFC Performance Standards (2012)**, particularly:
  - PS1 (Assessment and Management of Environmental and Social Risks and Impacts), including stakeholder engagement and grievance mechanisms.
  - PS2 (Labour and Working Conditions), covering working conditions, non-discrimination, freedom of association, and forced labour.
  - PS4 (Community Health, Safety and Security), where relevant to human rights impacts on communities;
  - PS7 (Indigenous Peoples), where screening has been undertaken.
- Relevant provisions of Uzbekistan national labour, employment, and human rights legislation, which provide the baseline legal framework;
- Good international industry practice (GIIP), including World Bank Group Environmental, Health and Safety (EHS) Guidelines and construction-sector labour standards.

The assessment is based on:

[34] *Note: Several of the potential impacts on Human Rights, in particular, those affecting workers have already been assessed with mitigation included in Chapter 19 "Labour and Working Conditions".*

- Desktop review of applicable legal and institutional frameworks;
- Review of project design, construction activities, and workforce requirements;
- Stakeholder engagement and consultation inputs (where available at ESIA stage);
- A risk-based evaluation considering the likelihood, severity, and reversibility of potential impacts on affected rights-holders, consistent with UNGP methodology.

Accordingly, the "potential impacts" identified in this section represent reasonably foreseeable human rights risks associated with construction-phase activities, taking into account sector-specific experience, comparable infrastructure projects, and contextual factors in Uzbekistan, including enforcement capacity and the use of subcontracted labour.

20.4.1.1 Child Labour

During the construction phase, there remains a potential risk of child labour, particularly within subcontracted or informal labour arrangements where recruitment practices may not be fully formalised or consistently monitored. Although child labour is no longer prevalent in Uzbekistan and has been significantly reduced through regulatory reforms and enforcement measures, residual risks may still exist within indirect labour supply chains or where labour is sourced through intermediaries.

If not adequately controlled, there is a risk that underage individuals could be engaged in non-specialised or ancillary construction-related activities. Such occurrences would constitute a violation of national legislation and internationally recognised human rights standards and could adversely affect children's rights, including access to education and protection from economic exploitation.

To mitigate this risk, the Project will implement strict age verification procedures for all workers prior to engagement, supported by contractual obligations requiring all contractors and subcontractors to prohibit the use of child labour. Regular audits of labour providers will be undertaken, and workers will receive induction training on labour rights, including child labour prohibition. In addition, ongoing monitoring mechanisms will be established to ensure compliance across all tiers of the workforce.

With these measures in place, the residual risk of child labour is expected to be low and effectively manageable.

20.4.1.2 Forced Labour

The construction phase presents a potential risk of forced or coerced labour, particularly within subcontracted employment structures or where labour intermediaries are utilised. While forced labour is prohibited under national law and international standards, enforcement challenges may persist at lower tiers of the labour supply chain.

Key risk factors include recruitment through unregulated intermediaries, retention of identity documents, restrictions on workers' freedom of movement or termination, wage withholding, debt-related coercion, or excessive overtime. These risks may be heightened during peak construction periods when rapid workforce mobilisation is required.

To address these risks, the Project will enforce strict labour management procedures prohibiting passport retention, recruitment fees, and any form of coercion. All workers will be provided with written employment contracts clearly defining terms and conditions, including rights related to termination and freedom of movement. A worker grievance mechanism will be established to allow confidential reporting of concerns, including those related to coercive practices. Contractors and subcontractors will be subject to monitoring and periodic compliance audits.

With these controls in place, the residual risk of forced labour is expected to remain low.

20.4.1.3 Right to Safe and Healthy Working Conditions (Occupational Health and Safety)

Construction activities will expose workers to a range of high-risk activities, including work at height, excavation, lifting operations, electrical works, confined space entry, operation of heavy machinery, and activities within temporary worker accommodation facilities. Failure to adequately manage these hazards could result in serious injuries, occupational illnesses, permanent disability, or fatalities, thereby affecting workers' fundamental right to safe and healthy working conditions.

The Project will implement a comprehensive Occupational Health and Safety Management System as part of the Project Environmental and Social Management System (ESMS), consistent with IFC PS 2, the World Bank Group EHS Guidelines, and applicable national legislation. Contractor-specific OHS Plans, Permit-to-Work systems, competency-based training, provision and enforcement of personal protective equipment, routine inspections, incident reporting, emergency preparedness and response procedures, and regular contractor audits will be implemented throughout construction.

With effective implementation of these measures, the residual human rights risk associated with occupational health and safety is expected to be Low.

20.4.1.4 Mental Health and Psychosocial Well-being

Construction activities and associated workforce arrangements may give rise to psychosocial risks affecting workers' mental health and well-being. Construction personnel may experience stress associated with demanding workloads, long working hours, shift work, fatigue, separation from families, and temporary accommodation arrangements. Employees affected by future workforce transition activities may also experience uncertainty regarding employment, contributing to anxiety and emotional stress.

If not appropriately managed, these factors may adversely affect workers' health, wellbeing, productivity, workplace relationships, and overall job satisfaction, while potentially increasing the likelihood of grievances, absenteeism, and occupational incidents.

To minimise these risks, the Project will promote a healthy working environment through effective workforce communication, reasonable management of working hours, adequate welfare facilities, regular worker engagement, and implementation of accessible grievance mechanisms. Information regarding available health and wellbeing support services will be communicated to workers, and referral to appropriate counselling or employee assistance services will be facilitated where available. Supervisors will be encouraged to identify signs of work-related stress and fatigue and take appropriate corrective actions to support worker wellbeing.

With implementation of these measures, the residual human rights impact relating to mental health and psychosocial wellbeing is expected to be Low.

Privacy, Freedom of Expression, Association and Peaceful Assembly

During construction, there is a potential risk of impacts on workers’ rights to privacy and freedom of expression arising from site security controls, workforce monitoring systems, and supervision practices. If not appropriately managed, such measures may create perceptions of excessive surveillance or discourage workers from freely expressing concerns regarding employment conditions, safety issues, or grievances.

There is also a risk that workers or community members may feel deterred from raising concerns due to fear of retaliation, particularly in the context of short-term employment arrangements or subcontracted labour structures. Informal collective expression or peaceful assembly may also be unintentionally constrained if site management practices are overly restrictive.

To mitigate these risks, the Project will implement a transparent data management and monitoring framework, supported by clear communication on any workforce monitoring activities. A formal non-retaliation policy will be enforced, and workers will have access to confidential grievance mechanisms. Training will be provided to workers on their rights to privacy, expression, and peaceful assembly in accordance with national legislation and international human rights standards, including the UNGPs.

With these measures in place, residual risk is expected to be low.

20.4.1.5 Collective Bargaining and Freedom of Association

The construction phase may present constraints on the effective exercise of freedom of association and collective bargaining rights, particularly in contexts where subcontracted labour arrangements, short-term contracts, and high workforce turnover are prevalent. These conditions may limit workers' ability or willingness to organise or engage in collective representation.

There is a risk that grievances related to wages, working hours, or occupational safety may not be effectively channeled through formal collective mechanisms, resulting in reliance on informal or individual complaint processes.

To mitigate these risks, the Project will recognise and respect lawful freedom of association rights and ensure that workers are not discouraged from participating in representative mechanisms. Contractor agreements will include provisions safeguarding these rights, and worker representation mechanisms will be established at site level. The grievance mechanism will remain accessible to all workers irrespective of union membership or affiliation.

With these measures in place, residual risk is expected to be low to moderate.

20.4.1.6 Non-discrimination and Equal Opportunity

The construction phase may present risks of discrimination in recruitment, employment, training, promotion, remuneration, and termination if transparent and objective employment practices are not consistently applied. Women, persons with disabilities, older workers, migrant workers, and other vulnerable groups may face barriers to accessing employment opportunities or may experience unequal treatment within the workplace.

There is also a risk that workforce transition processes associated with the Project, where applicable, could unintentionally disadvantage particular groups if employment decisions are not based on fair, objective, and transparent criteria.

To mitigate these risks, the Project will implement an Equal Opportunity and Non-discrimination Policy applicable to all contractors and subcontractors. Recruitment and employment decisions will be based on objective competency-based criteria without discrimination based on gender, age, disability, ethnicity, religion, or other protected characteristics. Equal remuneration for work of equal value will be promoted, while workforce demographic information will be monitored to identify any unintended disparities. Workers will have access to confidential grievance mechanisms to report concerns relating to discrimination or unequal treatment without fear of retaliation.

Following implementation of these measures, the residual human rights impact associated with discrimination and unequal treatment is expected to be Low.

20.4.1.7 Access to Healthcare Services

Construction activities are not expected to significantly restrict access to healthcare services for surrounding communities. However, temporary disruptions may occur due to increased construction traffic, temporary road diversions, or changes in access arrangements around

the Project site. During the longer-term implementation of the Project, the transition of healthcare services to the new Fergana Eco City Hospital may require careful coordination by the Ministry of Health to maintain continuity of patient care and minimise disruption to healthcare delivery.

If transition activities are not effectively planned and communicated, patients and surrounding communities may experience temporary confusion regarding service availability, referral pathways, or access arrangements, particularly for vulnerable individuals requiring ongoing medical treatment.

To minimise these risks, the Ministry of Health, together with the Project Company where appropriate, will undertake phased planning for commissioning and operational transition to support continuity of healthcare services. Public information campaigns and stakeholder engagement activities will communicate any changes to healthcare access arrangements in advance of implementation. Construction traffic management measures will also be implemented to minimise disruption to local access routes, while the Project grievance mechanism will provide an accessible channel for communities to raise concerns relating to healthcare access during Project implementation.

With implementation of these measures, the residual human rights impact relating to access to healthcare services is expected to be Low.

20.4.1.8 Gender Inequality and Discrimination

During the construction phase, there is a risk that existing gender inequalities may be reinforced if employment practices, workplace environments, and engagement processes are not sufficiently gender responsive. Women may face barriers in accessing employment opportunities in construction-related roles and may be disproportionately represented in lower-paid or informal positions.

There is also a potential risk of gender-based harassment, intimidation, or inappropriate conduct, particularly given the likely predominance of a male construction workforce and the presence of temporary worker accommodations.

To address these risks, the Project will implement equal opportunity employment policies and ensure non-discriminatory recruitment practices. A Code of Conduct addressing GBVH will be enforced across all contractors, supported by mandatory training programmes. Confidential grievance mechanisms will be established to allow safe reporting of GBVH-related concerns, and disciplinary procedures will be applied for violations.

Following implementation of these measures, residual impacts are expected to be low.

20.4.1.9 Right to Health and Safety35 (Community)

Construction activities may result in temporary impacts on community health and safety, including dust emissions, noise, vibration, and increased construction-related traffic. These impacts may affect nearby settlements and sensitive receptors within the Project's area of influence.

Increased movement of heavy vehicles and temporary traffic diversions may also elevate the risk of road safety incidents and cause intermittent disruption to community access routes and services. Vulnerable groups such as children, elderly people, and individuals with pre-existing health conditions may be more sensitive to these impacts.

To mitigate these risks, the Project will implement traffic management plans, dust suppression measures, and noise control procedures. Construction activities will be limited

[35] *Note: Potential impacts associated with this subject including assessments of risks are discussed in Chapter 18, Community Health, Safety and Security and therefore not discussed further in this section.*

to designated working hours, and advance notifications will be provided to local communities. Safety signage and controlled access zones will be established around active construction areas. With these measures in place, residual impacts are expected to be low to moderate and temporary in nature.

20.4.1.10 Access to Information and Public Participation

There is a potential risk that affected communities may experience limited access to timely and understandable information regarding construction activities, schedules, and associated risks. This may be compounded by language barriers, technical complexity of information, and limited outreach to vulnerable or hard-to-reach groups.

If not effectively addressed, this may reduce opportunities for meaningful participation and increase community concerns or grievances.

To mitigate these risks, the Project will implement a Stakeholder Engagement Plan ensuring regular, transparent, and accessible communication with affected communities. Information will be disclosed in appropriate languages and formats, including non-technical summaries where necessary. Targeted engagement will be conducted with vulnerable groups to ensure inclusive participation, and feedback mechanisms will be established to incorporate community concerns into project decision-making processes.

With these measures in place, residual risk is expected to be low.

20.4.1.11 Rights of Vulnerable and Marginalised Groups

Vulnerable and marginalised groups, including low-income households, elderly persons, persons with disabilities, women, children, and informal workers, may experience disproportionate impacts during the construction phase due to pre-existing socio-economic vulnerabilities and limited access to institutional support mechanisms.

These groups may face barriers in accessing employment opportunities, increased exposure to occupational and community health and safety risks, restricted access to project information, and limited ability to engage in consultation processes or grievance mechanisms.

To address these risks, the Project will implement inclusive stakeholder engagement processes and ensure that communication materials are accessible and tailored to vulnerable groups. Priority access to grievance mechanisms will be provided, and non-discrimination principles will be embedded in all contractor obligations. Physical accessibility considerations will also be incorporated into engagement activities where relevant.

Following implementation of these measures, residual impacts are expected to be low to moderate, depending on the effectiveness of inclusion mechanisms.

20.4.1.12 Grievance Mechanism and Access to Remedy

There is a potential risk that affected workers and communities may not have timely or effective access to grievance mechanisms, particularly where awareness is limited or fear of retaliation exists. Ineffective grievance systems may reduce the ability to address human rights concerns and undermine trust in project institutions.

To mitigate this risk, the Project will establish a structured grievance mechanism for both workers and communities, incorporating multiple access channels, including confidential and anonymous reporting options. A non-retaliation policy will be strictly enforced. The mechanism will include defined timelines for response and resolution, escalation procedures, and contractor inclusion to ensure coverage across all employment tiers.

With these measures in place, residual risk is expected to be low.

20.4.1.13 Security Personnel and Use of Force

The presence of security personnel at construction site access points may create potential risks related to perceptions of intimidation or inappropriate conduct if not properly managed. While security arrangements are primarily intended to ensure site safety and prevent unauthorised access, improper conduct could negatively affect workers' and community members' rights.

To mitigate these risks, the Project will implement a Security Management Plan aligned with the UNGPs and applicable international good practice standards. Security personnel will receive training on human rights principles, appropriate conduct, and use of force proportionality. All security-related incidents will be documented, investigated, and addressed through formal reporting mechanisms.

With these controls in place, residual risk is expected to be low.

20.4.1.14 Supply Chain and Contractor Human Rights Risks

Human rights risks may arise within the Project's supply chain, particularly through subcontractors, labour agencies, and material suppliers. These risks may include non-compliance with labour standards, unsafe working conditions, or informal recruitment practices.

To mitigate these risks, the Project will incorporate human rights requirements into all contractual agreements with contractors and suppliers, aligned with IFC Performance Standards and UNGP principles. Pre-qualification screening of suppliers will be conducted, and labour agencies will be required to demonstrate compliance with applicable licensing and legal requirements. Regular audits and inspections will be undertaken, and non-compliance may result in corrective actions or contract termination.

With these measures in place, residual risk is expected to be low to moderate.

20.4.2 Impact Assessment Summary – Human Rights during Construction

A summary of potential impacts related to human rights including labour working conditions within the Project area during construction and their effects on identified receptors are presented in Table 20-4 including suggested mitigation measures and residual impacts after implementation of mitigations measures.

Table 20-4 Impact Assessment Summary – Human Rights during Construction

Potential Impacts	Magnitude of impact	Receptor	Sensitivity	Impact Significance	Residual impact
Child Labour	Minor	Potential underage people in informal/subcontracted labour chains, low-income households	Medium	Minor	Negligible
Forced Labour	Minor to Moderate	Construction workers (direct, subcontracted, migrant labour)	High	Moderate	Minor
Right to Safe and Healthy Working Conditions (Occupational Health and Safety)	Major	Construction workforce, including contractor and subcontractor personnel	High	Major	Minor

Potential Impacts	Magnitude of impact	Receptor	Sensitivity	Impact Significance	Residual impact
Working Conditions	Moderate	Construction workforce, including temporary and subcontracted workers	High	Moderate	Minor
Right to Work, Livelihood and Fair Employment (Workforce Transition)	Moderate	Existing healthcare employees potentially affected by workforce transition, Ministry of Health personnel	High	Moderate	Moderate
Mental Health and Psychosocial Well-being	Moderate	Construction workers, employees potentially affected by workforce transition	Medium	Moderate	Minor
Privacy, Freedom of Expression, Association and Peaceful Assembly	Minor	Construction workers and site visitors	Medium	Minor	Minor
Collective Bargaining and Freedom of Association	Moderate	Construction workers, subcontracted labour	Medium	Moderate	Minor
Non-discrimination and Equal Opportunity	Moderate	Women, persons with disabilities, older workers, migrant workers and other vulnerable workers	High	Moderate	Minor
Gender Inequality and Discrimination	Moderate	Female workers, male-dominated workforce interactions, vulnerable women in labour force	High	Moderate	Minor
Right to Health and Safety (Community)	Moderate	Nearby residential communities, vulnerable groups (children, elderly, persons with disabilities)	High	Moderate	Minor
Access to Information and Public Participation	Minor to Moderate	Affected communities, vulnerable and hard-to-reach groups	Medium	Minor to Moderate	Minor
Rights of Vulnerable and Marginalised Groups	Moderate	Low-income households, elderly persons, persons with disabilities, women, informal workers	High	Moderate	Minor to Moderate

Potential Impacts	Magnitude of impact	Receptor	Sensitivity	Impact Significance	Residual impact
Grievance Mechanism and Access to Remedy	Minor to Moderate	Workers and surrounding communities	High	Moderate	Minor
Security Personnel and Use of Force	Minor	Workers, visitors, nearby community members	Medium	Minor	Minor
Supply Chain and Contractor Human Rights Risks	Moderate	Workers employed by subcontractors, migrant and temporary workers, employees of labour agencies, workers in material production and transport supply chains.	High	Moderate	Minor to Moderate

Mitigation Measures

Child Labour

- Implement a Child Labour Policy prohibiting employment of persons below the legal working age.
- Verify age through official identification documents prior to recruitment.
- Include child labour prohibition clauses in contractor and subcontractor agreements.
- Conduct periodic labour audits and inspections.
- Establish reporting procedures for suspected child labour cases and implement corrective actions where necessary.

Forced Labour

- Prohibit all forms of forced, bonded, trafficked, or involuntary labour.
- Ensure workers are employed through transparent recruitment processes and receive written employment contracts.
- Prohibit retention of passports, identity documents, or personal belongings.
- Prohibit recruitment fees charged to workers.
- Conduct regular contractor and labour broker compliance audits.
- Establish confidential worker grievance channels.

Right to Safe and Healthy Working Conditions (Occupational Health and Safety)

- Implement a Project Occupational Health and Safety Management System as part of the ESMS.
- Require contractors to prepare and implement Project-specific OHS Plans.
- Implement Permit-to-Work systems for high-risk activities.
- Undertake Job Hazard Analyses and task-specific risk assessments.
- Provide competency-based training and regular toolbox talks.
- Provide appropriate PPE and enforce its use.
- Conduct routine workplace inspections and contractor audits.
- Maintain incident reporting, investigation and corrective action procedures.
- Prepare Emergency Preparedness and Response Plans.
- Monitor occupational health performance and safety statistics.

Right to Work, Livelihood and Fair Employment (Workforce Transition)

- Develop a Workforce Transition Framework in coordination with the Ministry of Health.
- Undertake workforce mapping and employment planning.
- Communicate workforce transition arrangements transparently.
- Apply fair, objective and non-discriminatory employment criteria.

Potential Impacts	Magnitude of impact	Receptor	Sensitivity	Impact Significance	Residual impact
• Where applicable, prepare retrenchment plans consistent with IFC Performance Standard 2. • Consult affected employees throughout transition planning. • Maintain a dedicated worker grievance mechanism for employment-related concerns. <u>Mental Health and Psychosocial Well-being</u> • Promote reasonable working hours and fatigue management. • Provide adequate worker welfare and accommodation facilities. • Communicate regularly regarding workforce changes and Project activities. • Train supervisors to recognise work-related stress and fatigue. • Facilitate referral to counselling or employee assistance services where available. • Encourage worker engagement and peer support. • Monitor psychosocial wellbeing through worker engagement and grievance trends. <u>Non-discrimination and Equal Opportunity</u> • Implement an Equal Opportunity and Non-discrimination Policy. • Apply transparent competency-based recruitment procedures. • Ensure equal remuneration for work of equal value. • Monitor workforce diversity and inclusion. • Provide equal access to training and promotion opportunities. • Establish confidential reporting channels for discrimination. • Investigate and address discrimination complaints promptly. <u>Access to Healthcare Services</u> • Coordinate with the Ministry of Health regarding healthcare transition planning. • Implement phased commissioning to minimise disruption. • Communicate changes in healthcare access arrangements to affected communities. • Maintain access routes during construction through Traffic Management Plans. • Undertake stakeholder engagement with patients and surrounding communities. • Provide grievance mechanisms for concerns relating to healthcare access <u>Working Conditions</u> • Implement a Labour Management Plan and Occupational Health and Safety Management System. • Provide appropriate PPE and task-specific safety training. • Monitor working hours, overtime, and rest periods in accordance with national legislation and IFC PS2 requirements. • Ensure timely payment of wages and maintain transparent payroll records. • Provide adequate welfare facilities, including potable water, sanitation, rest areas, first aid, and medical support. • Conduct regular workplace inspections and audits <u>Privacy, Freedom of Expression, Association and Peaceful Assembly</u> • Establish clear rules governing collection, storage, and use of personal data of workers and visitors (e.g., ID records, biometrics if used, CCTV footage). • Inform workers clearly about what data is collected and how it is used, in languages they understand. • Limit surveillance practices to proportionate and necessary security purposes, with periodic review of necessity. • Establish and maintain a confidential, accessible, and multilingual grievance mechanism covering workers and community members. • Ensure non-retaliation policy is clearly communicated and enforced, protecting individuals who raise concerns. • Provide multiple reporting channels (in-person, hotline, digital, anonymous options).					

Potential Impacts	Magnitude of impact	Receptor	Sensitivity	Impact Significance	Residual impact
• Conduct regular toolbox talks and inductions reinforcing that workers can freely raise concerns without fear of dismissal or punishment. • Encourage worker feedback mechanisms (e.g., worker committees, suggestion systems, periodic surveys). <u>Collective Bargaining and Freedom of Association</u> • Provide accessible grievance and complaint mechanisms for all workers. • Encourage engagement with recognised trade unions or worker representatives. • Communicate workers' rights to organise clearly, including for subcontracted and temporary staff. • Provide training on collective bargaining rights and dispute resolution. • Facilitate dialogue between management and worker representatives on wages, working hours, and conditions. <u>Gender Inequality and Discrimination</u> • Implement Equal Opportunity and Non-Discrimination Policies. • Adopt and enforce a Code of Conduct addressing harassment, discrimination, sexual exploitation, abuse, and GBVH. • Conduct mandatory GBVH and respectful workplace training for all workers. • Promote equal pay for equal work and fair recruitment practices. • Establish confidential reporting and survivor-centred response mechanisms. • Monitor workforce composition and participation of women in employment opportunities. <u>Right to Health and Safety (Community)</u> • Develop and implement a Community Health, Safety and Security Management Plan. • Prepare and implement a Traffic Management Plan. • Apply dust suppression measures and noise control practices. • Restrict construction activities to approved working hours where feasible. • Install warning signage, fencing, and controlled access around active work areas. • Undertake community awareness programmes regarding construction hazards. • Establish emergency response procedures and communication protocols with nearby communities. <u>Access to Information and Public Participation</u> • Implement the Stakeholder Engagement Plan throughout construction. • Provide regular updates on construction activities, schedules, and potential disruptions. • Disclose information in appropriate languages and accessible formats. • Undertake targeted engagement with vulnerable and hard-to-reach groups. • Maintain records of consultations and stakeholder feedback. • Ensure the grievance mechanism is widely communicated and accessible. <u>Rights of Vulnerable and Marginalised Groups</u> • Identify vulnerable groups through ongoing stakeholder engagement activities. • Ensure consultation processes are inclusive and accessible to persons with disabilities, elderly individuals, women, and low-income households. • Provide targeted communication and outreach where necessary. • Monitor potential disproportionate impacts on vulnerable groups. • Ensure equal access to employment opportunities, information disclosure, and grievance mechanisms. • Incorporate non-discrimination requirements into contractor management systems. <u>Grievance Mechanism and Access to Remedy</u> • Establish separate but integrated worker and community grievance mechanisms. • Allow anonymous submission of grievances. • Ensure grievances are recorded, tracked, investigated, and resolved within defined timeframes. • Communicate grievance procedures regularly to workers and communities.					

Potential Impacts	Magnitude of impact	Receptor	Sensitivity	Impact Significance	Residual impact
• Monitor grievance trends and implement corrective actions where recurring issues are identified. • Enforce a non-retaliation commitment. Security Personnel and Use of Force • Develop and implement a Security Management Plan consistent with IFC Good Practice Handbook on the Use of Security Forces. • Train security personnel on human rights, appropriate conduct, and proportional use of force. • Implement a Code of Conduct for security personnel. • Establish procedures for reporting and investigating security-related incidents. • Maintain oversight of any third-party security providers. • Ensure community members can raise concerns regarding security personnel behaviour through the grievance mechanism. Supply Chain and Contractor Human Rights Risks • Incorporate human rights requirements into procurement and contractor agreements. • Conduct due diligence and screening of contractors, subcontractors, labour agencies, and key suppliers. • Undertake periodic audits of labour practices and working conditions. • Require contractors to comply with Project labour, human rights, and OHS requirements. • Establish corrective action procedures for non-compliance. • Monitor high-risk supply chains for child labour, forced labour, and worker welfare concerns.					

20.4.3 Operation Phase

The operational phase of the Fergana Eco City Hospital will involve the long-term delivery of tertiary healthcare services to a regional population of approximately 3.8 million people. The facility will be operated through collaboration between the Ministry of Health (MoH), as the authority responsible for clinical operations, healthcare service delivery, medical governance and integration with the national healthcare system, and the Project Company and Facility Management (FM) Company responsible for infrastructure management, facility services and operational support functions.

The hospital will employ a large and diverse workforce comprising medical practitioners, nurses, laboratory personnel, administrative employees, technical staff, facility management personnel, contractors and service providers. The Project is expected to generate significant positive human rights outcomes, particularly through improved access to specialised healthcare services, enhanced quality of medical care, improved healthcare infrastructure and strengthened regional healthcare capacity.

However, operational activities may also create potential adverse human rights risks if not appropriately managed. Key risks relate to labour and working conditions, workforce transition associated with healthcare consolidation, occupational health and safety, patient rights and dignity, non-discrimination and equitable access to healthcare, privacy and protection of medical information, community health and safety, security arrangements, responsible procurement and access to effective grievance mechanisms.

Consistent with the UNGPs, EP4, IFC Performance Standards and applicable lender requirements, the Project will implement appropriate measures to identify, prevent, mitigate and remedy adverse human rights impacts associated with its operations and business relationships.

20.4.3.1 Labour Rights and Decent Working Conditions

The operational workforce of the hospital will include healthcare professionals, administrative personnel, technical employees, maintenance workers, facility management staff and contracted service providers. The workforce will include both clinical and non-clinical personnel operating within a complex healthcare environment requiring continuous service delivery, including shift work, emergency response and specialist medical services.
Potential human rights risks may include excessive working hours, fatigue, occupational stress, inadequate rest periods, unfair employment practices, unequal treatment, harassment, delayed payment of wages, and restrictions on workers' ability to raise concerns.
Healthcare workers may experience increased psychosocial pressures due to high workloads, emergency situations, exposure to traumatic events and responsibility for patient care. Outsourced workers engaged in cleaning, catering, security, maintenance and other services may also face risks related to employment conditions and labour rights.
To mitigate these risks, the Project Company, MoH and FM Company will implement human resource management procedures consistent with IFC PS2, EBRD ESR2, ILO Core Labour Standards and Uzbekistan labour legislation. Measures will include transparent recruitment processes, written employment contracts, fair remuneration practices, working hour controls, overtime management, equal opportunity provisions, worker consultation and accessible grievance mechanisms. Workforce well-being programmes, fatigue management measures and periodic workforce engagement activities will be implemented to monitor and address employee concerns.

Residual impacts are expected to be Minor following implementation of mitigation measures.

20.4.3.2 Right to Work, Livelihood and Fair Employment (Workforce Transition and Retrenchment)

The Project is intended to support the consolidation of healthcare services within the Fergana region through development of the new Fergana Eco City Hospital. The Project forms part of the planned consolidation of healthcare services currently provided by five existing specialised healthcare institutions into a single integrated medical complex. As part of this transition, clinical personnel may be integrated into the new facility, while organisational restructuring may affect staffing requirements for certain non-clinical positions.

At the time of assessment, final workforce arrangements, including staffing numbers, employee transfers and any potential redundancy requirements, remain subject to confirmation by the Ministry of Health. Therefore, potential employment impacts will depend on the final workforce transition arrangements adopted by MoH. While final staffing arrangements remain the responsibility of the Ministry of Health, implementation of the Project may result in changes to existing employment arrangements such as healthcare personnel transition to the new facility. Such changes may include reassignment of employees, modifications to employment conditions, or organisational restructuring affecting certain categories of personnel, particularly non-clinical staff.

Where workforce changes are not communicated transparently or implemented in accordance with applicable legal requirements and international good practice, affected employees may experience uncertainty regarding future employment, reduced household income, financial insecurity, psychosocial stress, and increased grievances. These impacts could also affect workers' right to fair employment and livelihoods if transition processes are perceived as inequitable or lacking appropriate consultation.

To deal with these risks, workforce planning will be undertaken by the Ministry of Health with support from the Project Company, as appropriate, in accordance with applicable national legislation and good international practice. A Workforce Transition Framework will be

developed, where required, to support transparent communication, employee mapping, consultation with affected personnel, and implementation of fair and objective employment processes. Any workforce reductions associated with the Project will be undertaken in accordance with applicable legal requirements, IFC PS 2, and recognised international good practice relating to retrenchment planning. A dedicated worker grievance mechanism will remain available throughout the transition process to receive and resolve employment-related concerns.

Following implementation of these measures, the residual human rights impact associated with workforce transition is expected to be Medium, reflecting that certain employment decisions remain outside the direct control of the Project Company and will be determined by the Ministry of Health.

Potential human rights risks include loss of employment, reduced household income, uncertainty among affected workers, psychosocial stress and grievances if workforce changes are not managed transparently and fairly.

Uzbekistan's labour legislation provides protections related to employment termination, redundancy procedures, compensation and worker rights. International good practice requires that workforce restructuring processes are undertaken through transparent consultation, objective criteria and appropriate transition support.

Mitigation measures will include:

- Development of a Workforce Transition Framework in coordination with MoH;
- Mapping of potentially affected employees and employment categories;
- Transparent communication regarding transition arrangements;
- Consultation with affected workers and representatives;
- Fair and documented workforce selection processes where required;
- Appropriate notice periods, compensation and referral support in accordance with applicable requirements;
- Dedicated worker grievance mechanisms.

Residual impacts are expected to be Low to Medium, depending on the final workforce transition arrangements.

20.4.3.3 Discrimination, Equality and Inclusion

The hospital will serve a diverse patient population and employ personnel from various backgrounds. Risks may arise if vulnerable groups, women, persons with disabilities, elderly persons, low-income households, or minority populations experience barriers to accessing healthcare services, employment opportunities, or professional advancement.

Potential impacts could include unequal treatment, discrimination in recruitment or service provision, and inadequate accommodation for persons with disabilities.

The Project will implement non-discrimination and equal opportunity policies applicable to both employees and patients. Recruitment, promotion, and remuneration decisions will be based on merit and competence. The hospital design will incorporate universal accessibility principles, including accessible entrances, circulation routes, sanitary facilities, and patient service areas. Staff training programmes will address diversity, inclusion, cultural sensitivity, and prevention of discrimination.

Residual impacts are anticipated to be Minor and Positive, contributing to improved social inclusion and equitable healthcare access.

20.4.3.4 Occupational Health, Safety and Wellbeing

Healthcare workers may be exposed to biological hazards, infectious diseases, hazardous substances, radiation, sharps injuries, workplace violence, and psychosocial stress. These risks have the potential to affect workers' rights to health and safe working conditions.

Mitigation measures will include implementation of a comprehensive Occupational Health and Safety Management System aligned with international good practice, infection prevention and control procedures, emergency preparedness and response plans, provision of personal protective equipment, vaccination programmes, incident reporting systems, and regular occupational health monitoring.

The Project will further establish programmes addressing workplace stress, mental health, fatigue management, and employee wellbeing.

Following implementation of mitigation measures, residual impacts are expected to be Minor.

20.4.3.5 Patient Rights, Dignity and Quality of Care

The Project has a direct responsibility to uphold patients' rights to health, dignity, privacy, informed consent, and non-discriminatory access to healthcare services.

Potential impacts could arise from inadequate service delivery, breaches of confidentiality, insufficient informed consent procedures, discriminatory treatment, or poor-quality healthcare outcomes.

The Ministry of Health will implement clinical governance frameworks, patient rights policies, informed consent procedures, quality assurance systems, and complaint management mechanisms. Healthcare personnel will receive training on ethical conduct, patient confidentiality, professional standards, and protection of vulnerable patients.

The hospital will pursue and maintain recognised healthcare accreditation standards and regulatory certifications to ensure consistent quality of care.

Residual impacts are anticipated to be Minor and Beneficial, with significant positive contributions to regional healthcare outcomes.

20.4.3.6 Privacy and Protection of Personal Information

The hospital will process substantial volumes of sensitive medical and personal information through healthcare information systems, telemedicine platforms, and administrative databases.

Potential human rights impacts include unauthorised disclosure of personal information, cyber security breaches, misuse of patient records, or inadequate data protection controls.

The Project will implement data privacy and information security protocols consistent with applicable legal requirements and international good practice. Access to medical records will be controlled through role-based permissions, cyber security systems, secure data storage infrastructure, and regular audits of information management systems. Staff will receive mandatory training on confidentiality and data protection obligations.

Residual impacts are expected to be Minor.

20.4.3.7 Community Health and Safety

The operation of a large tertiary healthcare facility may create community-related human rights risks associated with infectious disease transmission, emergency situations, increased

traffic movements, hazardous waste handling, and potential disruptions to surrounding communities[36].

At the same time, the Project is expected to generate substantial positive human rights outcomes by significantly improving access to specialised healthcare services throughout the Fergana Region.

Mitigation measures will include implementation of infection prevention and control systems, healthcare waste management procedures, emergency response planning, traffic management measures, and stakeholder engagement programmes. Community grievance mechanisms will remain operational throughout the Project lifecycle.

The residual impact is expected to be Moderate Positive, reflecting improved healthcare access and health outcomes for the regional population.

20.4.3.8 Security and Human Rights

The hospital will require security arrangements to protect patients, staff, equipment, and infrastructure. Human rights risks may arise if security personnel engage in inappropriate conduct, excessive use of force, discrimination, intimidation, or harassment.

Security personnel employed directly or through contractors will operate under a Security Management Plan aligned with the principles of the IFC Good Practice Handbook on the Use of Security Forces. Security staff will receive training on human rights, conflict de-escalation, appropriate use of force, and respectful engagement with patients, visitors, and workers.

Security-related grievances and incidents will be investigated and addressed through established reporting procedures.

Residual impacts are expected to be Negligible to Minor.

20.4.3.9 Supply Chain Human Rights Risks

The hospital's operational supply chain will include procurement of pharmaceuticals, medical consumables, medical equipment, cleaning materials, uniforms, and other operational goods and services. Potential human rights risks include child labour, forced labour, unsafe working conditions, discrimination, and exploitation within supplier operations.

The Project will implement responsible procurement procedures requiring suppliers and contractors to comply with applicable labour standards and human rights requirements. Risk-based supply chain due diligence assessments will be undertaken for higher-risk suppliers, particularly where international sourcing is involved. Contractual requirements will include compliance with labour rights, prohibition of forced and child labour, and implementation of grievance mechanisms.

Residual impacts are anticipated to be Minor.

20.4.3.10 Access to Remedy and Grievance Mechanisms

Effective grievance mechanisms are fundamental to respecting human rights and ensuring access to remedy. Risks may arise if workers, patients, contractors, or community members are unable to raise concerns safely or if complaints are not adequately addressed.

The Project will maintain accessible, transparent, and culturally appropriate grievance mechanisms for workers and external stakeholders. Procedures will allow for confidential reporting, anonymous submissions where appropriate, protection against retaliation, and

[36] The zone of influence for most of the human rights impacts will be largely within the surrounding communities and areas within a 5km radius.

timely investigation and resolution of complaints. Grievance performance will be monitored and periodically reviewed to identify trends and opportunities for improvement.

Residual impacts are expected to be Minor, with the mechanism contributing positively to human rights risk management and stakeholder trust.

20.4.4 Impact Assessment Summary – Human Rights during Operation

A summary of the potential human rights impacts, including labour and working conditions, associated with the operational phase of the Project and their effects on identified receptors is presented in the following table. The table also outlines the proposed mitigation and management measures, together with the anticipated residual impacts following implementation of these measures.

Table 20-5 Impacts Assessment Summary – Human Rights during Operation

Potential Impacts	Magnitude of impact	Receptor	Sensitivity	Impact Significance	Residual impact
Labour Rights and Decent Working Conditions	Moderate	Doctors, nurses, paramedics, technicians, administrative staff, FM Co. personnel, contracted service providers	High	Major	Minor
Possible Workforce Transition, Employment and Retrenchment Risks	Moderate to High	Employees of existing healthcare institutions potentially affected by organizational restructuring, including non-clinical personnel	High	Major	Low to Medium
Discrimination, Equality and Inclusion	Moderate	Women workers, persons with disabilities, minorities, job applicants	Medium	Moderate	Negligible to Minor
Occupational Health, Safety and Wellbeing	Moderate	Clinical staff, laboratory staff, waste handlers, maintenance workers	High	Major	Minor

Potential Impacts	Magnitude of impact	Receptor	Sensitivity	Impact Significance	Residual impact
Patient Rights, Dignity and Quality of Care	Moderate	Patients, including vulnerable groups	High	Major	Minor
Privacy and Protection of Personal Information	Moderate	Patients, families, vulnerable patients	High	Major	Minor
Community Health and Safety	Moderate	Local communities in the Fergana Region, include patients, caregivers, nearby residents, vulnerable groups (elderly, children, and persons with pre-existing health conditions), and healthcare service users.	High	Moderate	Minor
Security and Human Rights	Minor to Moderate	Patients, visitors, staff, local community	Medium	Minor to Moderate	Negligible to Minor
Supply Chain Human Rights Risks	Moderate	Supply chain workers, contracted labour	High	Major	Minor
Access to Remedy and Grievance Mechanisms	Moderate	Workers, patients, contractors, communities	Medium	Moderate	Minor

Mitigation Measures

Labour Rights and Decent Working Conditions

- Implement a Human Resources Management System (HRMS) aligned with IFC PS2 and Uzbekistan Labour Code covering recruitment, contracts, wages, working hours, overtime, and leave.
- Enforce working time controls and shift rotation systems for clinical staff to prevent fatigue and burnout.
- Establish fatigue management protocols for emergency, ICU, and night-shift personnel.
- Ensure equal opportunity and non-discrimination policy covering recruitment, promotion, remuneration, and termination.
- Provide fair wage structures benchmarked to sector standards and reviewed periodically.

Potential Impacts	Magnitude of impact	Receptor	Sensitivity	Impact Significance	Residual impact
• Guarantee freedom of association and collective bargaining rights in line with national law and ILO principles. • Implement worker grievance mechanism with anonymous reporting channels and non-retaliation safeguards. • Conduct regular labour audits for FM contractors and subcontractors. Possible Workforce Transition, Employment and Retrenchment Risks • Develop a Workforce Transition Framework in coordination with the Ministry of Health. • Undertake workforce mapping of affected healthcare institutions to understand potential employment impacts. • Ensure transparent communication regarding workforce transition arrangements. • Apply fair and objective criteria for workforce decisions where required. • Undertake consultation with potentially affected employees. • Provide appropriate notice periods, compensation and referral support in accordance with applicable requirements. • Maintain a dedicated grievance mechanism for affected workers. Discrimination, Equality and Inclusion • Implement Equal Opportunity and Non-Discrimination Policies. • Adopt and enforce a Code of Conduct addressing harassment, discrimination, sexual exploitation, abuse, and GBVH. • Conduct mandatory GBVH and respectful workplace training for all workers. • Promote equal pay for equal work and fair recruitment practices. • Establish confidential reporting and survivor-centred response mechanisms. • Monitor workforce composition and participation of women in employment opportunities. Occupational Health, Safety and Wellbeing • Establish a certified Occupational Health & Safety Management System (OHSMS) aligned with ISO 45001. • Implement Infection Prevention and Control (IPC) programme, including isolation protocols and PPE requirements. • Provide mandatory vaccinations (e.g., hepatitis, influenza) for clinical and high-risk staff. • Conduct biological hazard and sharps injury prevention training. • Ensure availability of PPE, hand hygiene stations, and sterilisation systems across all departments. • Develop incident reporting, investigation, and corrective action system. • Implement medical surveillance and routine health checks for high-risk workers. • Provide mental health and psychosocial support programmes (counselling, stress management). Patient Rights, Dignity and Quality of Care • Establish a Patient Rights Charter aligned with international healthcare standards. • Implement formal informed consent procedures for all medical interventions. • Develop clinical governance framework including ethics committees and medical review boards. • Train healthcare staff on ethical conduct, confidentiality, and patient dignity. • Ensure non-discriminatory access to healthcare services regardless of gender, income, ethnicity, or disability. • Implement complaints and feedback system for patients and families, including escalation pathways. • Conduct regular patient satisfaction surveys and service quality audits. Privacy and Protection of Personal Information • Implement Health Information Management System (HIMS) with role-based access control. • Apply data protection policies aligned with international best practice (e.g., GDPR principles as reference).					

Potential Impacts	Magnitude of impact	Receptor	Sensitivity	Impact Significance	Residual impact
• Use encryption, secure servers, and cyber-security firewalls to protect patient data. • Restrict access to sensitive medical records on a need-to-know basis only. • Conduct cybersecurity audits and penetration testing on IT systems. • Train staff on confidentiality obligations and data protection compliance. • Establish incident response plan for data breaches, including notification protocols. <u>Community Health and Safety</u> • Implement a comprehensive Infection Prevention and Control (IPC) system, including hygiene protocols, patient isolation, staff training, and routine monitoring to reduce communicable disease risks. • Establish and enforce healthcare waste management procedures in line with national and international standards, covering segregation, safe storage, transport, treatment, and disposal of infectious and hazardous waste. • Develop a site-specific Emergency Preparedness and Response Plan, coordinated with local authorities, to manage outbreaks, mass casualty events, and other public health emergencies. • Apply traffic management and road safety measures, including designated ambulance routes, controlled access zones, signage, speed control, and scheduled vehicle movements to minimise congestion and safety risks. • Implement ongoing stakeholder engagement and public communication to keep communities informed about risks, emergency procedures, and access changes. • Maintain an accessible grievance mechanism for timely reporting and resolution of community health and safety concerns during operations. <u>Security and Human Rights</u> • Develop a Security Management Plan aligned with IFC Good Practice Handbook on Security Forces. • Use trained, licensed security personnel only. • Prohibit excessive use of force, discrimination, or intimidation practices. • Provide human rights training for security staff (de-escalation, cultural sensitivity). • Establish incident reporting and investigation system for security-related complaints. • Ensure proportional and non-intrusive security screening procedures. <u>Supply Chain Human Rights Risks</u> • Implement a Responsible Procurement Policy aligned with IFC PS and UNGPs. • Include contractual clauses prohibiting forced labour, child labour, and unsafe working conditions. • Conduct risk-based supplier screening and due diligence for high-risk categories. • Require suppliers to maintain labour compliance certifications where applicable. • Perform periodic supplier audits and performance monitoring. • Develop corrective action plans for non-compliant suppliers. <u>Access to Remedy and Grievance Mechanisms</u> • Establish multi-channel grievance mechanisms (in-person, digital, anonymous hotlines). • Ensure access for workers, patients, contractors, and communities. • Guarantee non-retaliation and confidentiality protections. • Define clear timelines for grievance resolution and escalation pathways. • Maintain grievance tracking system and periodic reporting dashboard. • Provide culturally appropriate communication in local languages. • Integrate grievance outcomes into continuous improvement system					

20.5 Monitoring

Monitoring human rights performance during the construction and operational phases of the Fergana Eco-City Hospital Project will be integrated into the overall Environmental and Social Management System (ESMS). The objective of human rights monitoring is to verify the effectiveness of mitigation measures, assess compliance with IFC Performance

Standards, Equator Principles IV requirements, applicable Uzbekistan legislation, and lender commitments, and identify opportunities for continuous improvement.

During construction, monitoring will focus primarily on labour and working conditions, occupational health and safety, worker welfare, contractor performance, community health and safety, security arrangements, supply chain risks, and grievance management.

During operation, monitoring will additionally address healthcare-related human rights considerations, including patient rights, quality and continuity of care, equitable access to healthcare services, protection of personal information, workforce transition impacts, employee wellbeing, and the performance of clinical and non-clinical service providers.

Monitoring will be undertaken through contractor and service provider reporting, internal inspections, workplace observations, worker and stakeholder engagement, grievance mechanism records, HR records, clinical governance reporting, third-party reviews where required, and periodic compliance assessments by the Project Company, MoH and FM Company.

Monitoring results, including identified non-conformances, corrective actions and performance trends, will be documented and incorporated into periodic Environmental and Social performance reports submitted to relevant stakeholders, including lenders.

Table 20-6 Human Rights Monitoring Requirements (Construction and Operations)

Indicator	Source of information	Frequency Construction /Operation
Employment and labour compliance (contracts, wages, working hours, overtime, benefits and employment conditions)	HR records, employment contracts, payroll records, contractor/service provider reports, labour audits	Monthly (construction); Quarterly (operation)
Workforce transition and employment restructuring impacts (operation phase only)	Workforce mapping records, MoH transition plans, employee consultation records, grievance records	Quarterly during transition period; annually thereafter
Age verification and prohibition of child labour	Recruitment records, identity verification documentation, contractor and supplier audits	Monthly during recruitment periods; Quarterly thereafter
Forced labour indicators (recruitment fees, retention of identity documents, coercion, restricted movement or complaints)	Worker interviews, grievance records, contractor/service provider audits, recruitment records	Monthly (construction); Quarterly (operation)
Occupational Health and Safety performance (incidents, near misses, occupational illnesses, PPE compliance and training completion)	Incident records, OHS inspections, safety reports, training records, OHS management reports	Weekly inspections with monthly reporting (construction); Monthly reporting (operation)
Healthcare occupational health risks (infection exposure, sharps injuries, biological hazards, workplace violence and fatigue risks)	Occupational health records, incident reports, infection control records, employee health monitoring	Monthly (operation)
Working conditions and employee welfare (working hours, rest periods, accommodation/service facilities, welfare provisions)	Site inspections, employee surveys, contractor records, FM reports	Monthly (construction); Quarterly (operation)
Gender equality, discrimination, harassment and GBVH risks	HR records, grievance mechanism records, confidential reporting channels, workforce diversity monitoring	Continuous monitoring with quarterly review
Equal access to employment opportunities and professional development	Recruitment records, promotion records, training records, workforce demographic data	Quarterly (operation)

Indicator	Source of information	Frequency Construction /Operation
Patient rights, dignity and quality of healthcare services (operation phase only)	Patient feedback systems, patient satisfaction surveys, clinical governance reports, complaints records, service quality indicators	Monthly monitoring with quarterly trend analysis
Continuity of healthcare services during transition arrangements (operation phase only)	MoH transition records, referral pathway monitoring, patient complaints, service availability records	Monthly during transition period
Accessibility of healthcare services for vulnerable groups and persons with disabilities	Accessibility inspections, patient feedback, stakeholder engagement records, service utilisation data	Quarterly (operation)
Privacy and protection of personal information (patients and workers)	Data protection records, cybersecurity monitoring, incident reports, IT audits	Continuous monitoring; immediate reporting of significant incidents
Grievance mechanism performance (number, type, resolution time, satisfaction and recurring issues)	Worker and external grievance registers, tracking database, stakeholder feedback	Monthly reporting; quarterly performance review
Freedom of association and worker representation	Worker committee records, consultation minutes, employee engagement records	Quarterly
Security personnel conduct and human rights compliance	Security incident records, training records, complaints, incident investigations	Monthly
Community health and safety impacts (traffic, emergency events, healthcare waste concerns and community complaints)	Community grievance records, emergency response records, traffic monitoring, waste management records	Monthly (construction); Quarterly (operation)
Access to information and stakeholder engagement effectiveness	SEP implementation records, consultation records, disclosure logs, feedback surveys	Quarterly
Supply chain labour and human rights compliance	Supplier screening records, procurement documentation, contractor audits, supplier assessments	Quarterly
Training completion (human rights, OHS, GBVH, patient rights, data protection and Code of Conduct)	Training registers, HR systems, contractor training reports	Quarterly

Indicator	Source of information	Frequency Construction /Operation
Implementation of corrective actions from audits, inspections and grievances	ESMS corrective action tracker, audit reports, management review records	Quarterly
Employment and labour compliance (contracts, wages, working hours, overtime, benefits and employment conditions)	HR records, employment contracts, payroll records, contractor/service provider reports, labour audits	Monthly (construction); Quarterly (operation)

21 Media Review and Public Perception Assessment

As part of the Human Rights Impact Assessment (HRIA), a review of publicly available media articles, government announcements, and online information sources was undertaken to understand public perceptions, stakeholder concerns and potential reputational or social risks associated with the development of the Fergana Eco City Hospital Project.

The review focused on:

- Public announcements regarding the establishment of the 800-bed multidisciplinary hospital;
- Media coverage regarding the Project objectives, benefits and implementation arrangements;
- Publicly available information regarding the consolidation of existing healthcare institutions;
- Potential concerns related to healthcare access, employment impacts and continuity of services;
- Public perceptions regarding healthcare reform and service delivery improvements in the Fergana Region.

The media review complements stakeholder engagement activities undertaken as part of the ESIA and Stakeholder Engagement Plan (SEP), including consultations with affected communities, local authorities and other relevant stakeholders.

21.1 Media Coverage Review

The Fergana Eco City Hospital Project has primarily been reported through official government communication channels, including announcements from the Ministry of Health and other government entities responsible for public-private partnership development.

Available public information highlights the Project as an 800-bed multidisciplinary hospital to be developed under a public-private partnership model. The Project is described as a major healthcare infrastructure investment intended to improve access to advanced medical services, including specialised treatment areas such as cardiac surgery, neurosurgery, organ transplantation, nephrology and orthopaedics. The facility is expected to consolidate five existing specialised healthcare institutions in the Fergana Region into a single integrated medical complex[37].

Public announcements have emphasised the expected benefits of the Project, including:

- Improved availability of tertiary healthcare services;
- Introduction of advanced medical technologies;
- Reduction in the need for patients to travel outside the region for specialised treatment;
- Improved efficiency through integration of specialised healthcare services;
- Development of a modern healthcare facility aligned with international standards.

The Project has also been presented as a pilot public-private partnership initiative in the healthcare sector, supported through collaboration between the Ministry of Health, private sector partners and international development institutions[38].

[37] https://www.digital.gov.uz/en/ssv/news/view/154048.

[38] https://gov.uz/en/imv/news/view/154168

21.2 Public Perception Regarding Healthcare Benefits

Based on the available media review and the consultation carried out during ESIA site visit, public messaging surrounding the Project has been predominantly positive, focusing on improved healthcare infrastructure and enhanced access to specialised medical services.

The anticipated positive perceptions among communities and healthcare users are expected to relate to:

- Availability of specialised healthcare services closer to residents of the Fergana Region;
- Improved quality and reliability of medical services;
- Access to modern diagnostic and treatment facilities;
- Improved emergency and intensive care capacity;
- Reduced requirement for patients to seek advanced treatment in other regions or abroad.

These anticipated benefits align with the Project's positive human rights contribution, particularly regarding the right to health and equitable access to healthcare services.

However, public acceptance of healthcare restructuring projects is generally influenced not only by expected improvements but also by perceptions regarding accessibility, affordability, continuity of care and changes to existing healthcare arrangements.

21.3 Perceptions and Concerns Regarding Consolidation of Existing Healthcare Institutions

At the time of preparation of this assessment, no significant publicly available media reports were identified indicating widespread community opposition, organised concerns or negative public campaigns specifically related to the proposed consolidation or closure of existing healthcare institutions.

However, healthcare consolidation may create potential concerns among affected stakeholders, including:

21.3.1 Patients and Healthcare Users

Potential concerns may include:

- Uncertainty regarding whether existing services will continue without interruption;
- Changes in the location of healthcare services;
- Increased travel requirements for some patients;
- Familiarity and trust with existing healthcare providers;
- Continuity of treatment for patients with ongoing medical needs.

21.3.2 Healthcare Employees

Potential concerns may include:

- Uncertainty regarding future employment arrangements.
- Changes to workplace location and conditions.
- Potential restructuring of administrative and support functions;
- Concerns regarding fair treatment during workforce transition.

21.3.3 Local Communities

Potential concerns may include:

- Availability of healthcare services in surrounding areas;
- Increased demand for transport and supporting infrastructure around the new hospital;
- Changes in community access arrangements.

Given that final workforce arrangements and operational transition plans remain subject to confirmation by the Ministry of Health, potential employment and service impacts should continue to be monitored through stakeholder engagement and workforce planning processes.

21.4 Media and Perception Risk Assessment

Based on the media review, the overall perception risk associated with the Project is assessed as Low to Medium, with the following considerations:

Table 21-1 Media and Perception Risk Assessment

Issue	Current Media Perception	Potential Risk
Development of new 800-bed hospital	Generally positive, focused on improved healthcare capacity	Low
Improved access to specialised healthcare	Positive expectation among healthcare users	Low
Healthcare consolidation	Limited public information available; potential uncertainty	Medium
Potential workforce restructuring	No confirmed public information identified; potential concern among affected employees	Medium
Continuity of patient services during transition	Requires proactive communication	Medium
Long-term healthcare benefits	Expected positive perception	Low

22 Assessment of Cumulative Impacts

This section assesses the cumulative impacts of the proposed Fergana Regional Hospital (the Project) located within the Fergana Eco City. The assessment draws on project-specific information and baseline information collected for this ESIA.

22.1 Cumulative Impacts Scoping

According to the *Manual of Good Practice*, IFC PS 1 (Assessment and Management of Environmental and Social Risks and Impacts) recognises that cumulative impact assessment and management is an essential framework for the management of wide risk factors (for example, the decline of species biodiversity and degradation of ecosystem services).

Cumulative impacts are defined as those impacts that result from the successive, incremental, and/or combined effects of an action, project, or activity (development) when added to other existing, planned, and/or reasonably anticipated future developments.

The cumulative impact assessment has been prepared following the guidelines of the *Manual of Good Practice*. The cumulative impact scoping comprises:

- Identification of the Valued Environmental Components (VECs) to be studied and the spatial and temporal boundaries of each VEC.
- Identification of neighbouring past, present and future projects and natural and social stressors.

22.1.1 Identification of VECs

VECs were identified based on the environmental and social baseline conditions, sensitive receptors, and impact assessment established in the preceding chapters. Additional project context and information that were collected/provided were also used.

Nine VECs are scoped in. The table below presents the full VEC scoping exercise.

Table 22-1 VECs Considered for Cumulative Impact Assessment

VEC	Rationale for Selection	Boundaries	
		Spatial	Temporal
VECs Scoped In			
Air Quality	The Project site is located within the developing Fergana Eco City, where construction is already underway on adjacent plots. Baseline air quality monitoring conducted prior to hospital construction commencement recorded NO_2 exceedances against WHO 2021 24-hour guidelines and a marginal $PM_{2.5}$ exceedance. The concurrent construction of the hospital and the broader Eco City development will result in a cumulative increase	Receptors within 2 km.	Construction

VEC	Rationale for Selection	Boundaries	
	in dust and vehicle emissions from multiple simultaneous earthworks and construction.		
Noise	The hospital site is located approximately 1 km from Fergana International Airport. Baseline noise monitoring recorded average equivalent continuous sound levels ranging from 39.44 to 41.35 dB(A), within national thresholds. Thus, construction activities of the hospital and nearby developments along with the operation of the airport will result in a cumulative increase in noise impacts.	Noise receptors within 2 km.	Construction
Wastewater infrastructure and the Syr Darya River	The Syr Darya River tributary in Fergana is the final disposal point for the treated wastewater from the Fergana WWTP. However, the WWTP is already operating under significant stress with inadequate treatment performance and intermittent discharge of untreated sewage. Hospital wastewater (~575 m^3/day) with elevated pathogen, pharmaceutical, and chemical loads will add to the cumulative pollutant burden on the river if the wastewater infrastructure system is not upgraded and the hospital wastewater is directly discharged into the network without any form of onsite pretreatment.	Fergana WWTP and Syr Darya River from the WWTP discharge point and downstream; receptors	Operation
Solid Waste Infrastructure	The waste disposal and landfill facility serving Fergana is located approximately 8 km northwest of the hospital site. As of February 2023, the medical waste incineration facility at the landfill was non-functional, with all medical waste being co-disposed with municipal solid waste. The Project will add approximately 2,040 kg/day general non-hazardous waste and 360 kg/day of hazardous medical waste to a system with pre-existing deficiencies increasing public	Landfill site and surrounding communities	Operation

VEC	Rationale for Selection	Boundaries	
	health risk to landfill workers and surrounding communities.		
Socio-economic: Contribution to Healthcare Services	Positive cumulative impact on the regional, and local economy. The hospital will contribute to promoting the public health in Fergana, one of Uzbekistan's densely populated regions, through the provision of tertiary healthcare.	Fergana region and beyond	Operation
Socio-economic: Contribution to employment opportunities	Positive cumulative contribution to employment opportunities and an improvement of local economy.	Fergana region and beyond	Construction and Operation
Traffic and Transportation	The Eco City development will generate significant traffic volumes from residential, industrial, commercial, and healthcare land uses operating concurrently on a site that is currently undeveloped. The hospital will contribute construction vehicle movements during the build period and patient, visitor, staff, and supply vehicle movements during operation. In the absence of a dedicated Traffic Impact Assessment for the Eco City, the cumulative traffic pressure on the surrounding road network cannot be adequately characterised or dismissed. This VEC is scoped in pending completion of a Traffic Impact Assessment for the Eco City development.	Eco City	Construction and Operation
Workers' Influx	The construction of the hospital will generate demand for a temporary construction workforce over a 3-year period, operating concurrently with construction workforces associated with multiple other Eco City development zones already under construction. The combined presence of concurrent construction workforces in proximity to the surrounding mahalla communities will place cumulative pressure on local	Eco City and surrounding mahallas	Construction

VEC	Rationale for Selection	Boundaries	
	services, community safety, and social infrastructure, and may increase the risk of GBV, SEA/SH, and anti-social behaviour beyond what would arise from the hospital project alone.		
VECs Scoped Out			
Biodiversity	The Project site is confirmed as former military training ground with no pre-existing structures, no ecologically sensitive areas in the surroundings, and non-agricultural land classification. Direct biodiversity impacts are negligible. Cumulative pressure on biodiversity from this source is not significant.		
Landscape and Visual	VEC is unlikely to experience significant cumulative pressure in the region. The Project is located within a planned urban development on former military training ground with no designated scenic or visually sensitive receptors identified within the area of influence. Visual change is consistent with and anticipated under the Eco City master plan.		
Archaeology and Cultural Heritage	VEC is unlikely to experience significant cumulative pressure in the region, as there are no direct impacts on cultural heritage resources. The Project site is confirmed as former military training ground with no pre-existing structures, and no archaeological or heritage assets have been identified within the Project footprint or area of influence		
Community Health and Safety	VEC is unlikely to experience significant cumulative pressure in the region. Construction and operational community health and safety impacts are site-specific and manageable through standard mitigation, and do not generate cumulative pressure beyond that already captured under the waste and wastewater VECs assessed in this chapter.		
Human Rights	VEC is unlikely to experience significant cumulative pressure in the region. The Project site contains no resident population and no involuntary resettlement is associated with the Project. No cumulative human rights pressure specific to this Project's area of influence has been identified.		
Labour and Working Conditions	VEC is unlikely to experience significant cumulative pressure in the region. Labour risks will be managed through a Labour Management Procedure in accordance with IFC PS2 and EBRD PR2, and no significant cumulative pressure on labour and working conditions specific to this Project's area of influence has been identified.		

22.1.2 Neighbouring Projects (Past, Present and Future)

22.1.2.1 Fergana Eco City

The 300-hectare Eco City is the host development within which the hospital is located. Confirmed infrastructure includes 11 km of electrical networks, 17.5 km of drinking water networks, 14.3 km of effluent management networks, and a 21 MW boiler house. The Eco City will comprise several development zones designated as residential, commercial, governmental, light industries, and green public areas.

22.1.2.2 Fergana International Airport

Fergana International Airport located approximately 1 km away from the Project site providing domestic and limited international connections. Aircraft operations at Fergana International Airport (1 km from the hospital site) contributing to ambient noise and air quality.

22.1.2.3 Military Training Ground

The Fergana Eco City development was a former military training ground previously administered by Military Unit No. 49 of the Eastern Military District of the Ministry of Defense of Uzbekistan. The land was transferred from the Ministry of Defense to the Fergana city administration in accordance with Governor's Decision No. 156 of the Fergana region (21 April 2021) and subsequently allocated for the implementation of the Eco City project. The site contains no pre-existing structures. According to the Ministry of Defense, the training ground was not designated for ammunition storage during its military tenure, owing to its proximity to residential areas and Fergana International Airport.

22.1.2.4 Local Infrastructure Development Projects

The Oqbilol Waste-to-Energy Plant is currently under construction in the village of Oqbilol, Fergana district, approximately 15 km from the Project site. The facility is being developed by China Everbright International Ltd under Presidential Decree No. PP-116 (24 March 2025) and is designed to process 1,500 tonnes of household waste per day, generating 227.5 million kWh of electricity annually at a total investment of USD 141.5 million. Construction commenced in November 2025, with commissioning required by 2028. It should also be noted that the Oqbilol plant is a municipal solid waste facility.

Separately, Presidential Decree No. 446 and Cabinet of Ministers Resolution No. 349 reference a planned upgrade of the existing Fergana waste disposal and landfill facility, to be funded by the Government and developed within the footprint of the current disposal site by the Fergana city Hokimiyat. No targeted completion timeline was available for this facility.

22.1.3 Anthropogenic Activities

- Population growth and increase in domestic wastewater from Fergana, Margilan, and Tashlak directed to the Fergana WWTP, the primary existing cumulative stressor on the Syr Darya River.
- Non-functional healthcare waste incineration at the Fergana landfill (confirmed as of February 2023): all healthcare waste from regional medical facilities is currently co-disposed with municipal solid waste, representing a material existing public health risk.
- Agricultural irrigation and return flows carrying fertiliser and pesticide residues to the Syr Darya catchment.
- Operational industrial facilities throughout Fergana.

22.2 Assessment of Cumulative Impacts

The assessment of each VEC is conducted by identifying a parameter that is used as a metric to estimate the relative contribution of each contributor (project, activity, factor, stressor) to the overall alteration of the VEC. Cumulative impacts are considered significant when there is more than one main contributor to the overall impact. The cumulative impact on each VEC is discussed in the following paragraphs.

22.2.1 Air Quality

22.2.1.1 Description of the VEC and the Spatial and Temporal Boundaries

The Project site is located within the developing Fergana Eco City, where construction is already underway on adjacent plots. Additionally, the project site is located in a region with a present source of particulate matter that can be easily entrained by the wind.

The air quality baseline established in Chapter **Error! Reference source not found.** of this ESIA recorded NO_2 exceedances against WHO 2021 24-hour guidelines on four of the five monitoring days (Days 1-4, ranging from 32.35 to 36.23 µg/m³ against a guideline of 25 µg/m³), and a marginal $PM_{2.5}$ exceedance on Day 1 (15.36 µg/m³ against a guideline of 15 µg/m³). These exceedances occurred prior to the commencement of hospital construction and are attributed in part to dust and vehicle emissions from existing Eco City construction activities in the vicinity of the monitoring location. This establishes a pre-construction baseline that is already subject to cumulative construction-related air quality pressure from concurrent development activities.

The spatial boundary for this VEC is defined as a 2 km radius from the Project site boundary, consistent with the air quality study area defined in Chapter **Error! Reference source not found.**, encompassing the zone within which Project-related changes to ambient air quality concentrations are anticipated to be perceptible during construction. The temporal boundary covers the 3-year construction phase of the hospital.

22.2.1.2 Assessment Metrics

The following proxy metrics are used to assess the cumulative impact on air quality during the construction phase:

- Ambient NO_2 and $PM_{2.5}$ concentrations at the Project site boundary -- proxy for cumulative pollutant loading relative to WHO 2021 24-hour guidelines, given confirmed baseline exceedances of both parameters prior to construction commencement.
- Dust complaints register -- proxy for cumulative nuisance impact on adjacent sensitive receptors from concurrent construction dust generation across the Eco City.
- Area of simultaneous active earthworks within the 2 km study area -- proxy for the scale of concurrent dust-generating activities contributing to cumulative PM loading.

22.2.1.3 Assessment

Hospital construction activities will generate dust and other air pollutants from earthworks, material handling, and vehicle movements. These activities will occur concurrently with ongoing construction within the Eco City with significant early works underway or planned

across multiple zones. The combination of the hospital's construction activities with those of the wider Eco City will increase the total area of active dust-generating surfaces within the 2 km study area during the hospital construction period.

It is noted that the hospital construction footprint is relatively small (8 hectares) in relation to the total Eco City development area (300 hectares). Accordingly, the Project's incremental contribution to the cumulative air quality impact is proportionately modest, but it will be additive to a baseline that is already showing exceedances. The cumulative impact is therefore assessed as medium pre-mitigation.

Table 22-2 Assessment of Cumulative Impacts on Air Quality

Contributors to Cumulative Impact	Description of impact on Air Quality	Spatial / Temporal Overlap of Impacts
Increased Air Pollutants Levels for Proximate Sensitive Receptors		
Proposed Project		
Proposed Project	Fergana Hospital construction activities	X
Significance Pre-mitigation: Medium		
Significance Post-mitigation: Low		
Neighbouring Projects		
Fergana Eco City	Concurrent construction across the Eco City during the hospital build period will generate cumulative dust and vehicle emissions.	X
Fergana International Airport	Aircraft engine emissions from landing and take-off operations contribute to baseline NO_2 and ultrafine particle concentrations in the 2 km study area. Aircraft movements are ongoing and concurrent with the construction phase.	X
Existing Anthropogenic Activities		
Existing vehicle traffic on Eco City access roads and surrounding road network	Vehicle emissions from existing and increasing construction traffic associated with all Eco City development activities contribute to NO_2 loading in the study area	X
Wind-blown dust from exposed surfaces across the Eco City site	The region retains large areas of exposed, unvegetated ground. Wind-mobilised dust from these surfaces during dry and windy conditions contributes to background PM loading in the study area independent of active construction activities.	X

22.2.1.4 Significance of the Cumulative Impact

The cumulative impact on air quality during the construction phase is assessed as medium pre-mitigation. With the implementation of the mitigation measures set out in Chapter **Error!**

Reference source not found., the cumulative significance is assessed as low. namely the EPC contractor should:

- Implement dust management measures, including continuous water spraying on earthworks, haul roads, and exposed surfaces; enclosure and covering of material stockpiles; wheel wash facilities at site exits; and speed restrictions for construction vehicles.
- Daily visual dust monitoring at the site boundary.
- Implement vehicle and equipment emission management measures, including pre-mobilisation vehicle emission checks, prohibition of smoke-belching equipment on site, and engine idling restrictions.
- Continuously monitor the community grievance mechanism for air quality-related complaints from adjacent receptors during the construction phase, with corrective action triggered upon receipt of justified complaints.

22.2.2 Noise

22.2.2.1 Description of the VEC and the Spatial and Temporal Boundaries

Baseline noise monitoring recorded daytime LAeq of 39-49 dBA and night-time LAeq of 39.44 to 41.35 dBA, both within national noise thresholds (<55 dBA daytime, <45 dBA night-time). The primary existing noise sources are the Fergana International Airport (1 km) and the nearby ongoing construction activities of the Eco City will generate cumulative noise during the hospital build period.

22.2.2.2 Assessment Metrics

Since cumulative impacts cannot easily be measured directly with the level of information of other projects available, proxy metrics have been selected to indicate the likely scale of the impact. Assessment metrics selected as proxies for the assessment of impacts comprise the following:

- Noise levels – proxy for noise impacts.
- Complaints register – proxy for excessive noise levels.

22.2.2.3 Assessment

When considered in combination with other existing developments in the area, the potential for cumulative noise impacts is medium. The following table provides a summary of the assessment of the cumulative impacts on noise levels.

Table 22-3 Assessment of Cumulative Impacts on Noise

Contributors to Cumulative Impact	Description of impact on Noise	Spatial / Temporal Overlap of Impacts
Increased Ambient Noise Levels for Proximate Sensitive Receptors		
Proposed Project		
Proposed Project	Fergana Hospital construction activities	X
Significance Pre-mitigation: Medium		
Significance Post-mitigation: Low		

Contributors to Cumulative Impact	Description of impact on Noise	Spatial / Temporal Overlap of Impacts
Neighbouring Projects		
Fergana Eco City	Concurrent construction across the Eco City during the hospital build period will generate cumulative construction noise.	X
Fergana International Airport	Aircraft noise is the dominant existing noise source.	X
Existing Anthropogenic Activities		
No impact on noise levels.		

22.2.2.4 Significance of the Cumulative Impact

It is assessed that the cumulative impact on noise is possible due the rural nature of the area, with a **MEDIUM** significance rating pre-mitigation. However, the impact can be reduced to a **LOW** significance rating through implementation of mitigation measures.

22.2.3 Wastewater infrastructure and the Syr Darya River

22.2.3.1 Description of the VEC and the Spatial and Temporal Boundaries

The Fergana WWTP is the sole treatment facility serving the region and the confirmed final discharge point for all municipal wastewater, with treated effluent ultimately reaching the Syr Darya River. The facility is already operating under significant stress, with inadequate treatment performance and intermittent discharge of untreated sewage directly to the river. Once operational, the hospital will discharge approximately 575 m³/day of wastewater to this facility via the municipal sewerage network. Given the distinct character of hospital effluent carrying elevated concentrations of pathogens, pharmaceutical residues, and chemical compounds, its addition to an already failing treatment system will compound the cumulative pollutant burden on the Syr Darya unless two conditions are met: rehabilitation or upgrade of the WWTP to restore adequate treatment performance, and/or the installation of an on-site pre-treatment system at the hospital prior to discharge to the network.

The spatial boundary for this VEC extends downstream along the Syr Darya River to communities using it for irrigation and domestic water supply purposes.

22.2.3.2 Assessment Metrics

- Load on WWTP relative to design capacity - proxy for infrastructure stress.
- Effluent quality at WWTP discharge point relative to national MPC standards - proxy for treatment effectiveness.
- Frequency of untreated sewage bypass events to the Syr Darya River - proxy for infrastructure failure risk.

22.2.3.3 Assessment

The hospital's volumetric contribution to the WWTP is modest relative to Fergana. However, the qualitative character of the hospital’s wastewater discharges, particularly pharmaceutical residues, antibiotic-resistant organisms, disinfectants, and trace cytotoxic and radioactive compounds, creates a distinct cumulative risk.

Table 22-4 Assessment of Cumulative Impacts on Wastewater Infrastructure

Contributors to Cumulative Impact	Description of impact on Wastewater	Spatial / Temporal Overlap of Impacts
Wastewater infrastructure and the Syr Darya River		
Proposed Project		
Proposed Project	Fergana Hospital Operation	X
Significance Pre-mitigation: High		
Significance Post-mitigation: Medium		
Neighbouring Projects		
Fergana Eco City	Once fully developed, the Eco City is designed to host a population of 80,000 people. This is the dominant future cumulative load on the Fergana WWTP. The hospital's contribution is qualitatively distinct rather than volumetrically dominant.	X
Existing Anthropogenic Activities		
Residential population growth	Population growth in areas served by the WWTP is an ongoing cumulative stressor on treatment capacity independent of the Eco City development.	X
Unconnected households progressively connecting to the sewerage network	National programmes to expand sewerage coverage will incrementally increase influent volumes to the WWTP as previously unconnected households are connected.	X

22.2.3.4 Significance of the Cumulative Impact

The cumulative impact on wastewater treatment infrastructure and Syr Darya River water quality is assessed as high pre-mitigation. This rating reflects the qualitatively distinct character of hospital wastewater being discharged to a WWTP that is already failing to meet treatment standards and intermittently discharging untreated sewage directly to the Syr Darya River. The Eco City's planned residential population of 80,000 represents the dominant future cumulative volumetric load on the WWTP; the hospital's contribution is qualitatively distinct rather than volumetrically dominant. Post-mitigation, with on-site pre-treatment and/or WWTP upgrade, the cumulative significance is assessed as medium.

22.2.4 Solid Waste Infrastructure

22.2.4.1 Description of the VEC and the Spatial and Temporal Boundaries

The receiving landfill is located approximately 8 km northwest of the hospital site. The critical baseline finding is that the healthcare waste incineration facility at the landfill is non-functional, and all medical hazardous waste from the region's healthcare facilities is currently being co-disposed with municipal solid waste. This practice poses a critical risk to the receiving environment as well as the operating workers at the landfill.

22.2.4.2 Assessment Metrics

- Operational status of the healthcare waste incinerator at the receiving landfill - if the facility is non-operational, the entire downstream disposal chain ends up in having comingled disposal of healthcare and municipal waste at the open landfill, irrespective of the adequacy of on-site waste segregation, packaging, and transport arrangements.
- Volume of hazardous healthcare waste directed to the landfill without incineration - proxy for public health risk from co-disposal.
- Segregation compliance rate for healthcare waste streams - proxy for risk of hazardous waste contamination of the municipal waste stream.

22.2.4.3 Assessment

The non-functional incineration facility is the dominant factor in the pre-mitigation cumulative significance rating. The Project will add approximately 360 kg/day of hazardous healthcare waste to a receiving open landfill that will be comingled with municipal solid waste.

Industrial waste generated from the area that will be also disposed of untreated in the landfill will further add to the cumulative impacts associated with solid waste.

Table 22-5 Assessment of Cumulative Impacts on Solid Waste Infrastructure

Contributors to Cumulative Impact	Description of impact on Solid Waste	Spatial / Temporal Overlap of Impacts
Solid Waste Infrastructure		
Proposed Project		
Proposed Project	Fergana Hospital Operation	X
Significance Pre-mitigation: High		
Significance Post-mitigation: Medium		
Neighbouring Projects		
Local Infrastructure Development Projects	When operational, the Oqbilol WtE Plant will process 1,500 tonnes/day of municipal solid waste, significantly increasing Fergana's waste processing capacity. However, it is not designed as a medical waste facility and will not substitute for a licensed medical waste incineration facility. Its value to this project is primarily in reducing pressure on the receiving municipal landfill for domestic waste.	X
	Presidential Decree No. 446 and Cabinet of Ministers Resolution No. 349 reference a planned facility upgrade at the existing disposal site. If implemented, it could act as a potential positive contributor.	X
Existing Anthropogenic Activities		
Residential population growth	Population growth in areas served by the existing landfill is an ongoing cumulative stressor.	X

Contributors to Cumulative Impact	Description of impact on Solid Waste	Spatial / Temporal Overlap of Impacts
Unconnected households progressively connecting to the sewerage network	Industrial waste directed to the existing landfill is an ongoing cumulative stressor.	X

22.2.4.4 Significance of the Cumulative Impact

The cumulative impact on solid waste disposal infrastructure is assessed as high pre-mitigation, driven primarily by the failure of the healthcare waste incineration infrastructure. Post-mitigation, the cumulative significance is assessed as medium, contingent on a licensed medical waste disposal route being established prior to Project operations.

22.2.5 Contribution to Healthcare Services and Employment Opportunities

22.2.5.1 Description of the VEC and the Spatial and Temporal Boundaries

The Project's positive cumulative contribution to healthcare services and the regional economy extends across both the construction and operational phases. Once operational, the hospital will provide a tertiary care facility in the Fergana region, delivering services to the local population, including intensive care, surgical services, operating theatre capacity, and advanced diagnostic units. This represents a transformative improvement in healthcare access for one of Uzbekistan's most densely populated regions.

Beyond its direct healthcare contribution, the Project will generate significant employment opportunities during both the construction and operational phases, encompassing skilled medical and clinical positions, administrative and support roles. This will ultimately contribute to the diversification and growth of the Fergana regional economy.

22.2.5.2 Assessment Metrics

Since cumulative impacts cannot easily be measured directly with the level of information of other projects available, proxy metrics have been selected to indicate the likely scale of the impact. Assessment metrics selected as proxies for the assessment of impacts comprise the following:

- Number of jobs created – proxy for employment creation.
- Household income levels – proxy for the wellbeing of affected communities.
- Number of patient admissions and outpatient consultations - proxy for number of people benefitting from the Project and presents healthcare demand across the Fergana region.

22.2.5.3 Assessment

The proposed hospital represents the most significant addition to healthcare infrastructure in the Fergana region in decades, and its positive cumulative contribution to public health and regional economic development is assessed as definite, material, and long-term. Fergana is one of Uzbekistan's most densely populated regions, , yet currently lacks adequate tertiary healthcare capacity. The Project directly addresses this gap by providing 800 beds of tertiary

care capacity, including intensive care units, operating theatres, and advanced diagnostic units.

The positive cumulative dimension of this contribution is amplified by the broader Eco City development context, generating a growing local demand for healthcare services that the hospital is well-positioned to serve.

From an economic perspective, the Project will generate direct employment across construction and operational phases, encompassing skilled clinical and medical positions, administrative and support roles, and indirect employment through local procurement and supply chain activity.

Table 22-6 Assessment of Cumulative Impacts on Healthcare Services and Employment Opportunities

Contributors to Cumulative Impact	Description of impact on on Socio-economic Aspects	Spatial / Temporal Overlap of Impacts
Contribution to Healthcare Services and Employment Opportunities		
Proposed Project		
Proposed Project	All construction and operation activities generate positive contributions to healthcare capacity, employment, and the regional economy of Fergana.	X
Significance Pre-mitigation: High (positive impact)		
Significance Post-mitigation: High (positive impact)		
Neighbouring Projects		
Fergana Eco City	The development of the Fergana Eco City will result in increased job creation and positive contribution to the economy.	X
Local Infrastructure Development Projects	Several proposed projects (Oqbilol Waste-to-Energy Plant and existing landfill upgrade) will result in increased job creation, positive contribution to the economy, as well improved waste management infrastructure reduces environmental health burdens on the population	X
Existing Anthropogenic Activities		
Will not contribute to the cumulative impact.		

22.2.5.4 Significance of the Cumulative Impact

The cumulative contribution of the Project to healthcare services and the regional economy is assessed as HIGH and positive across both construction and operational phases.

22.2.6 Traffic and Transportation

22.2.6.1 Description of the VEC and the Spatial and Temporal Boundaries

Traffic and transportation has been scoped into the cumulative impact assessment on the basis of the scale and concurrent phasing of developments within and adjacent to the Fergana Eco City. The Project site is located within the 300-hectare Fergana Eco City, which is planned to accommodate a resident population of 80,000 and a range of residential, industrial, commercial, and civic land uses. The hospital will generate construction vehicle movements over a 3-year build period and sustained 24-hour operational traffic once commissioned. In the absence of a dedicated Traffic Impact Assessment for the Eco City, the cumulative traffic pressure on the surrounding road network from the combined development cannot be adequately characterised, which justifies a Major pre-mitigation cumulative significance rating.

22.2.6.2 Assessment Metrics

- Volume and composition of construction vehicle movements to and from the hospital site during the 3-year construction period - proxy for construction phase traffic pressure on the surrounding network.
- Daily vehicle trips generated by the operational hospital (patient, visitor, staff, emergency, and supply chain vehicles) - proxy for operational traffic contribution to cumulative network loading.
- Baseline road network capacity - indicator of cumulative impact significance.

22.2.6.3 Assessment

The Fergana Eco City development constitutes the dominant source of cumulative traffic generation in the study area, with the hospital representing one component of a much larger planned development that will collectively generate sustained traffic volumes from residential, industrial, commercial, and civic land uses operating concurrently.

The hospital's operational traffic profile is distinct from residential and commercial traffic in that it operates on a continuous 24-hour basis, with peak periods that may not align with standard morning and evening commuter peaks and includes emergency vehicle movements that require priority access. This characteristic makes the hospital's contribution to cumulative traffic qualitatively distinct from the Eco City's residential and commercial components and requires specific assessment of access route adequacy and junction performance at the hospital entrance.

Table 22-7 Assessment of Cumulative Impacts on Traffic and Transportation

Contributors to Cumulative Impact	Description of impact on Traffic and Transportation	Spatial / Temporal Overlap of Impacts
Traffic and Transportation		
Proposed Project		
Proposed Project	Construction and operation activities	X
Significance Pre-mitigation: Major		

Contributors to Cumulative Impact	Description of impact on Traffic and Transportation	Spatial / Temporal Overlap of Impacts
Significance Post-mitigation: Medium		
Neighbouring Projects		
Fergana Eco City	The Eco City represents the dominant source of cumulative traffic generation in the study area. Developments in the area will collectively generate sustained traffic volumes on the surrounding road network that will compound the hospital's contribution. The adequacy of this infrastructure to accommodate the combined cumulative traffic demand has not been assessed yet.	X
Fergana International Airport	The airport generates existing baseline traffic on the road network between the Eco City and the city centre. Growth in the airport's activity in the future will add to cumulative traffic pressure on shared road corridors.	X
Existing Anthropogenic Activities		
Residential population growth	Population growth will increase background traffic volumes on the road network serving the Eco City site independently of Project-specific traffic generation.	X

22.2.6.4 Significance of the Cumulative Impact

The cumulative impact on traffic and transportation is assessed as major pre-mitigation, driven primarily by the absence of a traffic impact assessment for the Eco City development and the scale of concurrent traffic-generating land uses planned within the study area. Post-mitigation, subject to completion of a traffic impact assessment and implementation of any required network improvements, the cumulative significance is assessed as moderate. The post-mitigation significance cannot be confirmed below Moderate until the Traffic Impact Assessment has been completed and its findings reviewed.

22.2.7 Workers' Influx

22.2.7.1 Description of the VEC and the Spatial and Temporal Boundaries

The construction of the proposed hospital will require a temporary workforce over a 3-year construction period. This workforce will operate concurrently with construction activities associated with the wider Fergana Eco City development, which is at an early stage and involves multiple contractors and subcontractors working across different development zones simultaneously. The combined temporary workforce associated with all concurrent Eco City construction activities will place cumulative pressure on local housing, transport, community services, and social infrastructure in the surrounding mahallas, and may increase the risk of community health and safety impacts, gender-based violence, and anti-social behaviour if not collectively managed.

The spatial boundary for this VEC is defined as the Eco City site and the surrounding mahallas. The temporal boundary covers the 3-year hospital construction phase, during

which the workforce influx from the hospital project will overlap with ongoing Eco City construction activities.

22.2.7.2 Assessment Metrics

The following proxy metrics are used to assess the cumulative impact of workforce influx during the construction phase:

- Demand on local accommodation, transport, retail services, and community infrastructure relative to available supply - proxy for cumulative service pressure from concurrent construction workforces.
- Number of GBV, SEA/SH, and anti-social behaviour incidents recorded through the Project grievance mechanism and community liaison channels - proxy for cumulative community safety risk from workforce influx.
- Number of workforce influx-related grievances received from surrounding mahalla communities - proxy for cumulative social tension arising from concurrent construction workforces.
- Proportion of construction workforce sourced from local communities - proxy for the effectiveness of local recruitment strategies in reducing net in-migration of workers and associated influx pressure.

22.2.7.3 Assessment

The construction of the hospital will generate demand for a temporary construction workforce over a 3-year period. Simultaneously, the Eco City development is a large-scale multi-phase urban development programme involving concurrent construction across multiple zones. The combined presence of multiple construction workforces operating simultaneously across the Eco City will increase the total number of non-local workers interacting with the surrounding mahallas during the hospital construction period, irrespective of the accommodation arrangements for the hospital workforce alone.

The surrounding mahallas are relatively small, close-knit communities with established social cohesion structures centred on mahalla committees. Household survey findings indicate that 96% of respondents were not currently concerned about worker influx; however, this baseline perception was established prior to the commencement of large-scale concurrent construction across the Eco City. As construction activity across the Eco City intensifies and the number of concurrent workforces increases, cumulative pressure on local services, community safety, and social dynamics is likely to increase.

Key cumulative risks include: increased demand on local transport routes and public services from multiple concurrent construction workforces; cumulative risk of GBV, SEA/SH, and anti-social behaviour from the combined presence of multiple construction workforces in proximity to vulnerable communities; and increased community expectations and grievances arising from the presence of multiple concurrent projects and the difficulty of attributing specific impacts to individual projects.

Table 22-8 Assessment of Cumulative Impacts from Workers' Influx

Contributors to Cumulative Impact	Description of impact from Workers' Influx	Spatial / Temporal Overlap of Impacts
Workers' Influx		
Proposed Project		

Contributors to Cumulative Impact	Description of impact from Workers' Influx	Spatial / Temporal Overlap of Impacts
Proposed Project	Fergana Hospital construction activities	X
Significance Pre-mitigation: Medium		
Significance Post-mitigation: Low		
Neighbouring Projects		
Fergana Eco City	Multiple contractors and subcontractors are engaged concurrently across the Eco City development. Construction is already underway on adjacent plots. The combined workforce from concurrent Eco City construction activities represents the dominant cumulative influx contributor, adding to the total number of non-local workers interacting with surrounding mahallas.	X
Existing Anthropogenic Activities		
Existing labour migration patterns in the Fergana region	The Fergana region has an established pattern of labour mobility, with 5,728 residents currently employed abroad and 1,469 migrant workers returned to the city in the previous year (Chapter 17, ESIA). This baseline mobility means that the surrounding communities have some existing experience of managing workforce dynamics; however, the scale and concentration of concurrent construction workforces within the Eco City represents a qualitatively different pressure than seasonal labour migration.	X

22.2.7.4 Significance of the Cumulative Impact

The cumulative impact of workforce influx during the construction phase is assessed as medium pre-mitigation, reflecting the additive effect of the hospital construction workforce operating concurrently with multiple other Eco City construction workforces in proximity to small, close-knit mahalla communities. The dominant cumulative contributor is the broader Eco City construction programme rather than the hospital project alone.

With the implementation of the following measures, the cumulative significance is assessed as low:

- Implement all workforce influx mitigation measures set out in Chapter 17 of this ESIA, including the Labour Influx Management Plan (LIMP), Worker Code of Conduct, on-site accommodation provision, GBV/SEA/SH prevention and response framework, and community liaison arrangements.
- Coordinate with the Eco City master developer and other active Eco City contractors to establish a shared workforce influx management framework, covering joint monitoring of cumulative influx pressure on local services, coordinated community engagement through mahalla committees, and a unified approach to GBV/SEA/SH prevention and reporting across all concurrent construction workforces. This

coordination mechanism is the primary cumulative-specific mitigation measure and should be established prior to hospital construction commencement.

- Appoint a dedicated Community Liaison Officer (CLO) responsible for monitoring cumulative influx-related grievances and social tensions arising from the combined presence of multiple construction workforces, and for coordinating with mahalla committee leaders on a regular basis throughout the construction period.
- Implement a project-level Grievance Redress Mechanism (GRM) that is clearly distinguished from those of other Eco City contractors, enabling the mahalla communities to direct influx-related grievances to the correct project and ensuring accountability for cumulative impacts is appropriately attributed.
- Maximise local recruitment from the surrounding mahallas and the broader Fergana region to reduce net in-migration of workers and limit the overall influx pressure on local services and community infrastructure.

23 References

A. Urokov, D. Tashev, S. Tojiboev, and Z. Utashov, “Road zoning in the Fergana Valley based on the level of traffic safety,” Vibroengineering Procedia, Vol. 60, pp. 268–275, Dec. 2025, https://doi.org/10.21595/vp.2025.25508

Britannica. (2025). Britannica. Retrieved from Britannica: www.britannica.com/place/Uzbekistan/People

Cabinet Resolution No. 47 (February 9, 2026) - Republican Radioactive Waste Center

Central Asia precipitation extremes study using ERA5 and CMIP6-derived projections

Climate Risk Country Profile: Uzbekistan (2021): The World Bank Group and the Asian Development Bank

European Bank for Reconstruction and Development (EBRD), 2024. Environmental and Social Requirement 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources. In: Environmental and Social Policy 2024.

European Commission (2019). INFORM Index for Risk Management. Uzbekistan Country Profile. URL: https://drmkc.jrc.ec.europa.eu/inform-index/Countries/Country-Profile-Map

Fergana City Khokimiyat. (2025). Fergana City Mahalla Balance Sheet (Status as of 25 December 2025). Fergana City Administration, Fergana, Uzbekistan. (Internal administrative dataset.).

IAEA National Report on Radioactive Waste Management (2017)

International Finance Corporation (IFC), 2019. Guidance Note 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources. Guidance Notes to Performance Standards on Environmental and Social Sustainability.

Invexi. (2025, January). Invexi. Retrieved from Gross Regional Product (GRP) of Uzbekistan for 2024: https://invexi.org/press/gross-regional-product-grp-of-uzbekistan-for-2024/

Manzura Khasanova. (2022). THE HISTORICAL AND CULTURAL HERITAGE SITES OF THE FERGANA VALLEY IN HISTORICAL RETROSPECTIVE. Look to the Past, 5(12), 2. https://doi.org/10.5281/zenodo.7482943

Ministry of Health . (2026, February 3). Ministry of Health of the Republic of Uzbekistan. Retrieved 2026, from https://gov.uz/en/ssv/sections/view/127556

Mutie, C., Otieno, B., Mwangi, E., Kithuci, K., Mutisya, A., Gachohi, J., & Mbuthia, G. (2024). BMJ Open, 14:e085058. doi:10.1136/.

Naumann, G., Alfieri, L., Wyser, K., Mentaschi, L., Betts, R. A., Carrao, H., . . . Feyen, L. (2018). Global Changes in Drought Conditions Under Different Levels of Warming. Geophysical Research Letters, 45(7), 3285–3296. URL: https://agupubs.onlinelibrary.wiley.com/ doi/full/10.1002/2017GL076521

National Statistics Committee. (2026). Average Monthly Nominal Accrued Wages in the Republic of Uzbekistan: January–March 2026. Tashkent, Uzbekistan.

Nikanorova et al. 2016, Estimation of Water Deficit under Climate Change and Irrigation Conditions in the Fergana Valley of Central Asia

Nishonov, B. E., Kholmatjanov, B. M., Labzovskii, L. D., & Coauthors. (2023). Study of the strongest dust storm occurred in Uzbekistan in November 2021. Scientific Reports, 13, 20042. doi:10.1038/s41598-023-42256-1

National Statistics Committee of the Republic of Uzbekistan. (2025). Demographic Situation of the Republic of Uzbekistan (January–March 2025).

Obid Tursunov, Islom Karimov, Katarzyna Śpiewak, Xun Hu, Yuguang Zhou, Alexander Kustov, Umi Fazara Md Ali, Roman Uvarov. (2024). Comprehensive study on social, compositional and thermal aspects of household solid waste for waste-to-energy potential estimation in Tashkent city. Energy Reports. Volume 12. Pages 430-441, ISSN 2352-4847. https://doi.org/10.1016/j.egyr.2024.06.035

PED, P. E. (2025). Fergana Eco City Regional Hospital. Supply Analysis Section.

Household Survey. (2026). Fergani City Household Survey n=50.

Presidential Decree No. 224 (December 24, 2024) - Draft Radioactive Waste Law

Presidential Decree No. 263 (July 17, 2024) - Zero Waste medical waste program

Umarov S, Nurbekov A, Nishanov N, Kosimov M, Bobomurotov S, Umarov M, Khaitov B and Namozov N (2025) Land degradation in Uzbekistan: key challenges and sustainable solutions. Front. Sustain. Food Syst. 9:1676403. doi: 10.3389/fsufs.2025.1676403

United Nations Population Fund. (2025). Uzbekistan Population 2025. World Population Dashboard. Retrieved from United Nations: https://www.unfpa.org/data/world-population/UZ

SanPiN No. 0317-15 (medical waste regulations)

Statistics Agency. (2025). Agency of Statistics under the President of the Republic of Uzbekistan. Retrieved from Agency of Statistics under the President of the Republic of Uzbekistan. 2025. National Accounts and Labour Market Statistics.: https://stat.uz/en/official-statistics

Statistics Agency. (2025b). Statistical Bulletin of the Republic of Uzbekistan: Socio-economic Situation, January 2025. Tashkent: Statistics Agency under the President of the Republic of Uzbekistan.

The Government Portal of the Republic of Uzbekistan. (2026, February). The Government Portal of the Republic of the Uzbekistan. Retrieved from https://gov.uz/en/digital/news/view/127928

The Tashkent Times. (2026, 07). The Tashkent Times: 447 workplace accidents and 137 fatalities recorded in first half of 2026. Retrieved 08 2026

Uzbekistan Government announcement on ECO-300 plant

Weine, S., & Kashuba, A. B. (2012). Labour Migration and HIV Risk: A Systematic Review of Literature. National Institute of Health.

Westra, S., Fowler, H. J., Evans, J. P., Alexander, L. V., Berg, P., Johnson, F., Kendon, E. J., Lenderink, G., Roberts, N. (2014). Future changes to the intensity and frequency of short-duration extreme rainfall. Reviews of Geophysics, 52, 522–555. URL: https://agupubs.onlinelibrary.wiley.com/doi/full/10.1002/2014RG000464

World Bank Climate Change Knowledge Portal, Uzbekistan country overview and historical climatology

World Bank Climate Change Knowledge Portal, Uzbekistan CMIP6 future projections

World Bank Group. 2023. Uzbekistan Country Climate and Development Report. CCDR Series. World Bank. http://hdl.handle.net/10986/40608 License: CC BY-NC-ND 3.0 IGO

World Bank, Uzbekistan Climate Adaptation and Resilience Assessment

World Bank, Reducing the Vulnerability of Uzbekistan's Agricultural System to Climate Change

World Bank/ADB project documents on medical waste equipment requirements

World Bank. (2025). World Bank Group . Retrieved from At Your Service: The Promise of Services-led Growth in Uzbekistan: https://www.worldbank.org/en/country/uzbekistan/publication/promise-of-services-led-growth

World Bank Group . (2015). Social Impact Analysis of Water Supply and Sanitation Services in Central Asia: The Case of Uzbekistan.

ZAMIN. (2026, 01 12). ZAMIN News: In 2025, 248 people died as a result of workplace accidents. Retrieved 08 2026, from https://zamin.uz/en/uzbekistan/181983-in-2025-248-people-died-as-a-result-of-workplace-accidents.

5 capitals

PART OF SLR

Making Sustainability Happen